

# CHAPTER – 1

## INTRODUCTION

### 1.1. General Introduction/ Background

Business organizations are established to accomplish certain goals and objectives. The main objective of business organization is to earn profit. To achieve the objective of the organization, planning of activities is essential. Planning of activities of the organization is the basic function of management and is a key for organizational success. There are two types of plans i.e. long-term plan and short-term plan. All these plans are prepared to utilize resources efficiently so that organization can increase their revenue and ultimately profit. As this study is concerned with Budgeting, especially with Revenue Budgeting, it is a financial plan developed by management of an organization to achieve the targeted profit. Revenue Budget is a short-term plan, prepared for a fiscal year. This plan is further broken down into quarters or months. Budget is also known as desired statement of different activities of an organization like production, sales, materials, labor, overheads, profits etc. It is a statement of targets, which are used as standards of activities to be performed. It helps us to assess the performance of an employee or unit or the performance of an organization as a whole by comparing actual performance with targeted performance. In this way, to manage the activities of an organization efficiently, budget plays an important role. Budgeting is a part of planning functions, which is an important function of the management.

In a mixed economy there are different kinds of enterprises, private enterprises, public enterprises and public projects. Though the accepted norm for both public and private enterprises is profit, the emphasis on goals differs in some respects. For instance, the private sector selects products for profit maximization, but in the public sector product selection will be based on their considerations, viz, usefulness to society. The public sector motivate as regards profit will be adequate return on investment and not profit maximization. Since there is a difference of emphasis on goal formulation the key areas will differ in order of emphasis. Considerable attention should be given to goal formulation, particularly in public sector enterprises so that proper direction is given to the budgetary process. Goals need not be the same for different enterprises or even for the same enterprise at different times. A goal should

be understood as the primary constraint, subject to which all activities will operate. In most cases public projects will not be for any saleable product with market value. So here the consideration will be right project selection from among various alternatives so that the highest possible cost benefit ratio is possible.

In modern enterprises budgeting occupies a key position in the design and operation of most of management accounting systems. Almost regardless of the type of the enterprise the nature of its problems and other means for influencing behaviour, the preparation of quantitative statement of expectations regarding the allocation of the enterprises resources tend to be seen as an essential, indeed indispensable, feature of the battery of administrative controls.

Budgeting is a multipurpose activity. One of the basic purpose served by any budgeting system is to encourage active concern with the future. The budgeting procedures serve to guide the development of the financial and wider organizational implications of possible future activities. Secondly, budgeting also serves as a form of planning. It is the process of planning of the overall activities of the enterprise for a specified period of time. An important objective of this process is to fit together the separate plans made for various segments of the enterprise so as to assure that these plans harmonize with one another and that the aggregate effect of all of them in the whole enterprise is satisfactory. Thirdly, budgeting serves as a means of communication by which it is possible to relay top management and authority, and to establish a particular organizational ethos or climate, which is believed, will lead to superior performance throughout the enterprise. Fourthly, budgeting is used to motivate the members of the enterprise by serving as a target and mechanism for gaining involvement and commitment. At the individual level, the members of the enterprise, both manager and employees, are more likely to be effective and satisfied with if they have a clear sense of purpose which enables them to comprehend better where they are going and whether they are getting there. Budgeting is also useful for control purpose. The control process follows the planning process, i.e. once plan have been agreed, decisions are implemented and reports are prepared to determine whether events are going according to plans. The control process involves three sequential, but interrelated stages, the recording of actual performance, and the comparison of actual performance with expected performance and as a linking stage, the provision of regular feed back to allow continual monitoring of events. Besides,

there may be several other purposes of budgeting in enterprises depending upon their particular need for achieving success.

The various purposes for which budgeting is prepared and implemented in enterprise add different dimensions in it. One of the most important and highly emphasized dimensions of budgeting in modern enterprises is its behavioural dimension. The behavioural dimension of budgeting focuses attention on the employee and management participation and motivation who prepare and implement budgets. As a control device, moreover, budgeting exerts organizational pressure and creates organizational conflicts, which certainly have behavioral implications in the enterprise.

Anthony et al. (1972, p4) viewed that "Budgeting is part of the management control process by which managers assure that resources are obtained and used efficiently and effectively in the accomplishment of the organization's objectives".

There are several kinds of budgets, and while specific terminology may vary from company to company, budgets generally fall into one of three categories;

**Capital Budget:** - These budgets portray the enterprise's planned and approved capital expenditure for periods from one to ten years.

**Financial Budget:** - Such budgets typically project cash flow statements, balance sheets, and statements of sources and uses of funds.

**Operational Budget:** - These usually consist of projected income statements and a series of supporting statements such as budgeted sales, budgeted production (in detail), budgeted cost of goods sold, budgeted selling expenses, and budgeted general and administrative expenses.

## 1.2. Revenue Budgeting

Revenue budget is an operational budget for revenue operations generally prepared on an annual basis and are often broken down into shorter periods like quarters or months. It is operating master budget which forecast profit and loss statement showing the overall position of business operations in financial terms.

Revenue budgets cover diverse business activities relating to procurement of materials and facilities to sale or disposal of end- products. These covers activities like sales forecasts, market research, production programming, estimates of materials to be consumed, inventory levels of finished and raw materials to be maintained,

recruitment, training and appointment of labor and staff, provisioning for various direct and indirect expenses concerning manufacture, administration, sales and distribution.

### **1.3. A Brief Introduction to PEs in Nepal**

In Nepal, after the dawn of democracy in 1950, there emerged an environment in which the needs and aspiration of the people were given primacy in the process of implementing government activities. Accordingly, apart from its regular government activities, Government of Nepal has initiated a system of establishment and functioning of public enterprise and made huge investment with an objective of speedy economic development, in addition to having direct participation in the production and distribution of goods and services. Government initiative was essential at a time when private sector investment could not be attracted in the provision of basic social and economic services, and in such situations, the institution of public enterprises was justified. Consequently, a number of public enterprises, covering different sectors of the economy, were established with assistance of donor countries. The number of such enterprises in the field of industry, business, service, social and public utility reached above sixty. The Nepalese public enterprises have been organized under the form of departmental undertaking, development boards, corporations, government companies and so on.

On the basis of observations of the roles and performance of public enterprises in the national economy, the elected government, which assumed power after the restoration of democracy in 1990, reached the conclusion that the economic conditions and financial efficiency of government corporations were not satisfactory. The lack of basic elements contributing to the development of a professional culture in their inherent structure and operating procedures was singled out as the main cause for their poor performance. PEs confronted with various problems and hindrances such as lack of managerial autonomy, inefficient use of means and resources, short sightedness and weakness on the part of political leadership, production of low quality goods and services, uncontrolled administrative expenses, lack of competitive ability, lack of motivation in incumbent human resources, adoption of traditional technology and minimum use of professionalism, which brought about a progressive decline in their output and made the vast amount of government investment unproductive.

Statistics also reveals that the overall economic condition of PEs, particularly those involved in industry and trade sectors, is very poor. Likewise, the performance of PEs involved in social sector also not satisfactory. Even though the overall condition of PEs involved in service, public utility and finance sector is found comparatively better, it does not seem to be satisfactory.

A number of factors are responsible for deteriorating economic conditions of PEs. The management of the enterprises has tended to be oriented more towards administrative and political matters than towards business. As the higher management is appointed on the basis of political loyalty and commitment, decision-making process apparently lacks capability and efficiency. Moreover, there has been a marked decline in management accountability and responsibility. Consequently, the internal operation and control system have not been in conformity with professional norms, values and principles. Because of lacking of the managerial autonomy, the working style and concerns tend to undermine rather than promote the interests of the enterprise. For these reasons, the public enterprises have failed to play pivotal role in the process of economic development through promoting social services and public welfare, creating employment opportunities, building economic and social infrastructures, delivering effective services in the area of natural monopoly, providing proper direction to the private sector, stabilizing prices, supporting the government to meet its obligations contributing to consolidate national revenue, speeding up the regional development, and mobilizing and optimizing the use of national resources.

The public enterprises have not only failed to achieve their objectives but also have become a heavy burden on the national economy. While the return on corporate investment in various sectors is negative, financial liability of the government is increasing every year. The size of subsidy, particularly the functional and capital is expanding beyond the capacity of national budget to support. The losses incurred from past “credit security” financial losses as well as in the banking sector, to be borne by government, are the evidences of economic infirmities of the enterprises. The PEs are suffering from inefficiency and lack of professionalism. For want of competitive ability and continued political interference, the higher management of the PEs together with personnel, economic and financial management (including inventory, credit and cash management) is all be-set with problems. The future of the

PEs has become uncertain due to the defective practice of rewarding individual decision-makers even when their working style ran counter to the norms and values and principles of the market economy. Since vested interests and adhocism rather than the mission of the enterprise influence the decision-making process, marked inconsistencies exist in the use of acts, rules and regulations. The financial public enterprises, for want of financial discipline, have assumed the character of political institutions. In absence of effective financial control, profligacy is rampant and decision-making based on personal benefit criterion and personal uses of corporate resources have been playing havoc with financial management. As there is lack of proper system of book keeping and accounting reflecting the realities of transactions and their regular and independent audit, the real situation of the PEs is believed to be worse than what is generally assumed.

The report of N.P.C. Nepal (July 1998) shows that, although initially the public enterprises enjoyed monopoly in their activities, competition of private sector in various economic activities is increasing. The policy of executing the same professional activities by the government and policy of letting the investors of private sector enter into such activities has already been established and accepted. Realizing this fact, the government has adopted a policy of liberal economy with the aim to raise the living standard of the people by bringing out structural reforms in various sectors of the economy. In this process, it has been carrying on the policy of giving priority to the involvement of private sector in the public enterprises.

#### **1.4. Statement of the Problem**

Economic prosperity of the country depends upon a sustainable economic development. For the attainment of accelerated economic development in the country, industrialization is equally as important as that of agriculture and other primary sectors. The industrialization, in the process of value added contributes to the creation of new employment opportunities and economic integration. As long as this sector cannot be expanded on a promotional basis, proper development of the economy cannot be possible.

Public enterprises in Nepal have emerged as an instrument for the economic development of the country as a result of the mixed economy system adopted since 1956, when the first five-year plan was introduced. Over the successive five-year

plans, the country witnessed an enormous growth of total investment in these enterprises.

According to Pushkar Bajracharya (1983), the Nepalese public enterprises have been organized under the form of departmental undertakings, corporations, development boards, government companies and so on, which are engaged in activities like public utilities, manufacturing, trading, service, social and financial activities. Despite the growing investments, and increasing expectations on these enterprises, their operational aspect has not been satisfactory. Their operating losses have been increasing year after year.

Public enterprises were established to develop infrastructure, produce the required goods in the country, increase exports items, to help control price situation, create opportunities for employment, increase government revenues and contribute significantly to achieve national development through nation's economic advancement.

“Although the development of public enterprises has achieved the main aims to some extent by creating employment opportunities, increasing production in the country and providing the important basic services the enterprises have not been functioning in an efficient manner. Despite the long terms protection given to these public enterprises they have not been able to achieve financial capability and work efficiency and are still dependent upon government grants. The financial situation of government corporations, as a matter of fact is in a very poor shape” (Bajracharya et al, 1983).

An observation of the performance of these public enterprises raises the number of questions relating to the operational aspects of PEs.

- (1) Have manufacturing public enterprises been able to achieve their budgeted production, sales, income and expenditures?
- (2) What are the procedures followed to prepare budgets in manufacturing public enterprises?
- (3) Have they been able to achieve their financial performance?
- (4) What is the role of the board of directors/top management in preparing and verifying the budgets in MPEs?
- (5) What are behavioral implications of budgeting in MPEs?

- (6) Are MPEs able to adopt planned measures to encourage them to fulfill the objectives by regular follow up with scientific evaluation system, behavioral management program and to implement effectively the system of reward and punishment?
- (7) Are MPEs able to make the top management fully responsible and accountable?

All these questions/ statements clearly indicate about the fact that there seems to be ineffectiveness of profit planning and control system, otherwise known as budgeting system in manufacturing public enterprises. This study therefore, has enquired into the effectiveness of budgeting in manufacturing public enterprises through the assessment of budgeting process and by examining their financial and accounting aspects. In addition, this study has also examined the behavioral implications of budgeting by conducting a survey of opinions of the people who participate in the preparation and implementation of budgets in these enterprises.

### **1.5. Objectives of the Study**

The basic objectives of the study is to make a survey of the selected manufacturing public enterprises where revenue budgets are prepared and implemented so as to have an insight into the effectiveness of the budgets on the Budgeting process, target achievements and financial performance of these public enterprises. Besides, the study also seeks to look into the behavioral implications of the budget in these enterprises. In order to achieve the basic objectives of the study, therefore, some specific objectives are set forth for the study.

- (i) To assess the patterns and process of developing revenue budgets in the manufacturing public enterprises under study.
- (ii) To compare and examine the budgeted and actual production, sales income and expenditures of the enterprises.
- (iii) To evaluate the effectiveness of the budgets and its implications on the financial performance of the enterprises under study.
- (iv) To examine the behavioral implications of the budgets in the enterprises.

### **1.6. Need and Importance of the Study;**

In spite of the fact that budgeting has assumed special significance in the modern enterprise, it has been one of the most neglected aspects of management accounting systems in the Nepalese public enterprises. The main importance of the

present study lies in the role of budgeting process, that considerably contribute to improve not only the profitability of an enterprise, but also the overall financial performance and thereby an improvement in the industrialization process of the country. Sources of a business enterprise ensure the prosperity of entrepreneurs, employees, community, and country as a whole.

Budgeting or profit planning is that vital instrument which minimizes future risks and maximizes the output from the scarce resources and predicts the future. The main aim of budgeting is to forecast about future events and to overcome the risks from uncertainties.

Since, budgeting has become the important tool of managerial decision making in business enterprises, either private or public, the study will very useful to entrepreneurs, decision makers, and future researchers.

Budgeting has been one of the most neglected aspects of management in the Nepalese manufacturing public enterprises. One of the reasons, the need for this study has been felt to demonstrate the fact that such neglect would be costlier to these enterprises. The study may be useful for the enterprises to be aware of the fact that budgeting is one of the most essential parts of their total management system for improving their effectiveness and efficiency. Moreover, the study would also be useful for them to understand the accounting as well as behavioral aspects of budgeting.

The study may also be useful for other researchers to enter into this field of research in budgeting, as the study would show new areas of research on corporate budgeting.

### **1.7. Scope and Limitations of the study**

Budgeting is important in all forms of organizations. The usefulness of budgeting is equally significant to private and public enterprises, either manufacturing or non-manufacturing organizations. Since this study is related to the manufacturing public enterprise, there are twelve manufacturing public enterprises in Nepal. Among them only eight manufacturing PEs have been taken as sample for the study. These enterprises are ALIL, BSFL, DDC, HCIL, HPPCL, JCF, NRTL AND UCIL. All of them were in running position but now some of them have been shut down. This study is conducted by gathering data for the period of ten years from the fiscal year 2049-50

to 2058-59. These data are collected from published source of ministry finance which is secondary in nature. For the study of behavioural analysis, questionnaires were being filled by Top-level, middle level and lower level managers, of respective manufacturing MPEs. The Accuracy of data collected for behavioural analysis depends upon the biasness of the respondents to questionnaire.

## **1.8 Organization of the Study**

This thesis is the composition of six chapters. These are introduction, review of literature, research methodology, assessment of budgeting process in public enterprises, assessment of operational and behavioural aspects of budgeting in MPEs and lastly summary, conclusion and recommendation.

The Introduction chapter includes, general introduction/backgrounds, meaning of revenue budgeting, a brief introduction of PEs in Nepal, statement of the problem, objectives of the study, need and importance of the study, scope and limitation of the study and organization of the study.

Similarly, Review of literature includes general concept of Budgeting, budgets and Revenue budgeting, process of budgeting, preparation of budgets, performance and challenges of public enterprises in Nepal, review of related studies, etc.

Research methodology part is broken into parts like research design, population and sample, data collection procedure, techniques of analysis with statements of hypotheses, and pre-testing.

The fourth chapter describes historical backgrounds, nature, objectives, products organization structure and process of preparing budget in selected MPEs.

Fifth chapter includes presentation and analysis of the data related to operational and behavioural aspects of selected manufacturing public enterprises.

Sixth chapter contains the summary, conclusion, and recommendations of the study.

## **CHAPTER - 2**

### **REVIEW OF LITERATURE**

This chapter attempts to present the review of literature available on different relevant topics such as the concept of budgeting, budget, revenue or operational budget, budgeting process, preparation of different types of budgets, performance and challenges of PEs in Nepal, and the review of relevant topics published in different national reports and international papers.

#### **2.1 Concept of Budgeting and Budget**

In a free enterprises system, all business enterprises hope to make profits from their operations. Thus, the primary goal of establishing and running a business enterprise is to maximize profit with financial stability, as its success or failure is generally measured by the volume of profit in relation to sales and/ or capital employed. John (1960) puts it as "...profit invariably one of the key criteria used by management in evaluating and selecting operation plan expressed in financial terms and the management uses his estimates of the probable income, expenses and profit as a guide in planning and conducting the operation of a business, he is in fact profit planning" (p2).

Profit planning is a systematic and formalized approach for stating and communicating the firm's expectation and accomplishing the planning, co-ordination and control responsibilities of management in such a way as to maximize the use of given resources. Pandey (1986) mentioned ... "profit plan is a management technique; in fact, it is a way of managing. It is the only comprehensive approach to managing so far developed that, if utilized with sophistication and good judgment, fully recognizes the dominant role of the manager and provides a framework for implementing such fundamental aspects of scientific management as management by objectives, effective communication, participative management, dynamic control, continuous feedback, responsibilities accounting, management by exception and managerial flexibility.

Thus, the major purposes of profit planning as pointed out by Pandey (1986) are To state the firm's expectations (goals) in clear, formal terms in order to avoid confusion as well as to facilitate their attainability.

- (1) To articulate expectations to all concerned with the management of the firm so that they are understood, supported and implemented.
- (2) To provide a detailed plan of action for reducing uncertainty and for the proper direction of individual and group efforts to achieve the goals.
- (3) To co-ordinate the activities and efforts in such a way that the use of resources is maximized.
- (4) To provide the means of measuring and controlling the performance of individual and units as well as to supply information on the basis of which the necessary corrective action can be taken (p169).

Holmes *et al*, (1970) state, "Business managers are continually involved in organizing, planning and controlling the operation of both large and small business organizations. Profit planning is one of the most important management tools used to plan and control business operations. Budgets or profit plans are financial plans prepared as a guide to and control of future operations. Part of the financial planning includes the forecasting of future business condition and activities. A financial plan must then be designed to serve as a guide or roadmap for the activities during the budget period. Best results are obtained when the planning period is the same as the company's fiscal year. The annual profit plan may then be broken down by months, weeks and days of operations. The plan should be designed to co-ordinate the efforts of the sales department, production department and all other departments" (p.682).

The effective operation of a business concern resulting into the excess of income over expenditure fully depends; as to what extent the management follows proper planning, effective co-ordination and dynamic control. This requires that management must plan for future financial and physical requirements just to maintain profitability and productivity of the business concern. The procedure for preparing plan in respect of future financial and physical requirements is generally called profit planning or budgeting. Thus, budgeting is a forward planning and involves the preparation in advance of the quantitative as well as financial statements to indicate the intention of the management in respect of the various aspects of the business profit planning, in fact, is a managerial technique and a profit is such a written plan, in which all aspects of business operations with respect to a definite future period are included. It is a formal statement of policy, plan, objectives and goal established by the top management in respect to some future period. Gupta (1992) holds, "Profit plan

is a predetermined detail plan of action developed and distributed as a guide to current operations and as a partial basis for the subsequent evaluation of performance. Therefore, profit planning is a tool, which may be used by the management in planning the future course of actions and controlling the actual performance.” (p.501)

Comprehensive profit planning and control or budgeting continues to be of prime importance in virtually all organization. The descriptive term comprehensive profit planning and control can be used in the same context as: Business budgeting, managerial budgeting, and budgeting. According to Glenn *et al* (1990), the term comprehensive profit planning and control is defined as systematic and formalized approach for performing significant phases of management planning and control functions. Specially, it involves

1. The development and application of the broad and long-range objectives.
2. The specification of enterprise goals.
3. A long-range profit plan developed in broad terms.
4. A short-range profit plan detailed by assigned responsibilities, by divisions, products and projects.
5. A system of periodic performance report detailed by assigned responsibilities, and
6. Follow-up procedure,

There was a time, when production was considered as a problem, not marketing. In a production-oriented economy, the significance of profit planning and controlling cannot be immediately measured in terms of its costs-benefit. Nowadays, however, the condition is different. “Changes and irregularities” are bound to occur, it is vital that they should be recognized early enough for appropriate adjustments to be made. There are more-over, considerable advantages to be gained if changes can be made in advance to deal with them. In the words of Willsmore (1960) "The profit planning system has accordingly found a particularly suitable instrument for the practical exercise of this for thought and planning." (p1)

Jones (n.d.) viewed that "Profit planning is a comprehensive plan expressed in financial terms by which an operating program is effective for a given period of time. It includes the estimate of, (a) the service activities and project comprising the program; (b) the resultant expenditure requirements and (c) the resources usable for their support" (p.18).

According to Kellar and Ferrara (n.d.), "...forward planning is vital in a competitive profit and less economic system. The success of each enterprise in realizing its optimum profit in each year will be determined by the extent, to which it establishes objectives, develops coordinated plans to meet those objectives and exercise control results reach or exceed those planned. This entire process constitutes the budgetary planning and control program. It includes revenues, costs, profits, cash, working capitals, fixed assets, financing and dividends distribution. It extends through out the entire organization from the chief executives to the front line supervisory levels. Profit planning and control has the ultimate objectives of attaining the optimum profit. As indicated by many successful applications, the most reasonable approach to attaining optimum profits is to plan them as a percentage of capital employed to produce them and to manage the enterprise with the objective of achieving the planned percentage" (p.389).

Kellar and Ferrara further state about the principles and purposes of profit planning in the following points.

To provide a realistic estimate of income and expenses for a period and of the financial position at the close of the period, detailed by area of management responsibility.

- (1) To provide a coordinated plan of action that is designed to achieve the estimates reflected in the budget.
- (2) To provide a comparison of actual results with those budgeted and an analysis and interpretation of deviations by areas of responsibility to indicate courses of corrective action and to lead to improvement in procedure in building future plans.
- (3) To provide a guide for management decision in adjusting plans and objectives as uncontrollable conditions change.
- (4) To provide a ready basis for making forecasts during the budget period to guide management in making day-to-day decisions. (p.389)

Ninemeier and Schmidgall (1984) in their book "Basic Accounting Standards", define profit plan as "...an estimation and predetermination of revenues and expenses that estimate how much income will be generated and how it should be spent in order to meet investment and profit requirement. In the case of institutional

operations, it presents a plan for spending income in a manner that does not result in a loss." (p133)

Explaining the use of budgets and profit plans, they further mention that "...once plan developed, managers know that when actual expenses exceed budget limitation, there may be problems. The profit plan tells managers how much money remains to be spent in each expense category. Profit plans are also used to develop new budgets. Information from the current profit plan along with actual accounting information becomes the basis for developing the next fiscal (accounting) year's budgets." (p.137)

Neil W. Chamberlin (1962) describes in his research report that profit planning and control refers to the organization technique and procedures whereby long and short range plans are formulated, considered and approved, responsibility for execution is delegated; flexibility to meet changing conditions is provided. Progress in working the plan is reported, deviations in operation are analyzed and corrective action required to reach the desired objective is taken. A profit plan is an advance decision of expected achievement based on the most efficient operating standards in effect or in prospect at the time it is established, against which actual accomplishment is regularly compared. The primary aim of profit plan is to assist in assuring the procurement of the profits planned. And to provide a guide for assisting in establishing the financial control policies, including fixed assets additions, inventories and the cash position. The adoption of a correctly constructed profit plan provisions provides opportunity for; a regular and systematic analysis of incurred or anticipated expense, organized future planning, fixing of responsibilities and stimulation of effort. In short, it provides a tool for more effective supervision of individual operations and practical administration of the business as a whole.

According to Knight and Weinwurm (1964) budgeting is the tool by means of which management plans are translated into financial terms and evaluated in relation to financial criteria. This concept of budgeting implies that the fundamental management plan is developed in terms of the markets to be served, the production and distribution processes to be used and the facilities and personnel required. It implies, however, that under our economic system a sustainable return on investment is the ultimate financial criteria by which the management plan must be evaluated. Budgeting then emerges as the essential means by which this evaluation can be made.

The further state that budgeting process is conceived as having both its origin and its end results in non-financial areas of management. It consists essentially of two parts (1) the preparation of comprehensive financial plan of operations and (2) the comparison of actual financial results with this predetermined plan. Thus, planning and control, the essential functions of management, are also the essential parts of the budgeting process.

According to them, the budgeting department is a technical staff department. It makes neither the management decisions, which constitute the basic plan of operations, nor the management adjustments, which ultimately result from budgetary control. In private enterprise economy, however both proposed plans and actual results must be meet minimum standards of financial soundness. The function of budgeting and of accounting is to translate plans and results into terms in which the necessary financial evaluation can be made.

Budgeting may, therefore, be defined as the translation of operating plans into accounting language and their evaluation in relation to financial objectives. The operating plans may be regarded as originating in such areas as marketing, engineering, production and personnel which constitute the non-financial aspects of management. They relate to such matters as markets, products, processes and requirement. These plans are then translated into such terms as revenues, costs, assets and liabilities. These accounting terms are summarized in the form of financial statements, the profit and loss statement and the balance sheet. "Within certain limitations, these statements, in turn, are summarized and evaluated in terms of the indicated return on investment. In this sense a satisfactory sustainable return on investment may be regarded as the paramount financial criterion on the basis of which a proposed operating plans or a set of operating results are to be evaluated"(p,6).

According to Khan and Jain (1989), "Budgeting, as a tool of planning and control is closely related to the broader system of planning and control in an organization. Planning involves the specification of the basic objectives that the organization will pursue and fundamental policies that will guide it. In operational terms it involves the step of setting objectives, specifying goals, formulating strategies, and expressing budgets. A budget is a comprehensive and coordinated plan expressed in financial terms, for the operations and resources of an enterprise for some specified period in the future". (p296)

Jones et al. (1971) opined that, "Contrary to some views, budgeting is not a financial function performed by budget departments, bookkeepers or accountants. They merely record and report plans and comparisons of operating results with those plans. They help management to analyze, interpret and react. Budgeting also is not forecasting as such, if by that we mean predicting the outcome of events rather than planning for a result and controlling to maximize the chances of achieving that result. Many companies complain about the lacking of effectiveness of budgets. But their "budgets" are little more than forecasts, all too often prepared by the finance department and not by the operating people; the result is a superficial set of figures rather than a grass-roots budget" (p2)

The discussion of the concept of budget reveals that a budget is a quantitative expression of a plan of action and an aid to coordination and implementation. Budgets may be formulated for the organization as a whole or for any subunit. Budgeting includes sales, production, distribution and financial aspects of an organization. Budget programs are designed to carryout a variety of functions, planning, evaluating performance, coordinating activities, implementing plans, communicating, motivating and authorizing actions.

In summary, it can be stated that since budget is a written plan for the future, the managers of firms which use budgets, are forced to plan ahead. Thus, the firms tend to do well because they anticipate problems before they occur. A firm without financial goals may find it difficult to make proper decisions. A firm with specific goals in the form of a budget makes many decisions ahead of time. A budget helps a firm to control its costs by setting guidelines for spending money in needed because they know all costs will be compared to the budgeted one. If costs exceed the budgeted costs an explanation will be required. Frequently exceeding the budget may even be ground for dismissal. A budget helps to motivate employees to do a good job. This is particularly true when employees help in setting up the budget. This complete budget for a firm is often called the master budget.

According to Flesher (1980) "the master budget consists of many functional budgets. These budgets include a sales budget, a production budget, a purchase budget, an expense budget, an equipment purchase budget and cash budget, once all these budgets are completed; the master budget for the entire firm is prepared". (p406)

In short, budgets are basically forecasted financial statements and formal expression of managerial plans. They are targets that encompass all phases of operations like sales, production, distribution, financing, etc.

## **2.2 Concept of Revenue Budgeting**

Revenue budget is also called as operating budget. Lawrence M. Matthews (1977) in his book "Practical Operating Budget" defines operating budget as a realistic statement of income and cost objectives for a year. It is a plan against which the ensuing actual performance is compared so as to achieve control by detecting and correcting off standard performance. The broad term "Budget" with its concept of a plan used to control is applied to many areas, such as inventory, capital investment and cash flow. However, we are concerned here specifically with the kind of budget that is used by an operation as a whole for a specified period of one year. The other types of budget are subsidiary to it.

An operating budget encompasses, for the one-year period, the entire prime operating aspects of the functions for which the enterprise exists. For example, a manufacturing company exists to design, manufacture, and sell a product or products. Therefore, its operating budget for a year will include sales, operating costs, research and development costs, and by deduction, profit. Operating costs include not only manufacturing and engineering but also selling and administrative cost. Therefore, all the costs are included required to perform the functions of the company.

The operating budget of a non-profit organization will include revenue and all operating costs. Frequently, this kind of budgeting situation is equated with budgeting in government because of its "non profit" aspects. It seems to be a mistake. The principles that apply in budgeting in profit-making enterprise should be equally applicable to a non-profit enterprise.

Mathews views that "If the operating budget is a statement of objectives, it can also be concerned with a forecast or an estimate. In budgeting we are predicting what will happen. We can expect to be a reasonable close, and the better we do the job, the closer we will be. However, we cannot believe our budget will be absolutely correct, and this understanding has important implications in the area of budget maintenance and follow-up, particularly at the departmental level." (p3)

In summary, the budget involves the statement of plans, the coordination of these plans into well-balanced programs and the constant watching of actual operations to ensure that they are kept in line with the predetermined plans. In this way, limits are set on expenditure, standards of performance are established, and forward thinking is made an essential part of the business management. "Care must be taken, however not to fall into the error of regarding the budget as an end in itself. It is a means to an end. It is not a method of business management, but an aid to clear thinking, and its fundamental object is to enable considered intention to be substituted for opportunism in management" (Willsmore, 1960: p204).

The term and functions of budgeting were firstly developed for state purpose. As applied in the conduct of government affairs budget control implies a forecast of probable future expenses and an analysis of the sources from which income is to be raised to meet these expenses. This results in the establishment of desirable totals for expenditure and revenue, coupled with plans to be ensured that the actual operations are kept within these bounds. "The constant comparison of actual receipt and expenditure against the budget throughout the period then offers a current measure of the extent to which the perceived plans are being realized" (Willsmore, 1960: p2).

Nowadays, budgeting or profit planning system is especially familiar to business organizations but the practicability of it's depending upon the size of the business. "The common objective of profit planning and control system, whether applied to national finance or business administration, is to formulate policy aimed at an objective established after the consideration of the probable course of events in the future and to provide a means for the constant comparison of actual progress toward this goal against the preconceived results" (Willsmore, 1960: p3).

Since profit plan is flexible and depends upon the size of the firm, the formats and rules regarding profit plans also vary according to the nature of business organizations. Profit plan is prepared considering the strength and weaknesses of environmental factors of relevant variables.

Generally, two types of profit plans are prepared. For long-range objectives, strategic plans are prepared and for short-range objectives, tactical plans are developed. The types of budgets or profit plans depend upon the nature of business entity. Generally for manufacturing enterprise following budgets are prepared. (a) Sales budget (b) production budget (c) raw material budget (d) purchase budget (e)

inventory budget (f) labour hours and cost budget (g) manufacturing overhead budget (h) administrative expense budget (i) selling expense budget (j) cash budget (k) capital expenditure budget (l) flexible budget (m) projected income statement (n) projected balance sheet (o) variance analysis and performance report.

However, in non-manufacturing enterprises such as retailing and wholesaling entities the above-mentioned budget are not formulated rather than merchandise budget is developed. Merchandise budget usually includes planning of sales, reductions, markdowns, employee discounts, stock shortage, purchases and gross margin.

Willsmore (1960) opines that "Having prepared a plan, it is equally important to watch performance. Difference between actual results and the budgeted may arise to indicate the necessity for correction so as to assure the realization of the forward plan." (p5)

A central problem in developing and applying an effective profit planning and control program is selecting appropriate concepts and techniques for different situations. Further, as the enterprise grows changes, and becomes more complex, there is the continuing problem of discarding less useful approaches and replacing them with ones that are more appropriate. Both budgeting and accounting systems must be revised as the enterprise changes. It is not uncommon to find a situation where these two systems are internally inconsistent and do not effectively serve the needs of the enterprise. "This result usually occurs when a system developed in another enterprise is literally transplanted without change. It is doubtful that, any two profit planning and control systems should be identical because no two companies are identical." (Glenn et al, 1990: p584)

## **2.3 Process of Budgeting**

This part of the study describes the correct budgeting process in its more formal aspects. The less formal approaches may be adopted if warranted in particular situations. The process involves three phases; pre-planning, budget preparation, and control of operations. (Jones *et al*, 1971, pp 17-29)

### **2.3.1 Phase one; The Job of Planning**

The preplanning phase of budgeting consists of work that generally, must be done in the last half of the year preceding the budget year in order to provide the

framework for budget preparation. In this period an analysis is made of previous experience, the state of the economy, and company objectives- leading to the development of the ground rules for the preparation of the budget for the next fiscal year.

Businessmen constantly concern themselves with economic and industry trends, the financial pages of most publications containing forecasts of economists, polls of business opinions, and surveys of past performance which help to set the mood for next year's budgeting.

According to Jones, this budget preplanning activity is a kin to the long-range operational and financial planning activities, which take place in an increasing number of companies these days. Most management have found that it is not sufficient to face the problems of a business on a day- to -day basis or even on a year- to -year basis; accordingly, they try to plan at least five years in advance. Generally, such planning involves a projection of the total market for the company's products and an assessment of what the company's share of that market should be, based on historical performance and management objectives.

Once a decision is made as to what the sales objectives should be for the next five years, management must decide how it will provide the resources to satisfy the projected volume. This usually involves capital budget projections for plant, manpower development programs, and the means by which funds will be obtained to finance the effort.

This process also deals with questions of policy and company objectives, such as;

- (1) The extent to which expansion will be financed from internally generated funds, equity funds, or debt.
- (2) The methods of distribution.
- (3) The development of sources of raw materials.
- (4) The decisions pertaining to the company's image in terms of price and quality of product.

Obviously, the degree of accuracy of the projections and plans varies with the period covered. As a matter of fact, in view of the many uncertainties involved in projecting activities over a five-year period, the usual procedure is to prepare plans for the first year in considerable detail and then to resort to summary projections for the

remaining four years. As each year's planning is done, refinements are made on the basis of recent experience and a new fifth year is added. Whether or not operational and financial planning is done over a five-year period, it is necessary to follow this preplanning procedure on at least a one-year basis in order to lay a sound foundation for running the business and preparing the budget for the next year.

Jones further states that, commencing with this preplanning activity, detailed planning for next year starts with a general discussion between the president and his planning staff. This normally occurs about mid-year, and the planning staff has prepared economic evaluations of national, geographic, and industry trends in consumer demands. Keeping abreast of these types of data is the continuing function of the planning staff, which has access to a great abundance of statistics from governmental sources, trade associations, and market surveys by the company's own salesman or market research organization. This is not to say that cold statistics of past activities contain answer to the future development of a company. However, the future is sometimes quite clearly foretold by the past, and much planning lacks effectiveness because it does not make full use of all the material available for studying the past.

Paralleling the accumulation of these data relating to economic trends, the sales vice-president will have been accumulating and analyzing the company's past performance in various areas and making an assessment of the company's competitive position and potentiality for the future based on the trends developed by the planning staff.

An additional piece of information is required in the preplanning phase before the president can successfully assess the company's position and establish objectives for the next year. This is information relating to the important area of how competitors are doing. Although detailed data are normally kept confidential by most companies revealing trends and results may be derived from the large quantity of relevant published information. For example, "fortune" annually ranks this nation's 500 largest industrial corporations by sales and lists assets, profits, and return on investment. Such data give the planning staff and the president some indication of how their company is faring competitively. In this process they must ask themselves, "are we maintaining our share of the market?" sometimes the growth of the economy may result in increasing sales for a particular company, but closer analysis may reveal

that it is losing its share of the market to competitors- a trend that will be fatal in the long run if not arrested.

If the company appears to be holding its own in the market place, the next question is whether it is making a sufficient profit. Comparative percentages of profit return on investment usually give quite conclusive indications as to whether the company is operating in an economical fashion.

Regardless of what competitors are doing, eventually the president must decide what his company's objectives and policies will be. At this point he has a wealth of information about his company's performance as related to the economy in general and to the experience of the competitors. A good president does not accept statistical projections but set his own goals based on what he thinks is possible regarding the introduction of new products, the development of new channels of distribution and markets, and the application of good old fashioned hard work and initiative, which he is very influential in motivating and achieving after he has called for this sort of effort.

The preplanning phase of the budget function culminates in a broad operating plan for the year, developed for two basic sources of data environmental factor and company objectives. This plan is issued to the operating departments for the development of their individual plans and budgets to accomplish the objectives.

### **2.3.2 Phase Two: Actual Preparation of the Budget**

The receipt of the budget planning report from the president by the various line managers initiates the budget preparation phase. Each of these managers prepares an operating plan for the next year and submits it to the budget directors.

For example, the vice president of engineering prepares a recommended program of research and development, indicating priorities applicable to the projects recommended. This is important, since the decision as to how much can be spent on research will have to await the financial budget review procedure. It is usually the case, and desirable, that the research budget be prepared on an overabundant basis. This will permit the president to make the selection of which best meets the company's operating and profit objectives. Like all of the other line managers, the vice president of engineering must also prepare his program for operating the

engineering and research and development departments- a program that will become the basis for his operating cost and expense budgets.

The sales vice president in his turn prepares the sales projections and the operating plans for the various sales activities campaigns. The manufacturing vice president prepares the inventory and the manufacturing plans. The treasurer and controller also complete programs for the operations for their departments.

In addition, of these operating plans of the various department heads, the budget director must be furnished with details of the financial programs for the year. The treasurer must prepare projection of cash requirement preferable in the form of cash flow statements, and indicate sources of additional financing if required. The capital investment programs required by the various line managers to accomplish their operating programs must also be furnished to the budget director so that he may complete the capital expenditures budget.

With all of these basic data in hand, the budget director commences the task of assigning value in rupee to the operating and financial programs submitted to him. Generally, this is accomplished by translating their programs into rupees and by utilizing the format of responsibility reports, which are normally issued to each of the line managers. This involves two basic steps. First, the program must be related to the chart of accounts so that the effect in each department and account can be determined. Second, the trend of costs and prices must be ascertained so that appropriate adjustments in the operating plans of the manufacturing vice president is to be the same as in the current year but a wage increase of 5% is contemplated in June of next, the manufacturing cost budgets should reflect this. In a similar fashion, based on the planning assumptions of the planning staff and the president, the budget director must incorporate projected changes in other costs.

Having completed the preparation of the individual departmental budgets, the budget director consolidates them into operating and financial budget summaries in the form identical to that normally used when reporting operating and financial results to management. In other words when the budget department has completed its work, it has a product that looks exactly like the monthly operating and financial reports of the business, except that the figures contained therein represent projections for the next year instead of actual results for a completed period. These usually show operating results for each month of the budget year. Normally, cash flow statements

are also presented for each month of the year, but other balance sheet items may be shown on only a quarterly or semiannual projected basis.

At this point, the budget director submits the budget summaries to the president with comments and recommendations. As a result of the work involved in the preparation of those summaries, the budget director has had an opportunity to gain a real insight into the operating plans of the various managers and has determined the consequence in financial terms, which the president may now review in a comprehensive way. The effective budget director helps the president to analyze the plan and develop possible alternatives if the projected results appear unsatisfactory. As pointed out previously, the budget director acts as an analyst and catalyst but does not make operating decisions or plans. However, at this point the good budget director is separated from the less effective budget director; The former has the ability to point up why the projected result is or is not satisfactory and what the president can do to change the situation if he so desires. It is not unusual to find in this phase of the budget operation that the financial consequences of the initial plans are not satisfactory and that the president must ask his line managers and department heads to adjust their programs in specified way to accomplish the desired profit and return on investment goals. In effect, he returns the operating and financial programs included in the budget requests to the originating line managers with specific suggestions for change. After the line managers have made the suggested changes, these programs are resubmitted to the budget director, who makes the corresponding financial adjustments and resubmits consolidated operating and financial budget summaries to the president for final approval and publication.

Each division manager annually submits a plan of operations for the ensuing three years, summarizing expected sales and operating levels, including cost and expenses. These plans are compared with the prior year's performance, and the approved budget and the significant deviations for the current year are evaluated and explained. The president's staff consolidates division plans and prepares a summary of profit and return on investment as well as sales and operating levels for the corporation as a whole. The president has one unyielding policy; the corporation and its divisions must show improvement from period to period. An improvement is specifically related to better profits and more efficient performance. When the budget officer reviewed these three-year plans with the president, he found the overall

consolidated picture unsatisfactory. He said, the forecast sales level for the first year of the three-year period looked all right; but for the second and third year, estimates were too optimistic. He told his budget officer to reduce the sales forecast for each of those two years by 100000 units. The president said, the profit shown for the first year was inadequate and asked for an improvement running into millions of rupees. The budget officer was directed to assign the requested overall profit improvement to the various divisions and to keep the president informed so, the latter can identify how much of an improvement each division manager is required to produce.

After this initial meeting, the budget director made the requested profit improvement breakdown in consultation with various staff groups and identified areas, such as manufacturing cost, general and administrative expenses, and selling and promotional cost- where reduction in expenses could be made. In follow-up meetings with division general managers, the president and budget director reviewed improvement goals; as an outgrowth of this, the president subsequently placed a ceiling on the upcoming year's general and administrative expenses for each division. This ceiling was included in a letter to the manager.

In addition, each division was given an indication of how cost reductions could be made, such as by improving gross profit by one or two percentage points or by deferring certain routine maintenance projects. As a matter of policy, the president of this company does not permit the staff to tell the division managers specifically how these improvements should be achieved, because the corporate budget director is not running the business of the various operating divisions. As a result, some division managers choose courses of action other than those originally suggested.

To summarize, the president reviewed three-year plan on a consolidated basis; for each division where the projected profit was unsatisfactory, he asked his budget director and staff to recommend cost reductions or other improvements necessary to achieve the desired profit level. He accepted or rejected forecasts of sales and operating levels on the basis of their attainability. Once these changes were communicated to the division, they had to work then into revised budget plans and were then ready to go for forward with the operating budget for the next year.

### **2.3.3 Phase Three: Control of Operations**

With the approval and publication of the budget for the New Year and with the commencement of the year, the third or control of operations phase of the budgeting function begins. Basically, this involves the preparation of periodic reports comparing performance with the budget. Variances or departures of actual operations from the budget plan are highlighted in these reports, and the budget director analyzes these variances and determines and publishes the causes for the benefit of management.

At this point, the analyst's role terminates, and management must begin to perform its primary function of managing. Basically, the line managers, can make one of three decisions with the concurrence of the president;

1. The plan of operations can be changed to achieve the budgeted result. For example, if reduced activity in January is anticipated and a department projected a reduction in personnel for that month but failed to make the reduction, the variance report for January will show an unfavorable condition for that department. Releasing the excess personnel will bring actual operations into line with budget operations in further periods.
2. A departure from the plan can be authorized. Assumed the situation in No.1 above but that volume actually increased contrary to expectation, and accordingly, the full compliment of personnel was kept on the budget report for January will indicate the same excess costs, but under these circumstances management might, and probably will have to authorize running in excess of the original personnel budgets because of the increase in volume.
3. A change in budget plan can be authorized. As indicated latter, management should avoid changing its budget too frequently. Since this has the effect of detracting from a long-range effort toward an established goal. However, there may be situations in which such drastic economic or other changes have taken place that continuing with the existing budget would be rather meaningless.

It is well to emphasize that management's response to budget variances must be very judicious and, in the last analysis, not in any sense automatic. In one instance the president of a firm, which was engaged largely in research and development for space products, said that he was very fearful of a paper work system that would interfere with true research objectives. For example, he pointed out that results quite often are not apparent or achieved until the end of a planned research activity. He said

that in his many years in this kind of work he saw too many projects on the verge of success almost abandoned, and a few which were actually abandoned because of budget stringencies. Accordingly, he wanted to build into his budget system a signal in addition to all of the regular reporting procedures, which would indicate to him when 90% of the expenditure had been made. At this point he would personally review each project and decide whether the result to date warranted exceeding the budget. The record of his accomplishment in the space field attests to the wisdom of exceeding budgets under the proper circumstances.

Another interesting case involved a large motion producers and exhibiter that had fallen into financial difficulties with the advent of television and competition from other entertainment media. The company was in need of management information and control system, especially cost accounting and budgeting in the studio activity. However, there was definite lack of appreciation of such planning and control techniques by studio personnel in Hollywood. The studio manager said that what the company needed was artistic excellence, and the fact that it hadn't won an Oscar in quite a few years was a reflection on how cost reduction programs and planned financial approaches had impaired the effectiveness of the production department. This notion was not rejected out of hand, although it was apparent that the studio was being run too loosely and that a budget plans somehow had to be implemented which would meet the needs of management.

According to Jones (1971) "However, an extensive review of the history of someone of the big motion picture successes and failures did confirm the importance of what the studio managers has said. Generally, budgets for motion picture productions ran anywhere from a few million dollars up to \$30 million. No one has been able to determine in a very positive way what accounts for box office success, but pattern of key ingredients has evolved, including individual stars, successful predecessor novels or plays, spectacular scenes, and so on. In certain cases, the payment of an additional few hundred thousand dollars for one of the more popular stars has resulted in millions of additional dollars at the box office. The same could be demonstrated for any of the other factors contributing to a successful motion picture".

This condition was so pertinent that it had to be incorporated into management strategy and consequent budget principles. To illustrate, if there is an opportunity to engage star B for twice the price of star A, the budget must be flexible enough to

permit this added cost if management decides that such action will more than repay itself at the box office. Thus, a cost control and budgeting plan was developed which met the needs of top management and yet was acceptable to studio management as being a reasonable plan that would not hamper artistic efforts.

In review, the three basic phases of budgeting are preplanning, budget preparation and control of operations. It should be clear at this point that the president plays a vital role in the process and must work closely with the budget director and the various line managers to arrive at the right answer for his company.

## **2.4 Preparation of Budgets**

This part of the study deals with the preparation of different components of budgets and considerations for the preparations of such budgets.

### **2.4.1 Sales Budget**

The sales budget is not a sales forecast. The distinction is important. A budget is a planning and control document, which shows what management, intends to accomplish. In this sense, it is active rather than passive. A sales forecast, however, is a projection or estimate of the available customer demand. A forecast reflects the environmental and competitive situation facing the company, where as the sales budget shows how management intends to react to this environmental and competitive situation. It is necessary to emphasize this, because good budgeting hinges on aggressive management control rather than on passive acceptance of what the market appears to offer. Many companies have failed to make that distinction; consequently, they have found the budget more of a figure exercise than a working tool. A good example of the distinction is reflected in the way budget revisions are handled. If the budget is revised casually and frequently because actual performance is not up to budget, then the budget is probably viewed as more of a forecast than a tool of management control.

According to Jones et al. (1971), sales budget preparation can be viewed as involving the following for interrelated steps;

- (1) The sales forecast.
- (2) The marketing plan.
- (3) The advertising and promotional budget.
- (4) The selling expense budget

Before examining each of these four steps individually, it will be helpful to discuss briefly their interrelationship.

As the first step in preparing the sales budget, the sales forecast expresses demand potential and open the way to intelligent marketing planning. To convert the forecast to a marketing plan, management must make certain policy decisions about such matters as pricing, share of market, size of sales force, level of promotional activity, and ability to and cost of manufacture. These decisions and management plans imprint management control on the passive sales forecast and thus add the vital element of creative sales planning. The marketing plan is based not only on the sales forecast but also on certain assumptions regarding the level of advertising and sales promotion expenses and regarding the level of selling expenses. Therefore, it is important to consider the budgets for those two types of expense as part of the overall sales budget.

Assume that the sales budget is prepared on an annual basis. This is the most usual situation, but it is possible that the planning process might be carried on more frequently. Even when the overall budgeting is done annually, sales forecasting and market planning may be accelerated to quarterly intervals in some industries. Where this is done, procedures will be much the same as when the process is carried out for the year as a whole. The responsibility for preparing the sales budget rests, of course, with the chief sales officer. The budget director provides technical assistance and assures that the budget process follows an established timetable and format, but the proposed sales budget must be the work of the sales department. This is a fundamental part of the responsibility concept. How the top sales officer carries out this responsibility depends on the organization of his department and on the type of business and its scope of operations. Except in the smallest companies, the budgeting effort can involve many people, and careful planning is necessary to assure a proper meshing of marketing talents.

Most companies are organized either by function, where all company sales activities report to a vice-president of sales or marketing, or by division, where each division has its own sales department. In the latter case, budgeting follows divisional lines; a sales budget, including a marketing plan, is prepared by each division. In this sense the division is like a company organized functionally.

Within the sales or marketing department, there may be an organizational split between product management and field sales management. Where this is the case, specific responsibility for each of the four steps of sales budget preparation must be identified. Perhaps the most usual situation is;

- (1) To charge product manager with the requirement of developing the marketing plans and the advertising and promotional budgets, and
- (2) To secure field sales management coordination in developing sales forecasts and in preparing selling expense budgets.

Senior sales management must submit marketing objectives and policies to the president for his approval. Coordination with other parts of the business is important. Particularly important is the review of production capabilities and of any manufacturing problems that may exist. It would serve little purpose to suggest a dramatic increase in sales of product X if manufacturing is having difficulty in making product X in even limit quantities.

Because the marketing plan is a key document for budgeting, other phases of the business, sales budgeting occurs early in the overall budget timetable. The sales forecast, for example, may be started as early as August or September in a large company to allow sufficient budget lead-time on a calendar year basis.

When the sales budget is completed, sales management submits it for tentative approval; this step of securing tentative approval differentiates the sales budget from other budgets that fit into the overall corporate budget. No budget can be considered as finally approved by the president until the entire corporate budget has been put together and accepted. Nevertheless the marketing plan must receive yearly approval (usually on a tentative basis) so that other departments know the activity level expected and can plan accordingly. As explained latter, production and inventory planning are contingent on the marketing plan.

To facilitate this tentative approval, which is usually based in large measure on the adequacy of the indicated profit, sales management should develop with the budget department a flash report summary showing the indicated level of profitability represented by the proposed marketing plan.

### **2.4.1 1. The Sales Forecast**

According to Jones et al (1971), "The sales forecast is itself the product of reconciling a number of separate and varying degrees, independent estimates based on a variety of data sources and diverse logical structures. It is usually helpful to consider the forecast, as built up of three elements"(p39).

- (1) Sales of present products to present customer,
- (2) Sales of present products to new customers,
- (3) Sales of new products to both present and new customers.

Methods of sales forecasting may be classified into four types, which apply in varying degree to these three components. The first and most common method in statistical forecasting which, involves the projection of historical trends for the economy, for the market or class of trade, for the product group, for individual items, or for some combination. This category of forecasting includes correlation analysis, which uses leading indicators and economic indexes obtained from government sources, commercial banks, or private economists and statistical services. Correlation analysis may be particularly useful in such areas as construction materials or major appliances, which may be sensitive to specific identifiable and forecastable economic indicators. The backbone of most modern statistical forecasting systems, however, is exponential smoothing (running averages, with relatively higher weights given to the more recent data, and with additional adjustments for trends and seasonal movements).

The second basic forecasting method uses marketing research studies aimed at analysis of technological, legislative and style considerations, which may not be reflected fully or even partially in historical data. Normally, these tend to become more important over longer time periods, but their impact can often be left significantly within a year. Some of the factors may relate, for example, to new and cheaper competitive products, impending legislation regarding labeling requirements, restrictions in raw materials availability, public concern for pollution control, or changes in apparel styles. It is relatively easy to identify these factors, but much more difficult to establish quantitatively their impact on sales of specific products- existing or new. To obtain specific information that can be acted upon, market research may be based on published information sources or statistics or may use surveys at the

wholesaler, retailer or consumer level. Sometimes substantial information can be collected through contacts between the sales organization and the company's own customers. Where surveys are planned to cover representative samples of a customer or user group, they may be more easily extrapolated or projected to the market as a whole. Special techniques of input-output analysis, econometric analysis, or various forms of profitability analysis fall in this category of forecasting techniques.

A third forecasting method widely used particularly in industrial products operations; involve grass-roots forecasts developed by the sales organization. This technique aims at examination of the current and potential needs of individual customers. Information is collected and recorded by individual salesman using prescribed customer profile forms. The analysis of this information usually requires close involvement by district-level and head quarters sales management, sometimes the salesmen may provide the required information, but usually some direct discussion with authoritative personnel in the customer organization is necessary. To keep this job at a manageable level, complete data collection is normally limited to selected customers whose purchases are individually significant (historically or potentially) and who collectively account for a major portion of total sales. The remainder may be projected on a statistical basis only.

Generally, historical sales records on individual customers are provided as background information to the sales people who are preparing customer profile and analyzing customer potential. It must be emphasized, however, that sales personnel should not use these historical records to make statistical projections. Those are almost always better made on a centralized basis. The real purpose of the grass-roots approach is to examine possible ways of changing historical sales patterns and expanding sales with individual customers and group of customers- or sometimes to identify problem situations where sales must be expected to diminish.

Special statistical analysis can be very useful in identifying customers who have not regularly bought specific major products or items or examining the number of sales visits or calls, which have been made, their apparent sales results, and their coordination in timing with other promotional efforts.

A fourth forecasting method gaining increasing attention- market simulation- is based on a model or explicit description of the market and of the cause- and- effect relationship, which influence it. This technique is relatively new and, because of its

inherent complexity, used most often by larger companies that can apply the necessary resources. Market research, computer, and operations research skill are normally involved in developing the computer programs and data collection programs by which the model operates. The primary prerequisites in developing a successful market simulation procedure; however, is the active participation of senior marketing personnel who can provide the essential know-how as to the structure of a particular market. To be credible and useful, the model must incorporate an expression of how marketing management (not operations researchers or systems analysts) sees its consumers, distributors, and competitors and how it believes them to act in response to changes in such elements as price, advertising expenditures, and delivery lead-times.

For example, a market simulation program may incorporate data regarding the average frequency of purchase by individual customers and the fraction of these consumers who are expected to switch from one brand to another on successive purchases according to the relative weight of advertising expenditure for the different brands. The brand manager can specify various levels of advertising expenditure and, by processing these through the program, can estimate or forecast the corresponding expected level of sales for his brand. He may also specify various levels of competitor's expenditure on advertising and use the model to estimate their effect on his brand.

#### **2.4.1 2. The Marketing Plan**

The next step of sales budget preparation involves the development of a marketing plan; it includes;

- Establishing marketing goals in terms of expected unit and dollar sales.
- Providing production management and other departments with detailed product requirements for setting the level of activity.

The goal of a properly prepared marketing plan should be achievable, because all departments of the company will be geared to execute the plan. If it is unduly optimistic or Pessimistic, the heavy costs of unplanned expansion or contraction will occur. Obviously no plan can be guaranteed for accuracy, but solid business judgment is required in preparing the marketing plan.

For this reason, the marketing plan is prepared generally on a far more centralized basis than the sales forecast-usually by senior product manager or general sales manager. Its preparation commences with a comparison of the external and internal sales forecasts. Additional data considered include the following,

- (1) Overall sales objectives, such as increasing or decreasing market share expanding or contracting product lines, price changes, and so on.
- (2) Expected competitive strategy.
- (3) Product characteristics, including profitability, competitive strength and weaknesses, stage in product life cycle, and so on.
- (4) Prior sales trends.
- (5) Expected relationship of promotional and sales effort to changes in volume.

By factoring in these considerations, product and sales management will develop the marketing plan. Because this process is more a matter of judgment than of routine, procedural technique is not too important in this phase of budgeting, the only requirements are that the plan show units and dollars of sales revenue by products usually month by month or quarter by quarter, and that the plan be stated in sufficient detail to make review by top management meaningful. Generally, to fulfill this latter requirement, the marketing plan will include narrative commentary detailing justification of assumptions, policies to be implemented, and supporting promotional programs.

The marketing plan is of course the sales department's basic job, and the budget director can be of only limited help. However, he should be prepared to work with sales management in furnishing past statistics and developing profitability analysis as required. A good budget director also will question the marketing plan if it appears to contain unsound economics. For example, in one company the planned sales growth for a given product line showed a trend toward marginal accounts, where the distribution channels provided for lower profit per unit sold. Sales management, upon recognizing the trend, changed its plan to improve the profitability of the mix.

Once the marketing plan is completed, it should be compared with the prior year's performance and an analysis and explanation of changes prepared. This will permit top management to evaluate the plan on a more intelligent basis.

### **2.4.1 3. The Advertising and Promotion Budget**

According to Jones et al (1971), the completed marketing plan is based on an adequate level of advertising and promotional support. Furthermore, by product line it will assume the use and cost of certain promotional programs or media advertising. In preparing the overall budget for these expenses, the third step of sales budget preparation, the amounts are generally summarized by type of expense, for example, advertising type of media-network TV, trade magazines, and so on. Obviously this permits management to review and coordinate all types of advertising and promotion programs. Also, in most of larger companies, the advertising department may be a separate staff department whose function is to get maximum results for the company as a whole from the combined programs.

Jones et al (1971) state that, "Nevertheless, the grouping of expenses by media and promotions should not obscure the relationship of the individual programs to the product lines. This is so because spending will be controlled and marketing results watched on a program basis. In effect, these expenses are best controlled by program budgets. Program budgeting, in simplified terms, means that a budget code for purposes of accumulating costs assigned to that program. By and large, control of programme costs is exercised by approving or rejecting the programme to start with rather than by checking the disbursements monthly." (p47)

### **2.4.1 4. The Selling Expense Budget**

The selling expense budget- the fourth element of sales department and its various subdivisions, such as branch offices, except the costs of advertising and sales promotion described previously. We need not be labor the process of establishing these budgets, because the subject of expense budgeting is detailed in "The general and administrative budget". Since selling expenses primarily involve "people costs", the normal techniques of developing manning tables, used for controlling general and administrative expenses, are also applicable. However it is necessary to dwell on budgetary planning and control for one category of selling expenses- field salesmen or sales engineers or account representatives- because in this case the management planning and control problem is somewhat different than in areas of administrative expense. "Field salesmen and the like are the personnel who actually make customer calls and generate orders. Because of this salary or commission level or both and

because of their greater requirements for travel and entertainment expenses, the cost of sales force is often the major part of selling expense. Thus it is evident why a little extra effort in the budgetary planning and control system is warranted in this area in many companies" (Jones et al., 1971: p 47).

Salesmen are employed, of course, for a very scientific purpose- to make sales. Sales management therefore finds an easily understood relationship, at least on the surface, between sales revenue and number of salesmen or costs of salesmen. In fact many sales managers use such rules of thumb as;

- (1) Sales revenue should be about Rs. 300000 per sales representative, or
- (2) The cost of a salesman, including salary and out-of-pocket expenses, should not be exceeding 3% of his sales volume.

These rules of thumb are perfect examples of what is called variable or flexible budgeting. Variable budgeting provides budget allowances, which increase or decrease on the basis of some major of activity- in this case sales revenue. Therefore, under a simple variable budgeting system, salesmen's expenses could be budgeted as X Rupees per 100 rupees of sales, and the budget would change with the level of sales. The advantage of variable budgeting is that it relates budgets or expenses to effort or output. This is potentially powerful motivating force. Furthermore, field selling is a good example of an area of the business where cost can be related to output or results.

Jones et al. (1971) state that, "If it is true, why isn't sales expense budgeting done more frequently on a flexible basis, at least in so far as field sales effort is concerned? The answer lies in the difficulty of averaging. While it may be true in a given case that sales revenue per salesman averages Rs. 300000, probably some salesmen are selling Rs.600000 per year and others, justifiable, only Rs.100000. Therefore, a variable budget plan for field sales must take into account the factors that management expects will cause sales variations among salesmen or branch officers. Such a plan is called a "factored sales value" plan. It can be developed if management can identify the factors that affect field sales performance" (p48).

There are basically five factors that affect selling effort in terms of the sales and profit made:

- (1) **Customer density:** - that is the number and concentration of customers in given territory.

- (2) **Customer size:** - when calling on small companies, a salesman may have to spend considerable time even to secure relatively few orders.
- (3) **Product profitability:** - Different product lines have different profit margins.
- (4) **Product popularity:** - Some products are far easier to sell than others because of their competitive position or a particular demand fad.
- (5) **General economic condition:** - The level of general business conditions can have a large impact on sales performance, particularly when a business is heavily influenced by the business cycle, as is the machine tools industry, for example.

#### **2.4.1 5. Preparing Sales Budget Report**

A substantial part of the value of any budgeting system depends on proper reporting. The reports prepared should provide a basis of control and such a basis exists in the responsibility accounting framework. Thus the reports for making, selling, and product management should be prepared to reflect the way the organization assigns those responsibilities. Every manager can then review his performance on the basis of the revenues and expenses he controls.

“Budgetary reporting should also provide a basis for re-planning, including taking advantage of economic opportunity as it develops. This is particularly true in the sales area because of the impact on profits of external events, which are not shaped by management and which, can be “controlled” only in terms of management reaction to such events. In selling, control can be an opportunistic as it can be restrictive.

According to Jones et al. (1971:p50) "Budgetary reporting must therefore facilitate control and re-planning. The key to accomplishing this good structure in terms of reporting by responsibility and good variance analysis in terms of explaining deviations from planned performance. The ability to explain such deviations by cause and to identify opportunities and problems at an early stage, is a key ingredient in management control".

#### **2.4.2 Inventory Budgeting**

According to Jones et al. (1971), "While it is often convenient in budgeting to assume that production over a three month's period, or whatever, will equal sales and that inventories will remain at- or return to – a constant level, this is seldom a good

assumption. Inventory levels can change for a variety of reasons; perhaps they should be changed. In the course of budget preparation the need for or the likelihood of, changes in inventory levels should be explored. Almost invariably this brings to light the operating problems, which can significantly affect other phases of overall budget."(p61)

Further, he viewed that, because inventories serve a great variety of purposes, it is hard to generalize about them. However, one can identify the basic reasons for having inventories and outline some general approaches to their budgetary control. It is useful to think of inventories in terms of layers starting with a relatively permanent base level or minimum. Other inventory layers or fluctuation are added for various specific purposes at various times. As a minimum it is normally necessary to retain possession of goods for the length of time required to carry out whatever manufacturing, packaging, or distribution processes are involved. The amount of work-in-process inventory is directly related not only to the time during which the material is actually being worked on, tested, or transported but also to the waiting time between operations. In multi-step manufacturing- for example, in a job shop or a complex chemical synthesis operation-waiting time may substantially exceed operation time, and the overall in-process time will run into weeks or months. Material in process but not being worked on represents an inventory to guard against unforeseen equipment or process failures, quality or scheduling problems, and manpower or equipment under- utilization but, through poor control, the amount of in-process inventory may exceed what is really needed. This is particularly serious when goods are produced on a made-to-order basis, because excessive in-process inventories plug the pipeline and lead to delays in delivery.

Distribution or merchandising operations require very little process time. Only a few days are normally needed to receive goods, store them, and subsequently to move them out of storage or of the shelf for delivery to the customer. The inventories involved are generally not even classified as work-in-process but rather as finished goods. They serve primarily to assure availability for customer service. It is not unusual, however, to have both a high level of finished goods inventory and inadequate customer service because of stock imbalances- that is, too much of some items and too little of others. This again is a result of poor control.

Work-in-process inventories and maximum finished goods requirements to maintain customer services are two elements of the base inventory level. Another element results from the intermittent nature of most production processes. Fabrication and packaging operations often use the same equipment for producing in succession a variety of different products (or different varieties, colors, or size of the same product). Any one item is therefore produced intermittently, and sufficient inventory must be built up during each run to serve the customers while the equipment is turning out other items.

It is necessary in intermittent production to strike a balance between the cost of changing over from one item to the next and the costs of accumulating inventory. The shorter the individual runs, the greater is the number of equipment charge-over and therefore the greater the cost associated with down time and setting up. The inventory buildup, on the other hand, is less on a shorter run, and consequently the costs associated with storage and financing may be less. The proper balance for any individual item is generally determined by an economic- production quantity formula.

Jones et al. (1971:p65) states that, "inventory, controlled by economic-production- quantity formulas (usually finished goods inventory) fluctuate between a minimum and a maximum level. The minimum is often called safety stock and represents the average stock on hand just before each new production lot is received. The maximum level is the amount on hand just after receipt of a new lot. The average inventory, over a period of time, falls half way between the minimum and maximum levels, an amount corresponding to the safety stock (minimum) plus one-half of the economic production quantity. When no seasonal or promotional inventory peaks are involved, the aggregate inventory level for the group of intermittently produced items controlled by economic-production- quantity formula, is equal to the sum of the safety stock levels of the various items in the group plus half the sum of the production quantities of those items".

The same principles can be applied to raw materials, purchased parts, and maintenance stores. But we are concerned with economics of purchasing, not of production. Some items are procured one at a time as needed, but, more commonly, procurement involves periodic purchases of lot quantities. Again, the most economic amount to be ordered at one time is determined by striking a balance between ordering costs and inventory carrying costs. In principle, the ordering costs in

purchasing are analogous to set-up costs in production and include those elements, which increase in direct proportion to the number of orders written per year, such as the costs of preparing and processing the orders and of handling accounts payable. Economic- order- quantity formulas, however, fail to take into account quantity price discounts or freight savings, which can be obtained by ordering in large quantities than the formula suggests or by combining several items on a single order. When these factors apply, appropriate adjustments must be made.

There are special situations, which do not lend themselves to the use of simple formulas. In chemical processing, for example: inventory is dependent upon batch sizes, which in turn are often fixed or limited by equipment capacity. In textile operation, production rates, and therefore inventory accumulation of individual items, can vary substantially depending on the number of spindles and looms assigned to an item. Many other special situations could be named.

Up to this point we have discussed inventory elements, which make up only the base level. Lets us briefly consider factors, which lead to the major fluctuations above the base level. One basic cause of such fluctuations is seasonality or more precisely, a difference in seasonality between demand for product and ability to purchase or produce. Many manufacturers of such highly seasonal items as toys, textile, or garden supplies generally find it desirable to produce substantial quantities in advance of the seasonal sales peak rather than try to maintain a production capacity sufficient to meet the demand on a current basis or to provide manpower for the seasonal peak through costly overtime or expensive- to- train temporary help.

Processors of food and other agricultural commodities, on the other hand, may enjoy relatively stable year-round demand for their products but must accumulate large quantities of raw materials at harvest time to assure their availability. For certain agricultural products, as well as for some metals and minerals, expectation of commodity price fluctuations may lead to accelerated purchases and inventory accumulation in excess of real requirements. These purchases may in turn be hedged through the futures market; an operation too specialized to be treated here.

Fluctuations in demand are often self-imposed. For example, by the soap manufacturer who periodically gives his customers a limited- time, deal of two rupees off to the retail price of each cake of soap, all products for this deal must be specially labeled and distributed over a brief period. This necessitates a prior inventory buildup

and is generally followed by a period of depressed sales because of overbuying, while the deal was in effect. The time during which the effects on inventory are apparent may be weeks or perhaps months.

A similar situation occurs during the introduction of a new product, particularly when it is widely advertised. A substantial initial inventory must be provided in order to assure that the distribution pipeline is filled and that the demand generated when the product is put on the market will be met.

According to Jones et al. (1971:p67) "it is clear that no single formula or method for budgeting inventory requirements will work in all cases. Nevertheless there are some basic approaches to inventory analysis that merit consideration. We will focus attention not on controlling inventories but on budgeting for them. There is a relationship, by which budgets are established will raise questions about the adequacy of management controls, just as analysis of expenses or of sales will lead to questions about management controls in these areas".

The usual first step in analyzing any inventory situation is to segregate total inventories into-

- Raw materials-procured from others
- Work in process and intermediate products
- Finished goods- available for shipment
- Maintenance and supply stores.

Vertically integrated companies may make intermediate products both for sale to outside customers and for future processing internally. For example, a textile mill may provide yarn both to the weaving operation, which constitute the next step in the process, and to outside mills. In such a case, it is useful to consider the yarn not as an intermediate product but as finished goods for which there are external and internal customers, the former being the outside mills and the latter being the weaving operation. However, the weaving operation is considered a customer that does not maintain an inventory of the basic raw material.

For budgeting purposes it is necessary to recognize that a minimum and maximum stock quantity should be defined, in units and in Rupees, for each item. Generally, the absence of such limits denotes a weakness in inventory control procedure and therefore in inventory budgets.

Jones et al. (1971) further states that, "usually, inventory controls are established not in terms of minimums and maximums but in terms of reorder points and reorder quantities, or order- up to quantities. Thus to calculate the minimum and maximum levels, it is necessary to know the reorder lead time for each item (the time required from inventory depletion below the reorder point level to receipt of replenishment). Exhibit below shows the basic formulas that apply (minimum stock quantity is synonymous with safety stock quantity). To obtain an overall inventory budget, the average expected inventory levels for each individual item must be added up. If inventory minimums and maximums are revised or changed seasonally, the inventory budget should be adjusted correspondingly". (p68)

1. Lead time quantity: - lead time (weeks) X weekly usage (units/week).
2. Reorder point quantity: - lead time quantity + minimum stock quantity.
3. Order-up-to quantity: - reorder point quantity + reorder quantity.
4. Maximum stock quantity:-order-up-to quantity – lead-time quantity.
5. Average expected inventory level: -  $\frac{1}{2}$  (minimum stock quantity + maximum stock quantity) or [reorder point quantity – lead time quantity +  $\frac{1}{2}$ (reorder quantity)]

The above formulas cannot be strictly applied to items with a very low unit usage rate, such as a rate of only four to six per year. It is generally good practice, in establishing budgets for the stores, to review a listing of items in stock and to place them into three categories;

- (1) Items which should not be stocked because of insufficient usage, ready availability from others, or high likelihood of obsolescence. These have no budgeted quantities, and stocks on hand should be reviewed for possible disposal.
- (2) Items, which are stocked but have very, low usage. For these, the budget may be taken as equal to the minimum on-hand units.
- (3) Other items, for which minimums and maximums must be specified. The budget is the average of the minimums and maximums.

The approach to inventory analysis described above for a maintenance-parts and supply inventory will generally apply equally well to inventories of purchased parts, raw materials, or finished goods whenever stock is controlled by a reorder-point\Reorder- quantity procedure.

In case of a distributor, where items are purchased from an outside source rather than manufactured internally, only the finished goods inventory is involved. And the same basic control procedures described for no seasonal inventories can be equally applied to seasonal items. Inventory control by a reorder point and by an economic-order-quantity procedure will work effectively. In fact, if the seasonal fluctuations are relatively minor, they can be ignored with relatively little risk. The result will be more frequent ordering during the peak period and somewhat greater risk of running out of stock at, or directly after, the peak. Inventory levels would, however, be relatively unaffected.

Jones et al. (1971) viewed that, "with a strong pattern of seasonality, it is necessary to build up the inventory in anticipation of the seasonal demand. This involves the following steps, which are relatively typical of inventory budgeting procedure in wholesale and retail operations". (p69)

1. Identify the "season" as the time span comprised of consecutive periods (months) with above- average sales demand, average monthly demand being 8.33% of total annual demand.
2. Determine the total season demand for these periods.
- (3) Establish the purchasing procedure. If the season is short- two or three months- it is common practice to order the required quantity in a single shipment or in two shipments, of which the first is the larger; the second order may be reduced or omitted if the seasonal requirement proves to have been overestimated. In many situations, there is not enough time to place a second order after the sales picture crystallizes.

Once the magnitude of planned orders and their probable timing have been established, the projected inventory balances can be calculated, using the month sales forecast. Safety stock requirements are determined separately and must be added on.

The determination of safety stock requirements is particularly critical for style- or fashion- oriented products, which are not only seasonal but also subject to a high degree of obsolescence. Because of the substantial costs, which may be incurred in disposing of leftover merchandise after the end of the season, it may be economical to accept a relatively high risk of stock- outs by providing little or no safety stock.

The next step of inventory budgeting is to determine the amount by which sales demand in each period exceeds production capacity- that is, the maximum

operating rate to be planned for. Month- to – month seasonal inventory requirements are calculated by cumulating this difference. Starting with the last period in which demand exceeds capacity and working backward in time until the cumulative difference becomes negative.

**Table No: 2**  
**Calculation of Seasonal Inventory built-up**

(In thousand of direct labor hours)

Month	Sales demand	Sales less maximum capacity of 1000	Inventory cumulation
January	280	-720	Negative
February	150	-850	Negative
March	100	-900	110
April	180	-820	1010
May	190	-810	1830
June	330	-670	2640
July	600	-400	3310
August	1620	620	3710
September	2010	1010	3090
October	2450	1450	2080
November	1630	630	630
December	460	-540	Negative
Total	1000		

The table above shows the inventory cumulation calculation as follows;

- (1) Select last period in which demand exceeds capacity (November).
- (2) Enter inventory requirement (630) in cumulation column.
- (3) Add inventory requirements (1450) of preceding month (October), and so on. Inventory cumulation is increased until capacity exceeds sales (July) at which point inventory cumulation begins to decrease.
- (4) Discontinue cumulation when cumulative inventory requirement becomes negative (February).

Safety stock must be determined separately and added on. In establishing safety stock level for items for which a seasonal inventory build-up is planned because of limited capacity, it should be remembered that this safety stock must be carried throughout the season in order to have it on hand at the end of the season when it may be needed. The risk of exhausting the safety stock exists only once, however- at the end of the season. As a consequence a relatively high inventory carrying cost is incurred for relatively little pay off in avoidance of lost sales. Economics generally favor little or no safety stock under these conditions. By providing a safety cushion of “emergency” production capacity in excess of the maximum level used for planning purposes, as mentioned earlier, additional products can be made latter in the season, should the demand materialized? Proper planning depends on a careful economic evaluation of the relative advantage of providing for unexpected demand through inventory or through reserve capacity.

For budgeting purposes, the seasonal inventory build-up, expressed here in direct labor hours, most of course be translated into rupees of inventory cost, including materials and overhead. Standard conversion factors based on experience will generally serve this purpose. In addition to the finished goods inventory build-up, seasonal changes in production level will also result in fluctuations of work-in-process inventories, roughly in proportion to the production rate. Raw material inventories may be similarly affected.

On other area of inventory budgeting, worthy of brief discussion relates to the question of centralized versus decentralized stock. When inventory is maintained to service many customers over a wide geographic area, it is desirable and often necessary because of competitive pressures –to disperse this inventory among several branch warehouse locations from which it can be delivered to the customers more quickly. In establishing inventory budget, it is necessary, at least in principle, to determine minimum and maximum levels for each item by location. The total inventory level required to support a given level of overall sales will generally increase with the number of different locations in which any item is stocked, but the relationship is rather complex. The question of how many different locations are appropriate involves, of course, not only inventory considerations but also shipping methods, freight costs, and customer service requirements.

To summarize briefly, increasing competitive pressure for rapid distribution and service to customers has made the control of inventories, particularly those of finished goods, an increasingly important aspect of budgetary procedures. It is common practice to exercise overall control of finished goods inventories by comparing current investments both with those of prior years and with the sales volume they support, it is not valid, however, to assume performance to be satisfactory when sales-to-inventory ratio (inventory turnover) remain relatively constant. This may reflect only the perpetuation of improper levels. Frequently apparent satisfactory overall ratios hide imbalances of individual items with excessive stock in some areas and repeated shortages in others. In comparing historical ratios in a growing company, it is also necessary to remember that greater sales volume should generally lead to higher inventory turnover, except where the additional sales are derived primarily from new items.

Finally Jones et al. (1971) states that, "to overcome the shortcomings of historical comparisons of aggregates inventories, it is necessary to segregate inventories not only by major components of raw material, work in process, and finished goods but also by individual product lines and major stages of the manufacturing process. For effective analysis, particularly in the area of finished goods, it is often necessary to provide objective inventory standards for each individual item. Since each item and location in a multi-product and multi-location inventory would have a different standard level, the determination of such levels can be a very sizable job. With the widening adoption of statistical reorder point systems, such individual standards are coming into common usages and, when available, can and should be tied into the budgeting process". (p72)

### **2.4.3 The Manufacturing Manager's Budget**

According to Jones et al. (1971) "the manufacturing manager's budget is a very important step in the financial plan because of the amount money involved. The manufacturing manager usually controls the greatest number of personnel and the greatest amount of equipment, not to mention his control over raw material and in process inventories. He establishes a base for the purchasing budget and evaluates the required level of production. All these factors must be carefully planned, because a poor manufacturing plan can create an unfavorable overall profit picture". (p73)

The manufacturing manager's work begins when he receives the annual budget timetable or schedule. The receipt of this schedule should serve as a reminder that it is time to lay the necessary ground work, past history can be summarized (by the accounting department) and non-repetitive costs extracted, standard raw material costs and average wage rates can be brought up to date; material quantity standards, direct labor and machine-time standards, and scrap allowance can be reviewed and revised.

When the marketing plan and finished goods inventory requirements are received, they must be translated into a production plan. This plan, among other things, must achieve an optimum balance between sales, inventory, and production. Achieving this balance is difficult because of the many factors, which must be considered, and the opposing viewpoints, which must be arbitrated. For example, the sales department, in establishing the marketing plan, assumes that it will be able to quote a delivery schedule as well as a price that will be competitive. To the extent that the production department can not complete its entire cycle within this time, inventories of parts or subassemblies must be maintained. The cost of carrying inventories can be a significant financial burden, and since there is a direct relationship between delivery policy and inventory, the cost of supporting various delivery policies must be compared to the income potential of each policy.

Further Jones viewed that, "if sales fluctuate from period to period or are seasonal, the cost and other implication of "hiring and firing" must be compared with the alternate cost or desirability of periodically building inventory to maintain a level work force. Consequently, certain policy matters must be decided before the production plan can be formulated. These include determining the following;" (p 74)

- (1) The delivery- time objective of the company,
- (2) The restrictions, if any, governing the delivery objective established. For example, a salesman should not book an order for an unusually large quantity and also promise normal delivery.
- (3) The desired level of delivery schedule performance. The cost of a no-stock-out policy can be exorbitant, and moving upward from a delivery effectiveness of say, 98% can have substantial cost implications.
- (4) The maximum acceptable fluctuation in employment level.

- (5) The cost of carrying inventory- the elements and amounts to be included in the computation should be agreed upon, such as cost of money, occupancy, obsolescence, and so on.

Since the foregoing decisions not only directly affect the production plan but also have ramification throughout the company, it is important that they be reached as a result of a mutual effort of management team. The budget director or committee should play a prominent role in arriving at these decisions. Thereafter, the production department can take the next step of developing the production plan.

The units required by the marketing plan must be compared with available inventory to determine when and how many additional units must be produced. Both decisions must be made within the policy limitations imposed by management. When a product is manufactured is governed by the delivery policy and desired delivery performance level; how much will be produced is determined by balancing the cost of carrying inventory with the cost of acquiring inventory. The production plan or schedule is developed within the framework of these decision rules to meet anticipated demand during the coming year.

The tentative production plan so developed by the production department should be returned to the budget director or committee for approval. The production department should highlight instances where the production plan will not support the marketing plan as originally; the reason for such departures must be given. Executive management must resolve differences, and the production plan or marketing plan is modified as required. Once approved, the production plan should be treated as the master plan from which raw material, manpower, equipment, cash requirements and sales commitments are projected.

Manufacturing budgets are concerned with three elements of cost, direct materials, direct labor, and manufacturing expense (overhead). The remaining portion of the study will explain the principles behind, and the development of, the manufacturing cost budget.

#### **2.4.3.1 Direct Materials Budget**

In order to prepare the direct materials budget, raw material requirements must be determined. This step is important because the purchasing budget, the production cost budget, and the cash budgets depend on it. Determining raw material

requirements is not difficult when the quantity of each type of raw material for all production units is known. It can be time consuming, however, depending upon the complexity of the product and the degree of record mechanization (by punched card or computer equipment) existing in the company. For example, a manufacturer who draws (reduces the size of) wire does not have a difficult chore because his raw material is his end product. His only problem is determining the amount of scrap generated at each operation. The problem becomes more complex when the same manufacturer plates or coats the wire with varying thickness of different materials. Here he must determine the quantities of coating materials as well. Probably the most complex situation is one in which a manufacturer fabricates parts from a raw material for assembly with other purchased parts into a piece of equipment. When this situation exists, raw material, fabricated parts, and subassemblies could be purchased or produced for stock to reduce customer lead-time as well as to realize manufacturing economies. The problem then is not only one of determining requirements for the end product but also one of determining requirements of the various stages of subassemblies. "It is in this later area that record mechanization, can be of the greatest assistance" (Jones et al., 1971: p 75).

When the material quantity per unit of production is known, requirements are computed by multiplying the units to be produced by the quantity of each type of material comprising the unit. It should be determined whether a normal allowance for scrap or rejects has been included in this computation. If not, the allowance can be added at this time or included as an overall figure when the requirements for all units are summarized. When unit material quantities are not known or cannot be developed as a practical matter, historical ratios can be resorted to. Such ratios include the following;

- Ratio of material cost to direct labor cost.
- Ratio of material cost to direct labor or machine hours.
- Ratio of the quantity of each type of material used to direct labor or machine hours.
- Ratio of the quantity of each type of material used to the number of units produced.

Once the individual requirements for each unit have been computed they must be summarized to determine the total requirement for each type of material and to

serve as the basis for the purchased materials budget. As is well known by all production managers, the timing of the receipt of purchased materials is most important.

Another factor that must be considered is management's inventory policy. The requirements for manufacturing are not necessarily the same as those for purchasing. For simplicity let us say that inventory policy requires sufficient raw material on hand to equal the next month's production requirements. Estimated production requirements for the next two months are 75,000 and 1,00,000 kilograms, respectively; the inventory balance at the beginning of the first month is 70,000 kilograms. This means that the purchase requirement for the first month is 105,000 kilograms, computed as follows.

Inventory required at end of first month-	100,000 kgs
Plus production requirements-	75,000
Minus beginning inventory-	<u>70000</u>
Purchase requirements for first month-	105,000 kgs

When the purchase quantities have been determined, the purchasing manager should estimate prices. For high-volume materials, firm blanket prices could be negotiated. In other cases, volume discount could be negotiated with suppliers, based on total annual purchases. When raw material prices have been estimated, the purchased materials budget can be prepared.

According to Jones et al. (1971:p78) "when and how much to buy is decided by management- approved rules, which should be related to return- on-investment objectives and budget policy. These rules are Economic order - quantity and Re-order point".

#### **2.4.3.2 Direct Labour Budget**

According to Jones et al. (1971:p81) "the direct labour budget is a projection of manpower requirements in rupees, or in hours and rupees, for the execution of the production plan. This projection is prepared to estimate the cost of production, to provide data for the cash budgets, to determine manning requirements by labour classification for use as a hiring aid, and to assist management in forecasting overtime requirements, reducing peak loads, and establishing employment".

In most companies, records of the labour hours needed for producing a finished unit are available in one firm or another. When they are available, projecting total time is simply a matter of multiplying the number of units to be produced by the labour time per unit.

When computing labour cost, the average labour rate to be used depends on the wage plan in effect. For hourly rated employees not on incentive, an overall plant may be sufficient. In other cases, departmental or labour-grade rates may be used. When a straight piece-rate plan is in effect, the labour cost is the amount paid per unit produced. When other types of incentive plan are used, average labour rates that include an estimated amount for bonus payments must be computed.

In companies where standard costs used, cost accounting records can be very useful in determining budget requirements for nonproductive direct labour. Many cost accounting systems are sophisticated enough to indicate the extent to which direct labour is nonproductive because of machine down time, waiting time, change-over or set-up time, and so on.

Jones et al. (1971) further mentioned that, “very often, labour requirements are related directly to equipment usage. In such cases, the determination of equipment operation- in terms of hours- is based on processing rates or production rates. A crew, comprised of fixed number of persons with given job classification, is usually required to operate major facilities. The information obtained from the crew schedules, often known as manning tables, combined with the anticipated number of hours of equipment operation will enable management to relate labour requirements directly to equipment usage”(p81).

#### **2.4.3.3 Manufacturing Expense Budget**

The budgeting of manufacturing expenses (often called overhead or burden) is the third important segment of the manufacturing manager’s task after the direct materials and direct labour budgets have been completed. Fixed budgets for manufacturing expenses are actually the simplest type; budget amounts are constant for a period or periods of time. Although this budget has some application in a manufacturing operation, it does not consider fluctuations in the level of activity.

According to Jones et al. (1971:p82) "a step budget is a variable means of budgeting. When this technique is used, predetermined levels of activity are selected,

and budgets are computed for each level. This budget gives some recognition to the variability of the different manufacturing expenses at varying levels of activity; however, several budgets must be prepared to do so. It is also unrealistic to assume that such expenses as supplies and utilities would change in the magnitude with a difference of just one hour between activity levels".

A fully variable budget is actually the more sophisticated and probably most realistic because it considers both fixed and variable cost at any level of activity. When this technique is used, the annual budget is split between its fixed and variable elements of expense. The variable elements are then divided by the level of activity (expressed in hours) to determine an hourly rupee rate for each unit of activity.

This method takes into account even minor changes of activity in the factory, thereby providing a more realistic budget. To compute the monthly budget allowance, the level of activity multiplies the variable rates for the period. The fixed amount is then added to the calculated variable amount.

Manufacturing overhead can be defined as consisting of elements of manufacturing cost that cannot be readily identified with a specific product or unit of production. From that definition many such costs should come to mind- such as supervisory and clerical salaries, equipment maintenance, general supplies, utilities, depreciation, insurance, and so forth. Manufacturing overhead budgeting is made difficult because these costs contrast sharply with direct material and direct labor in that each overhead cost is usually of small consequence at the point of application. Each originates from a different source, and each requires control by a different method and at a different time.

Manufacturing overhead can be classified as a fixed, variable or semi-variable expense;

- Fixed expenses are those that do not fluctuate with volume.
- Variable expenses generally vary in direct proportion to volume.
- Semi variable expenses contain both fixed and variable elements.

Although these or any other definitions give the appearance of firm rules for classifying expenses, arguments persists today, and probably always will, as to which expenses are fixed and which are variable. This cannot be settled until the level of activity on which the fixed costs are based has been agreed upon and until management's policy for termination of salaried personnel may be considered as a

fixed expense if the level of activity on which fixed costs are based approximates normal operating conditions. In this situation, it is assumed that business will maintain an activity level that will require no changes in personnel. If the activity base were assumed to be zero volume, it is likely that many salaries would be treated as a variable cost because at zero volume many salaried personnel would not be required. Each company is different and must be treated individually according to management's short-term needs for fixed and variable information for dynamic cost control, break-even analysis, marginal cost analysis, or idle-plant cost analysis. Once the base level has been determined, expenses can easily be categorized as fixed, variable, or semi-variable. The next step is to separate the fixed and variable portions of semi-variable expenses. There are several techniques that may be used, most relying on historical data. Engineering studies attempt to determine what costs should be, rather than what they actually are at varying levels of activity. Although this method is probably the most scientific, it is usually time consuming and expensive. When step budgets are used, direct estimates are made at several levels of activity. Under the stand by cost method, the fixed amounts would be those costs still incurred if the plant or department experienced a temporary shut down of short duration, say less than one week.

In order to make budgets more meaningful and to control costs more effectively, manufacturing overhead is usually departmentalized. As a result, cost can be budgeted more accurately and each supervisor and foreman is able to participate. Departments may be divided into three classes, producing, service, and general. Producing departments are those that contribute some thing to the improvement and value of the product, such as fabrication and assembly. Service departments perform a service for producing and other departments, such as maintenance and power. General departments are those that provide a general service not necessarily related to a particular product or department, such as purchasing and administration.

Jones et al. (1971) viewed that," in variable budgeting, some means must be found for relating the budgets of manufacturing departments to a proper level of activity. The selection of an appropriate level of activity for budgeting purposes is important for three reasons". (p84)

- (1) The assumed level provides a basis for planning expenditures.

- (2) Standard or estimated product costs, which are the result of volume and total costs, will vary depending on the level adopted. If an incorrect level is assumed, product costs can be distorted, which in turn can misdirect sales efforts.
- (3) Variances developed in comparing actual cost of operation with budget allowances will vary under different assumptions of volume. If such assumptions are not realistic, variances will prove meaningless and confidence in the cost control aspect of budgets will be undermined.

All persons concerned with the preparation and use of the budget must understand the assumptions inherent in the budget and product cost computations. Expected sales volume in the budget year, average historical sales volume, and practical plant capacity are examples of levels of activity, which are frequently used.

Some commonly accepted basis for measuring overhead in producing departments are direct labour hours, machine hours, kilograms of material consumed, and units of production. The characteristics of each industry and of each department will determine which yardsticks are appropriate. For example, kilograms of material consumed or units of production would be a poor management for a diversified plastic blow-molding operation, because the amount of consumption and production depends on mold cooling time or any machine limitations. "Overhead costs, therefore, would be more approximately related to time, that is, direct labor or machine hours, listed below are several characteristics of a good measurement base" (Jones et al., 1971: p 85).

- (1) It must be affected only by volume.
- (2) It must be a direct measure of the cost- incurring activity.
- (3) It must be sensitive to changes in the activity level.
- (4) It must be applicable to all products in a department.
- (5) It must be understood and accepted by those using the budget.

Measurement bases for service and general departments are determined in much the same manner as for producing departments. Some acceptable measures of activity are as follows.

- (1) Service departments; Maintenance- direct maintenance hours, salvage- rupees salvaged or salvage hours.

- (2) General departments; Purchasing- number of purchase orders or purchase rupees. Administration- total number of personnel or total direct labor hours.

Whenever possible, individual departmental expenses should be budgeted first in non-rupee terms- Indirect labor hours, quantities of supplies, and so forth. These can then be converted into the rupees equivalent. In large companies, separate forms may be required for this application.

The rupee represented on budget summaries is annually amounts, based on the budgeted level of activity for the entire year. Service and general department costs can now be allocated to producing and other service departments. This is done primarily to determine an overhead rate, which can be applied to product costs.

Service department costs are allocated on the basis of service required by other departments. For costs of general departments, the allocation is based on the units of activity assigned to other departments such as square feet occupied or direct labor hours when costs have been allocated, overhead rates can be computed merely by dividing the budgeted rupees by the level of activity.

It will be useful to elaborate briefly on the technique of budgetary control with respect to service departments. In the departmental structure of most manufacturing plants, service departments are organized not only to provide service to production and other departments but also to improve the effectiveness of control over the cost of the service provided. In the budget development it is necessary to estimate the requirements for a given service in order to develop the portion of the manufacturing expense budget related to that service. In addition, of course, the expenses of providing that level of service must be budgeted on a basis that assumes efficient operation of the service department.

A dynamic control environment for the subsequent control of that service expense will improve the effectiveness of budgetary management. The maintenance department is used as an example of providing that control through the “sold service” concept. The adoption of this concept in the maintenance department permits the earning of budget, or the variable budgeting technique, to be applied to the foreman of the maintenance function. This concept also reflects the basic operating characteristics of a maintenance activity in that the maintenance department is required to provide a certain number of hours of maintenance labor to production departments for efficient operation.

There are basically two points of control over these service costs. The first is the quantity of services rendered or sold- the requirement for maintenance labor hours, for example, which is primarily the responsibility of recipient departments such as production cost centers. The second point of control is the cost of providing an hour of maintenance service, which is the responsibility of the service department foreman such as the maintenance superintendent. Typically, maintenance services are provided to other cost centers on the basis of work order authorizations, and the charge for actual maintenance labor is distributed to work orders and then is distributed to the using cost center on the basis of the work order accumulation and assignment. In the budgeting process, production cost centers will estimate the requirements for work order maintenance on the basis of both preventive maintenance programs and historical experience for emergency maintenance service. The preventive maintenance program will be approved at a high level of manufacturing management since it involves policy considerations with regard to the age and operating efficiency of machinery and equipment, as well as the general physical conditioned desired in the plant. "The demand for direct maintenance hours projected is accumulated to determine the requirements for maintenance labor by craft as a basis for establishing the manning table and support cost budgets for the maintenance activity" (Jones et al., 1971: p 87).

The determination of effective cost control in the maintenance department requires a continuing reporting of the effective utilization and performance of direct maintenance labour. This is where the sold service concept can be particularly useful. Maintenance management may have decided that an efficient operating plan would call for each direct maintenance man to be utilized on work order maintenance for an average of 95% of his available clock hours. Establishing this level of utilization has direct implications on the staff level required for each type of maintenance labor. It also provides the basis for accumulating the cost of the maintenance function and developing a budgeted rate for charging work orders that will, at that level of utilization, cover all costs of maintenance labor and overhead for the maintenance department. "Typically, maintenance materials are charged to a separate code- by type of material, and are budgeted separately from the sold service-charging rate." (Jones et al., 1971: p 88)

Under this approach it is possible in each accounting period to reflect in the maintenance department cost report, the value of services sold at the budget rate for all work order, work performed during the month and to create what is in effect- an earned budget or an earned variable budget for each maintenance cost center. When the actual cost differs from the earned budget, management can analyze whether the cause was related to the level of service required and thus the utilization of maintenance personnel or was related to the control over spending to support the maintenance man in the plant. In addition, in certain cases the charging rate may be refined by establishing for certain predetermined types of preventive maintenance a standard time allowance for completion of work order work so that an efficiency percentage can also be calculated and reviewed in terms of rupees cost variance.

This concept of budgetary control is introduced into the cost reporting for a service center to assist manufacturing management in determining the level of staffing and utilization of services so that excessive costs of service departments do not creep into the manufacturing cost structure. It should also have the continuing advantage of insuring better communication between service department foremen, such as the maintenance foremen, and production department foremen who are causing the cost. One of the great difficulties in manufacturing control arises when production foremen are charged differing rates for a service where in fact the difference in the rate reflects the level of utilization of a fixed compliment of personnel in the service center. The use of budgeted charging rates eliminates this difficulty and also should improve the precision of control over the cost of service rendered.

When the annual overhead budget is complete and variable rates have been determined, the monthly budgets must be computed. This is a matter of simple multiplication and division. The variable rates must be multiplied by the budgeted monthly level of activity, and the fixed costs must be divided by 12(twelve).

At this point, the manufacturing manager's budget is complete. He has combined the sales forecast with inventory policies and developed a well-balanced production plan. The production plan was translated into material, labor, and equipment requirements. These requirements were then converted into budgeted rupees.

To complete the process, the cost accounting department will extract required information and compute standard product costs. The standard costs will be used to

cost monthly production and sales. Monthly production will be used to determine the budgeted level of activity for the month, and this will be used to compute the monthly budget allowances. Actual performance is then compared with the budget allowances, and variances are reported for analysis and control.

"To summarize, we have explained the principles behind the manufacturing manager's budget, we have taken you through the various steps involved in preparing the budget" (Jones et al., 1971: p 91).

- (1) Developing the production plan
- (2) Determining material, labor, and machine quantity requirements.
- (3) Developing the purchasing budget.
- (4) Computing direct material and direct labor requirements.
- (5) Developing the manufacturing expense budget.

In addition, we have illustrated the means by which manufacturing budgets are integrated into the inventory control and accounting systems. At this point it should be clear why the manufacturing manager's budget is regarded as a vital element in the management planning and control system.

#### **2.4.4 The General and Administrative Budget**

Until now the focus has been given on the expenses directly connected with the manufacturing and distribution processes. This part concentrates on expenses connected with running the top offices in the company and with providing the necessary legal, secretarial, financial and related services. "This is an area of importance not only because most businesses have experienced increases in such expenses in recent years but also because the control of these costs is sometimes an elusive process" (Jones et al., 1971: p 99).

Considerable attention has been devoted to new concept of control relating to general and administrative expenses. New techniques are being developed to insure effective utilization of personnel in the G&A area; some of those techniques are mentioned later as they are fundamental to the concept of budgeting.

According to Jones et al. (1971)"for the purpose of analysis, it is identified the three types of work whose cost comprise G&A expenses". (p100)

- (1) Administrative work: - Which includes all the positions that exist because of the organization structure, for example, the administrative activity of a manager of a function.
- (2) Measurable work: - Which includes all jobs where a relatively repetitive and often routine type of work is performed and where the number of required personnel can be related to some measure of activity. The handling of bills for payment or the processing of invoices is examples of such jobs.
- (3) Program work: - Which includes research-related or other technically oriented jobs where the workload is related to programs undertaken by the company rather than to repetitive activity. Examples of such jobs are found in the areas of commercial and scientific research.

This break down is useful, because each type of work involves different techniques of cost control. For example, control of measurable activity may be exercised through the application of manning tables and flexible budgeting whereas control of administrative activity is dependent on the type of organization structure that exists. Program work is subject to still another control technique –a technique related to the use of program budgets, which state concrete objectives of the program and include (1) lists of task required to complete the program and (2) budgeted manpower and timing for each task. The three types of work just described are not restricted to the G & A area. Actually, this same classification can be made of manufacturing and distribution activities. However, we shall concentrate on how the three categories of work relate to the G &A budget.

The expenses associated with G &A work are largely personnel costs including not only salaries, wages and fringe benefits but also space costs associated with personnel. Equipment costs can be another sizable item in a company with extensive data processing machinery. This fact takes on added importance because, while personnel costs may be somewhat variable, equipment costs are relatively fixed for the life of the lease or the contract. This shifts a substantial part of the control of equipment costs from a day to day or month to month basis to a longer- range basis- that is, control is effected largely when the commitment is made or renewed. Some cost control exists, of course, in the day- to –day utilization rates of such equipment.

There are generally three problematic areas associated with G&A expenses.

- (1) Control of such expenses, including control of overtime and other "hidden" extras.
- (2) Maintenance of some balance between G&A expenses and other factors in the organization, such as sales or total costs. Some managers use a rule of thumb that G&A expenses should be never exceed, say 5% or 10% of sales,
- (3) Identification of G&A expenditures with an appropriate activity, such as a corporate subdivision (in the case of head quarters expenses) or a product line. Examples of the later are the application of underwriting and claims-service costs to various lines of insurance of a multilane carrier and the association of financial or statistical costs with a particular report produced.

Jones et al. (1971) further viewed that, "the reason that those areas present problems is precisely that they are separate and distinct, and the answers to the problems associated with one area do not necessarily apply to those of the other areas. Yet many businesses do not keep the three distinct. Thus one executive may feel that he is controlling G&A because it represents only 6% of total sales and has never been any higher or an accountant may feel that he is rendering a valuable service to his management by allocating all G&A to various product lines (on a completely arbitrary basis), even though he does not report the total amount for each area of responsibility. In the case of executive, the relative amount of G&A provides no assurance that the total amount is under control. The nature of the business may be such that normal relationships do not apply, 6% may actually be too high a figure. In any event, the danger of this approach is that, it perpetuates all prior operating inefficiencies and ignores the planning function of management". (p102)

In the case of the allocating accountant, a basic principle of cost control is that all costs incurred must be grouped and reported by areas of responsibility before any distribution or allocation is made. Otherwise there is no guarantee that the activity receiving the allocation is responsible for the incurrence of the cost or, in many cases even for the amount allocated. Therefore, it is meaningless to expect those who have no responsibility for certain costs to exercise control over them. Secondly, the dissipation of a pool of costs puts the one responsible for that pool of costs in a diffused light rather than in the spotlight of accountability. For example, there is an engineering firm that accounts for various support activities by charging actual costs of these activities to job numbers, thus the total costs incurred in any one area of

responsibility or office are not reported but only the total charges to each number from every source. Such a procedure makes it impossible to exercise cost control at the source, which is the home department of each of the support personnel who devotes his time to assigned jobs. In this particular firm it is also virtually impossible for the man controlling the job number to police charges to it effectively, since in many cases he does not even know some of the people charging the number (let alone approve in advance the charging of time to the job).

Until now we have not spoken specifically of budgeting G&A expenses. This is because, while budgeting is an effective tool for cost control, its effectiveness is limited by other general types of control already in existence. Conversely, the existence of these other controls, which we are about to discuss, greatly facilitates the implementation of budgetary controls and increases the possibilities for truly effective controls through the planning and budgetary process for this reason, we will touch upon some of these other control tools before discussing specific budgetary techniques.

The key to control in any business is organization- the process by which resources are allocated, responsibilities and authorities defined, and relationships established. "True organization descends to the lowest levels of authority in the business. Thus in the G&A area, it is not enough to outline the broad frame work of authority. Sufficient detail must be added to insure that every group and section knows what their responsibilities are and to whom, they report" (Jones et al., 1971: p 103).

It is possible in many instances to economize on clerical costs by establishing pools or by shifting personnel to different departments on a temporary basis. Even in these cases, the organization must be clearly established so that there are no gray areas, which will permit a break down in control through overlapping responsibilities. Numerous examples could be cited of administrative areas where this concept of organization was entirely lacking and where any type of effective cost control was impossible. In one case, not only was it impossible to evaluate performance of the groups in a certain administrative category (a difficult enough task in itself), but also it was equally impossible to find out who was responsible for what activity, what output should be expected of a particular group, or what level of staffing was realistic. Budgetary control in such a situation could result in nothing more than a perpetuation

of past ways of setting the initial budget and of determining how much of the budget allowance was truly earned in a given period. Conversely, the establishment of an organizational framework incorporating position descriptions and tables of approval makes it possible to answer all such basic questions and provides realistic budgets to insure tighter controls on costs and performance.

The second element of basic control in the G&A area is the establishment of proper systems for performing the necessary work at reasonable cost. A critical review of a company often reveals startlingly poor methods, which slow down the progress of work and involve excessive overhead costs. In one company which exercise good control of methods in the factory, very poor methods were used in the office—for example, complete retyping of the same information several times in the processing of an order, detailed checking of every Rs.5 and Rs10 item on a vender's invoice, and meaning-less paper shuffling and duplication of effort. "All of this was taking its toll in poor customer service and excessive overhead costs. Upon the completion of elementary methods work and upon the use of new techniques, better customer service at lower cost resulted." (Jones et al., 1971: p105)

Closely related to methods work are the techniques of work measurement, that is, the determination of what a fair day's output should be. While the most obvious area of application is what was previously defined as measurable work, we should not overlook the fact that administrative work and program work can also be measured, although less formally. Management should ask itself how many functional managers—for that matter, how many separate functions—are required to accomplish the company's objectives—does it make sense, for instance, to establish within the legal department separate sections for patents, real estate, antitrust, and so forth when the job really requires the attention of only one or two men? To a great extent this type of work measurement is a part of general organization work—the basic question of both is, what is the best way to get the job done? The proper answer to this question involves an appraisal of what the job really is and how many people are required to do it the best way.

In measurable work, the measurement techniques involved a breakdown of work into basic functions—sorting, calculation, filling and the like—and a measurement of each basic function. The purpose of such a measurement is to determine how much effort is required to handle a given workload. One can then determine what the proper

staffing should be and what budget allowance should be credited for a particular period, given the level of productivity.

Work measurement can take one of several forms. It is possible to derive an engineered standard based on actual time studies. Or it is possible that predetermined standards are appropriate. But generally speaking, the most satisfactory way of measuring work is to use historical data, if available, or to sample various batches of current work. While the latter method may be less exact, it has the advantages of being simple and of measuring work being performed at the accustomed rate. Of course, work measurement will not make sense if the basic systems for processing work are unsound.

The final step is to express in rupees amount, the standards developed, this is done by applying average wage or salary rates, to which are added benefits or overhead. One then has, in effect, a standard cost system for the office, which provides a powerful productivity-related tool for cost control and a means of equitably charging other groups and product lines for services actually rendered- such a system is also an excellent vehicle for installing budgetary control, since the same rates used in costing are used in computing budget allowances.

Another basic feature of control is good supervision. It can be regarded as organization in action, since good supervision is just that- bringing to life the organizational relationships, which exist on paper. Supervision is necessary, especially in the area of measurable work, to insure that productivity is maintained at the required level. During the normal processing of work, imbalances in departmental workload are bound to occur, and supervisors must be there to restore balance through shifting the workload or personnel. Even in the same department, peaks and valleys will occur in the day-to-day workload, in the mail order business, for instance, Monday may be the busiest day of the week because of the accumulation of two day's mail, or Tuesday may be the busiest day because of newspaper advertising on Sunday, or it may not be possible to anticipate high volume days, so, variable is the workload. In any case, there must be good supervisors to level the peaks and valleys and to insure that each employee has enough work in front of him to maintain overall productivity. Other wise, the staff may work overtime on Tuesday to "finish up" and yet be practically idle on Thursday.

While some of the controls previously described are more applicable to large administrative departments than to smaller ones, one should not overlook the opportunity to apply some or all of them in a manner that will keep overhead costs under control without, at the same time, jeopardizing corporate objectives, for example, periodic reviews of work methods and the effectiveness or value of the output of organization units should be a continuing part of the control process.

Everything we have said until now provides a necessary backdrop for the discussion of budgeting G&A expenses. In the idle situation, budgeting proceeds as a natural outgrowth of the other control techniques described earlier. In fact budgeting and rate setting are, to some degree, inseparable, because to establish hourly rates for fixed or partially fixed costs, an assumption must be made about the level of activity. This assumption is very much like the one used for budgeting. The difference is that in addition to using rates to generate cost data, budgeting supplies a benchmark against which actual expenditures can be compared.

The fundamental step in preparing a departmental budget is to determine the level of operations. In the G&A area this level will largely be determined by the expected activity in other areas. For instance, in the accounting department the number of invoices prepared will vary to some degree with the level of sales, and the number of vendor's invoices paid will vary with the production and inventory plan. Similar correlations can be made for such departments as tabulating, credit and other services. It is not true that administrative activity in research departments will vary directly with the level of sales or production, instead, the level of activity in these departments will be set by a management decision based on what management can afford and what it feels will make the most important contribution to overall progress. Upon establishing the general level of activity, one should then proceed to a more precise statement of plans for the coming period. For administrative work and program work the most common planning vehicle is a manning table, which indicates the positions needed (with a statement of justification, including a description of duties to be performed and expected workloads) together with the planned staffing and the salary for each position. Additional costs, such as those of overtime, space, and equipment, should be included in the same budget.

"While this may seem like a lot of detail, it is the only sure way of keeping overhead costs from continually creeping upward through the addition of a person

here and there and too-generous salary adjustments. Some of the largest U.S. corporations apply this technique down to the lowest levels at the most far-flung locations. The paper work involved is easily systematized, and the little effort involved pays rich dividends in helping supervisors at all levels to keep their costs under control" (Jones et al., 1971: p106)

For measurable work, the manning table just described is also appropriate, but when work measurement has been performed it becomes a secondary step. The basic step is projections of the units of work expected for the period, based on such activity measures as are appropriate for the department. This forms the basis of a projection of the hours to be worked in a department during the budget period. This projection, in turn, is translated into a manning table, which reflects such factors as schedule requirements, overtime estimates, peak loads, and vacation periods. The manning table should be used in the same way as that for administrative and program work, with the work- measurement calculations added as supporting detail.

As with all budgets, the G&A budget should be built up from the grass roots. The first- line supervisors and others who will have to make the budget work should have a voice in it and should budget only expenses, which they can control. The overall budget should then be assembled and reviewed at each higher level of responsibility. When revisions are necessary, they should be made in such a way that lower-level supervisors still feel it is their budget. Finally, when the finished budget is assembled, it should be structured in a way to facilitate the reporting of actual results. Budget reports should be prepared each month; comparing actual results with those budgeted for the period. With variable budgeting, the budget allowance will vary not with time but with the level of activity. The application of this technique requires an understanding of the nature of costs and the way in which they vary.

Few costs are completely fixed, but it may be convenient to talk of certain ones- such as supervisory salaries, space and equipment costs, and certain overhead allocations- as fixed for purposes of this analysis. Budgeting for these is just a matter of prorating the total year's cost over the months or over other budget periods and of providing an equal budget allowance for each period. As with fixed costs, few costs are truly variable with any measure of time or activity. But when flexible budgeting is used, it is helpful to make certain assumptions about variability. Where to draw the line between fixed and variable costs can be a difficult question. Generally it can be

done only by assuming a normal level of activity and deciding what costs will be fixed, even at the bottom of the normal range, where gray areas still exist, it is generally better to consider questionable items as variable, rather than go through a detailed analysis of semi fixed and semi variable (or “step”) costs.

Costs, which are determined variable, should receive a budget allowance equivalent to the activity level actually attained. In simplest terms, if salaries and wages vary directly with hours worked (as in the case of an hourly office pay-roll), the budget for any period should relate to either the hours actually worked or the hours earned based on physical production (converted through work-measurement units into hours). Using the second choice, hours earned, makes it possible to identify an efficiency variance (where actual hours are more or less than earned hours) as well as a rate variance (where the amount for hourly wages differs from the budget allowance), for fixed expenses it is also possible to develop a volume variance (where the number of hours worked or earned is more or less than those budgeted for the period), which will indicate whether fixed costs have been over absorbed or under absorbed.

#### **2.4.5 Programme Budgets**

A program budget represents the appropriation of a fixed sum of money to achieve a specific objective or set of objectives. This budgetary approach is most common in the “programmed” activities of a business such as research and development, marketing, engineering, preventive maintenance, training and public relations. The program or appropriation budget in these areas represents the total cost of undertaking a series of individual projects.

As in most budgeting process there is a top-down and bottom-up approach taken to establish the cost and content of these programs. In some organizations management will specify an overall investment limitation, which may relate to past spending, such as a percentage of sales. This upper limit may be derived from management’s judgment as to a total amount necessary to remain competitive or to keep in step with current growth rates and future expectations.

On the other hand, there are those companies that arrive at a total budget based on a buildup of individual project “sold” to management by the respective department or functional managers. In these cases, since the company can not financially support

an infinite number of projects, a budget limitation probably exist, but it is not preset in the same manner as in the top-down approach.

According to Jones et al. (1971:p113) "in both approaches to program budgeting, there is a distinct need to provide some mechanism to assist management in identifying a preferred choice among possible alternatives. Where a total budget is established initially, management must decide how to allocate the fund to individual project efforts, where many projects are, first being proposed at department levels. Management must decide- how to screen and select the projects to be worked on".

In recent years, considerable attention has been given to cost effectiveness analysis as a basis for this sort of management action. This analysis involves a comparison of alternative courses of action (which projects to work on) in terms of their cost and their effectiveness (output of the project effort) in attaining specific goals. Cost effectiveness analysis in program budgeting generally consists of an attempt to minimize the rupee appropriation required to meet a corporate mission (which may not be explicitly measurable in rupees) or, conversely, to maximize the output of the program (for example, number of new products from R&D) subject to an overall budget constraint.

Cost effectiveness analysis requires looking at the relationship among number of factors present in every analysis of choice. The overall framework for this analysis is management's objectives, since the rest of the process boils down to measuring the extent to which the objectives are being met by the selected alternatives. Then, of course, there must be alternatives, which might be a set of project proposals. The projects need not be direct substitute for one another since there can be numerous alternatives which direct themselves to management's objectives.

Choosing a particular project means that the resources needed for that project can no longer be used for other purposes. Thus, for a given project, these are the costs to be considered in evaluating the proposal. The evaluation itself entails the use of an appropriate model to abstract the information relevant to reaching a decision to include a project in the program. An example of such a model might be a return-on-investment formula, which abstracts and relates the project costs to the project output (its measured economic payoff).

Having evaluated each alternative, it is then necessary to weigh costs against effectiveness. This is accomplished by applying a criterion or standard by which the

evaluated projects can be ranked in order of desirability (for example, descending order of return-on-investment). This permits a selection of the most promising projects up to the overall budget limitation.

The quantitative nature of cost-effectiveness analysis often leads to a number of questions pertinent to its usefulness in decision-making. These questions relate to;

- The ability to identify the right company objectives,
- The clear-cut specification of these objectives,
- The influence of non-dollar factors, and
- The determination of an appropriate measure of project performance.

The last point is, of course, the cost-effectiveness measure, which must be relevant and measurable.

There are many examples of the problems in choosing effectiveness measures and the effects of maximizing on such measures. Consider as an extreme example, the plant manager of a nail factory whose initial measure of performance was stated in terms of the "total weight" of the factory's output. He then proceeded to maximize this explicitly stated objective with the result that the plant turned out only huge railroad spikes. Seeing a surplus of railroad spikes for which there was no demand, management revised the measure of the merit of the plant's output to the number of nails produced, whereupon the plant manager switched entirely to producing tacks, brads, and staples. Management's measure of effectiveness in physical terms and its failure to evaluate the production output by market criteria led to activity and costs which obviously were inconsistent with long-range corporate interests.

Jones (1971) viewed that "the difficulties in making meaningful use of cost-effectiveness analysis do not, however, negate the role that budgeting can play in establishing program goals and controlling performance" (p114).

#### **2.4.5.1 The Research and Development Budget**

According to Jones et al. (1971:p115) "the research manager plays an increasingly vital role in the success of business in the fast-moving economy. Product obsolescence takes place at the rapid rate as a result of competitive action and technological advance. The research and development (R&D) function has to answer this challenge by developing products, which will meet or beat those of competitors. Realizing this, as most businessmen do, one would assume that the R&D manager

would have a relatively easy time obtaining and managing budget funds. Such is not the case, however, because of the intangible nature of much R&D effort. Even though great progress may be made in a particular year in developing a new product, the result may not be impressive until a new product is turned over to the marketing people for market testing. Accordingly, when there is pressure on management to increase earnings, there may be a temptation to cut the R&D appropriation in the mistaken notion that essentials are not being neglected. This condition points up the importance of an R&D budgeting system, which will permit management to make rational decision about such expenditures”.

The research function, regardless of its position within the organizational structure of a firm, may be viewed as a system wherein an input of money results in an output from various projects and as a system having a control mechanism to divert the flow of money from the less- promising projects to those of greater potential. This viewpoint emphasizes the importance of considering the following interrelationships in any discussion of the R&D budgeting process;

1. Company policies and long-range plans to provide the framework for decisions regarding the potential of a technical program or project.
2. Methods of project valuation to relate the potential of one project to that of others under consideration.
3. Budgets or planned-cost estimates to control the overall flow of money to program and project activity.
4. Means for measuring and reviewing project performance to serve as a basis for decisions about the continuation, re-channeling, or termination of effort.

The final R&D budget is the culminating result of several phases of planning and evaluation. Initially, the president and the R&D vice-president establish the general level of spending to be permitted for manpower, contracted research, supplies and equipment, facilities and a variety of other expenses of operating the laboratories.

Further, Jones (1971) mentioned that "In a sense budget is “backed into”, because the bottom line, net R&D expense, is decided upon first. This represents the financial limits on research activity and evolves from discussions and agreements between the president and the R&D vice-president; budget preparation involves a four-step procedure. First, the president reviews company policies covering such factors as product line diversification, expansion of existing product lines, and

entrance into new markets. He also reviews the current technical programs and related costs, which have been established to meet the objective defined by company policies. Second, the R&D vice-president evaluates the technical limits of the research staff, in terms of its ability to conduct the necessary work in relation to existing projects and in relation to the expected demand for additional work. Also, he specifies- as is his responsibility- the nature and magnitude of the research effort that should be undertaken presently in order to safeguard consumer's future position in the market place. Third, rough cost estimates are established on the basis of the foregoing considerations. These estimates are totaled and compared with the dollar level the president wants to maintain and feels the company can afford. (In this case, he uses as a bench mark a fairly consistent percentage of net sales, running between 10 and 15 percent). Fourth, if proposed R&D expenditures appear too high, a further evaluation is made to determine which existing programs might be held to their current levels without sacrificing company objectives" ( p 117).

The details of R&D expense budget are worked out by the R&D vice-president to conform to the agreed- upon net R&D expense, many other companies employ a similar approach- that is, the details of expense budgets are developed after totals are derived from historical expense relationships, rather than built up from independent estimates of the cost of individual projects.

The R&D vice-president then prepares a transfer budget, which is that part of the R&D expense budget to be charged to the marketing divisions. The transfer amounts are the R&D vice-president's estimates of the future needs of the divisions regarding their respective programs; that is, the amounts represent the hours of professional manpower at a standard rate (where the rate is a weighted average for different levels of engineers and scientists) plus factory labor (pilot plant, sample production and so on) plus outside research.

Jones et al. (1971) opined that "the difference between the net R&D expense and the transfer budget is the budgeted gross cost of corporate research. However, only a part of this amount is considered in subsequent phases of budgeting corporate R&D expense (basic research). The following are deducted from the gross cost of corporate research to arrive at the total available for basic research". (118)

- (1) Unallocated contracted research; this is an amount usually set a side for the president's use so that a specific effort he may desire can be initiated without detracting from existing project work.
- (2) Uncontrollable charges; this is a catchall of charges for which no project number is available. Experience indicates that mis-charges will occur and must be deducted to arrive at a realistic corporate R&D budget.
- (3) Supporting programs; the R&D organization has a computer facility and several analytical laboratories that service all corporate and divisional research activity. These centers do not charge to specific projects.

The resulting corporate R&D expense budget and the transfer budget represent overall rupee estimates of the cost of performing basic research and of product-oriented research, respectively. There are, of course, two distinct phases in the continuation of the research- planning process, which must be completed before budgets, can be considered as part of a planning and control system. These phases are programming and project selection. Programming translates company objectives into relatively precise definitions of the fields that should be investigated and of the emphases that should be placed on different kinds of research activity within each field. Project selection involves choosing this technical endeavor- within the framework of the programs-, which bear most closely on the short-and long-range profit of the company.

#### **2.4.5.2 The Public Relations Budget**

According to Jones et al. (1971), the public relations function, by its very nature, affects all areas of communication within the company. "It has no definitive set of ground rules and might better be described as an art rather than as a science. This does not mean, however that there is no sensible way to measure the activities associated with this function. It does mean that a greater effort must be made to define its activities and projects, along with the objectives and costs to accomplish them, so that there is no doubt about what is to be done and how performance and results will be measured". ( p125)

Performance evaluation is one of the most important factors in the preparation of a budget. Current methods of evaluating performance in the public relations area have fallen far short of what might be considered as a desirable level of control. The

most common method used today to measure the success or failure of public relations activities is the monthly or quarterly report comparing actual expenses with budget. The question then is, are these performance measures enough?

It would be impossible to determine from an expense report alone whether the department's performance was good or bad. The reason, of course, is that there is no basis for performance measurement other than the dollar variance by expense account. It is possible that one might reach a favorable decision as to performance if all of the factors were known, even though actual expense exceeds budgeted expense. In what other way, then, can we measure performance in order to bring to light other factors, which influence the level of spending for a particular reporting period?

Before proceeding to answer this question, let us first discuss the initial step necessary to establish a realistic framework for budgeting of the public relations activity. The first prerequisite, as in any good budgeting program, is to define the various projects or programs currently under way or to undertaken by the department. Each program should have a stated objective in terms of its expected achievements, and each should be related to current short and long-range management objectives; because of the myriad of activities associated with the public relations function, one should be careful to avoid breaking down the programs into too much detail or stating too narrow an objective.

One way in which these objectives might be stated would be to relate them to the various "publics" which the company might be trying to influence. Within this framework, the various activities or projects needed to attain these objectives might also be shown. Among the possible publics of a company are the press, government, financial community, employees, customers and competitors. Among the potential activities and projects that can be used to achieve specific objectives are articles, speeches, reports surveys, legislation, trade associations and internal communications. These, of course, are only illustrative and should not be viewed as the only classifications, which might be useful in establishing public relations objectives. For example, the customer public might be stated in terms of the company's male and female publics or even in terms of the age categories within each, if these distinctions are necessary to describe more accurately the specific objectives for the various activities or projects contemplated. Stating company objectives in terms of various

programs, however, is only realistic way to facilitate the preparation of progress reporting and to evaluate the attainment of the goals.

Once the objectives have been determined, the next step is to budget the expenses for each of the programs. This can be accomplished by first allocating the controllable expenses of the public relations department to the various projects associated with each of the programs. The extent to which these expenses should be budgeted on a project basis should depend on the materiality of the expenditure, the degree of control that can be exercised at the project level, and the degree of difficulty in obtaining actual cost information for comparing results.

Finally, Jones (1971) viewed that "we are now ready to answer this question; what other means of performance measurement should be used to help management evaluate the stated program and project objectives? In addition to the comparison of actual expenditure with budgets, there are other quantitative and qualitative measures, which can be used to evaluate performance". (p127)

Goals	Selected bases for measurement or evaluation
<p><b>Quantitative goals;</b></p> <ul style="list-style-type: none"> <li>- Receive favorable comments in at least 80% of all customer letters received.</li> <li>- Increase attendance at stockholders' meetings to a minimum of 300 people.</li> <li>- Obtain between three and five hours of public-service time on television and a minimum of ten hours on radio.</li> </ul> <p><b>Qualitative goals;</b></p> <ul style="list-style-type: none"> <li>- Make more effective use of our in-company publications.</li> <li>- Increase public awareness of our company by submitting articles to magazines on our history and future growth.</li> </ul>	<ul style="list-style-type: none"> <li>- Percentage of favorable letters received.</li> <li>- Attendance at stockholders' meetings.</li> <li>- Number of hours on television and radio.</li> <li>-</li> <li>- Review of comments received from the employee suggestion box; solicitation of opinions from department managers.</li> <li>- Evaluation of editors' acceptance of articles submitted for publication, review of opinion polls conducted by</li> </ul>

<p>- Improve the quality of our advertising and press releases.</p>	<p>the market research department.</p> <p>- Evaluation of awards or recognition of achievement by advertising, press, or other groups. Review results of special opinion survey conducted by the market research department.</p>
---	--

Even though the established measures may not be the only ones that could be used to evaluate the results of a given program or project, it must be understood that in today's complex business climate some agreed- upon standards of measurements are better than none at all.

In deciding on what we want to measure, we will seldom be able to identify conclusively the causes of changes in the attitudes of the various company publics. Not only does the public relation communication effort influence public response but so also do other factors, such as product quantity, service and management strategy. The important thing, therefore, is to obtain management acceptance of these standards in advance. Once the standards for performance measurement are agreed upon, they should be incorporated into periodic progress reports. These reports should be prepared and submitted to management no less than once each quarter.

According to Jones et al. (1971) "In the progress report for the company's customer- public program, it is noted that in addition to the reporting of controllable expenses and certain quantitative standards, there is a written statement of performance is essential to the control of the program. Too often there is a reluctance to put in writing the failures and accomplishments for a given activity once failure does not negate an entire program. Conversely, one clearly written success is worth several "vocal" stories. The reason for this is simple. If the results are worthwhile talking about, then certainly they should be formally communicated to management. How else will management be able to relate the various public relations success stories to the programs, which help to bring about?" (p 131)

In the final analysis, the use of written program objectives and reports will help the public relations director sell his program to management. At the same time, management will become more aware of the various program successes and failures

and will be able to make more qualified judgments as to where its “investment” will accomplish the best results.

#### **2.4.6 The Capital Expenditure Budget**

According to Jones et al. (1971) "planning is generally in terms of long-range objectives- say, over the next five years. This sets the stage for the detailed planning for the first year, which is part of the budget -preparation process. Long-range objectives usually provide for expansion of plants, distribution facilities, sources of raw materials and other resources, which require capital expenditures, financed by retained earnings, by equity or by debt secured from outside sources".(p132)

Because ,the commitment of funds in capital projects is irrevocable. Plans and proposals for these expenditures are carefully examined by management and the directors. A faulty decision to enlarge the staff for a particular function may be corrected by cutting back, thereby is terminating the effects of the decision. But funds put into brick and mortar represent sunk or fixed cost and cannot generally be terminated or retrieved without considerable financial sacrifice. The more important evaluation and control techniques in this field are discussed here.

An essential starting point in capital expenditures planning and control is the identification of proposals with corporate long-range objectives. This requires a definition and rather complete description of both the objectives and the capital expenditures proposals. Company objectives are often organized as follows; present nature of the business and products and planned changes; volume and profitability policies; marketing plans; manufacturing plans; financial plans; relocation plans; industrial relations; and public relations. Capital expenditure proposals must then be sufficiently specific to permit their identification with objectives for expansion and change or to permit their justification on the basis of cost-reduction improvements or necessary replacements.

Further, Jones (1971) mentioned that "to be sure that operating and divisional manager gives adequate consideration to the need for generating sound and profitable capital expenditure proposals, top management usually establishes capital expenditure targets or goals. For example, as a part of overall budget objectives, the president may say that, in light of business trends and general economic forecasts, each division is expected to generate capital investment opportunities equivalent to 150% of its initial

annual depreciation charges and that such investments are expected to yield a return on investment of 10% or better. While such targets are always guidelines rather than rigid requirements and while operating men should know that the amount of capital available to them would be based ultimately on specific projects, it is nevertheless true that top management must stimulate forward thinking and planning. In fact that the president puts premium on the long-range planning associated with the capital budgeting program will help in- still in operating managers a desire to pursue profitable investment opportunities. This is more important than one might at first imagine, because in many companies the reason for a lack of sound capital expenditure requests is probably a corresponding lack of adequate long-range planning". (p133)

Generally, evaluation and approval involves;

- (1) The technical feasibility and validity of assumption about production volumes, market potentials, and engineering consequences and
- (2) The business wisdom of making the expenditures under the assumed conditions and expected results.

The technical-evaluation phase must be accomplished by subjecting a capital expenditure proposal to a review by all departments capable of passing judgment on the technical aspects. In many cases, outside consultation is sought to bolster company judgments on advanced processes and market potentials. Forms and procedures are provided for the processing of proposals in a formal way and for the accumulation of supporting data and approvals. Selectivity must be built into this procedure to permit decisions at lower levels of management for limited amounts.

The second phase of the evaluation process is economic in nature and is done in many ways. Management may find that it has more investment opportunities than capital to invest or more invest able capital than investment opportunities. Whichever situation exists, management must have some economic criteria for selecting or rejecting investment proposals. Its decision is in either case likely to be based largely on certain measures of financial return. Let us consider three common methods of economically evaluating return;

- (1) Year to Payback
- (2) Average Rate of Return
- (3) Discounted Cash-Flow Rate of Return

All three methods determine in one-way or another, a return on investment (ROI). To evaluate whether a project is yielding a good or bad return, ROI must be compared with a standard acceptable level of profit the company wishes to maintain. This internal cutoff rate is the cost of capital.

There is no substantial agreement as to precisely how management should calculate cost of capital. One thing is clear; Management must set an objective by which all investment opportunities are monitored. The company must recognize that few investment proposals are financed solely from debt or equity; most are made up of some combination of the two. Hence calculating the cost of capital should include the cost of borrowed funds as well as the cost of equity financing.

Suppose management has determined that the cost of borrowing is 9% at current loan rates. Furthermore, the growth potential illustrated in the financial statements indicates after-tax earnings per share of \$5. This will cover the cost of equity financing through stockholder dividends and also provide a sufficient amount for retained earnings. With a book value of \$25 per share, the earnings would represent a 20% return on equity. It might be assumed that cost of capital is simply the addition of the cost of borrowing, with the cost of equity financing yielding 29%; however, the capital base with which management invests is proportioned between debt and equity. If debt represents 40% and equity represents 60% of the capital base, the cost of capital must reflect this debt-to-equity ratio and be the weighted average of the costs of each type of capital. The calculation would be performed in the following manner.

	<b>Cost percent</b>	<b>Percent of total capital</b>	<b>Cost of capital (percent)</b>
	(A)	(B)	(A x B)
Debt	9	40	3.6
Equity	20	60	12.0
			15.6

The cost of capital for this company would thus be approximately 15%.

Having derived the company's cost of capital; management can compare the costs with those of major companies in the industry. This information is available through various governmental statistical reports. Such a comparison will act as a guideline in the development of management's own objectives.

Jones et al. (1971) viewed that "Every company has to consider that certain investment will not yield a measurable corporate profit because they are needed to improve employee goodwill or to meet legal requirements. Investments in equipment to reduce air pollutants and investments in the social well being of the community may not contribute dollars to the bottom line. Management must increase the cost of capital accordingly so that the portfolio of profit and nonprofit investments taken together yield a sufficient overall return. Suppose the company has calculated its cost of capital to be approximately 15 percent; however, 25 percent of its investments are nonprofit or necessity projects. To cover such investments, the cost of capital will have to be approximately 20 % (  $15 \div 75 \times 100$  )". (p135)

## **2.5 Basic Assumptions and Limitations of Profit Plan**

Profit planning systems are more common in larger companies, to serve management. Still, the usefulness of profit planning to very small business could have been circumvented by an early attempt to qualify the dreams of head strong but sloppy thinking entrepreneurs who never directly faced the uncertainties of their ventures.

But, there are so many assumptions of using profit-planning programs. Firstly, the basic plans of a business must be measured in terms of money, if there is to be any assurance that money will be available for the needs of the business. Secondly, it is possible to plan for the future of a business in a comprehensive way, coordinating every aspect of the business with every other aspect to establish optimum profit goals. Thirdly, profit planning is preplanning not merely what to do if things workout as forecasted, but also what to do if things workout differently from the forecast.

"Because effective budgeting requires coordinated planning, it is essential that all persons participating in the building of the budget are planning toward the same objectives and are contemplating the same company, industry and general economic conditions this can be accomplished by issuing a statement of basic assumption prior to the start of the budgeting system.

According to Glenn et al. (1990:p51) "in developing and using a profit planning and control program, the following four additional limitations should be kept in mind".

- (1) The profit plan is based on estimates.

- (2) A profit planning and control program must be continually adopted to fit changing circumstances.
- (3) Execution of a profit plan will not occur automatically.
- (4) The profit plan will not take the place of management and administration.

The profit plan should be regarded, not as a master, but as a servant. It is one of the best tools yet devised for advancing the affairs of a company and the individuals in their various spheres of managerial activity. It is not assumed that any profit plan is perfect. The most important consideration is to make sure, by intelligent use of the profit plans, that all attainable benefits are derived from the plans as rendered.

## **2.6 Roles of Operational (Revenue) Budgets**

Budgets can be called upon to play a variety of roles. We shall discuss five of these. Three are major roles; Planning, Motivation and Evaluation, two are minor: coordination and education (Barrett et al., July-Aug., 1977: p 138).

### **(a) Planning**

Operational budgets are plans; they provide details of what management hopes to accomplish and how. Their value in the planning process comes from the fact that budgeting forces management to examine in detail both the general economic situation of which the company is a part and the economic interrelationships among all the company's various activities. Budgeting allows managers to explore how costs and revenues will behave under specific sets of operating assumptions.

The process often points out conflicts between management's objectives and the realities of the company's capabilities. Through budgeting management can both identify resources that will be necessary to achieve objectives and learn how these resources must be applied. If present resources cannot meet planned objectives, the process of operational budgeting may bring an examination of the financial implications of additions asset procurement (capital budgeting).

### **(b) Motivation**

According to Horngreen (1972) "Management can use operational budgets to motivate persons, to help to achieve the organization's overall objectives by

committing them to a predetermined plan of an action. Motivation can be said to have two elements; direction and strength". (p167)

Budgets provide the direction in that a budget represents a quantification of management's objectives. When the budgeting process is complete, each manager ends up with a specific target for what to aim. But an objective alone is rarely enough. To achieve objectives, a manager must be committed to walking towards them.

Manager can gain commitment (the strength element of motivation) in a variety of ways. One frequently used technique is to link the performance evaluation of the manager with the company's incentive system. When managers realize to a large degree on their level on their performance, their commitment to budget objectives may be enhanced.

**(c) Evaluation**

The data in an operational budget serve as a standard against which to compare a manager's or a business unit's actual results. Without such a standard, senior management would have little but the past against which to measure the results of the present. While present to past comparison may be interesting from a historical perspective, they often provide little meaningful evaluation of a company's or a manager's performance.

Evaluating present performance in terms of past performance assumes that the company's present condition and operating environment are the same as in the past. This is rarely the case. If the purpose of the evaluation is to measure manager's operating abilities as opposed to their forecasting skills, it might also be desirable to remove the affects of uncontrollable or unforeseeable environmental changes that have occurred during the budgets period. Examples of uncontrollable environmental variables might to changes in government regulations, labor unrest, and either shortage or unexpected increases in the costs of raw materials.

In the evaluation role, budgets receive supports from other elements of the management control system. The budget serves as a useful standard of measurement, but it falls to the reporting system to provide data on the actual results that are to be measured against the standard. Predetermined measurement criteria (return on investment, return on assets, and so on), formal evaluation procedures, and management review meetings also support the budget's role in evaluation.

**(d) Co-ordination**

Operational budgets also have a co-ordination role. When combined with the financial budgets into an overall master budget, operational budgets help to co-ordinate the activities of the various parts of the organization by providing a consolidated plan of action.

Budgets can co-ordinate in two ways; first, the budgeting of operations in a large organization must be decentralized to some extent. In most companies, managers of various organizational elements prepare budgets for the coming year. As these budgets flow to higher levels in the organization, they are reviewed and consolidated, and, in the process, incompatibilities among the planned operations of the various organizational elements are removed.

Output is matched to projected sales, material procurement schedules are coordinated with production plans, distribution across product lines is coordinated, and redundancies in the marketing or sales operations are reviewed, and so on. In short, the operational budget, once it is fully consolidated serves as a means of harmonizing the activities of the entire organization with the purpose of seeing that resources are not over or underused.

The second coordinating function of the operational budget comes after operations have actually begun. If each organizational element is managed so as to meet its budgeted objectives, then the coordination that was built into the budget during the planning process will not be lost. If, as is more common conditions change and a unit does not meet the budget, then the knowledge gained earlier about the economic interrelationships between the companies' various activities can be useful in developing revised plans or budgets.

**(e) Education**

The budget's role in education is related to the coordination role. To prepare their budgets properly, managers at all levels of the organization must take a systematic and rigorous look at how their part of the business functions and be aware of the behavior of costs and revenues in their units. Budgets can also be useful analytical tools in determining how performance might be improved.

Consolidation of the budgets of the various organizational elements might also force managers to understand better the organizational dynamics of the company as a

whole. To be able to explain and justify his portion of the overall budget, a manager must first examine the interrelationships and interdependencies among the various activities in his area of the business.

Because of the conditional consolidation that occurs during the process, awareness of interdependencies may become more pronounced as the budget reaches the more senior line managers, but, in fact, managers at all levels should become more aware of how their actions and the activities of their units affect related units of the company. While in practice this is not always the case, budgeting should be viewed as a means of giving managers a better perspective on how the total organization operates.

## **2.7 Conflicts between Major Roles**

The requirements placed upon an operational budgeting system by virtue of its major roles make it difficult for one system to meet them all. And it is precisely because these requirements differ that of role conflicts arise.

Since there are three major roles for any budgeting system, at least three major role conflicts may arise, planning versus motivation, motivation versus evaluation, and planning versus evaluation. "A closer look at the differences between the requirements of each role reveals that in fact there are only two major conflicts one, between the planning and motivation roles, the other between motivation and evaluation, the third, presumed conflict- between planning and evaluation- is a lesser problem" (Horngreen, 1972: p 141).

### **(a) Planning versus motivation**

For a budget to be most effective in the planning role it should be based on a realistic assessment of the company's operating capabilities and on management's judgment about the most likely outcome of the company's interaction with its environments. Because the company's financial budgets and its capital budgets are, in part, based on the figure contained in the operational budget, the budget should reflect management's best estimates of revenues and expenses. If the operational budget is overly optimistic, the company may under use its resources. If it is overly Pessimistic, there may be insufficient resources to allow full exploitation of market opportunities. The budget used for planning purposes should be based on what is most probable.

Yet an operational budget based on what is most probable runs the risk of setting targets so low as to adversely affect motivation. To motivate properly, a budget should set objectives higher than those set for planning and should present objectives that are difficult yet attainable. On average, it should be unlikely that all managers in an organization will meet their budgets.

Difficult objectives are likely, however, to equate to an overly optimistic budget, and if the budget is set at a possible- but not probable- level, there is a risk of falling short of the objective and under using company resources. Clearly, the same budget is not likely to be totally effective in both its planning and its motivation roles.

The conflict between planning and motivation is sharpened if we look at the budgeting process from the perspective of the manager's who prepare the budget. They may know that for planning purposes the company needs their best estimates of the probably level of activity for the coming year. They may also know from experience that their superiors are likely to raise the probable levels of activity needed for planning purposes to reflect objectives that they consider to be difficult yet attainable. Managers also know that they may encounter unanticipated difficulties in meeting the budgeted objectives.

Considering these facts, managers-in their initial budget proposal-often feel the need to pad the budget or to introduce what is some times referred to as "budget slack", in order to enhance the chances of favorable comparison between budgeted and actual result. In trading off their desire to achieve with their need for security, some manager's intentionally set objectives lower than the level of performance they believe to be achievable.

If the process of the budget review and approval does not remove budget slack, it may affect the budgets effectiveness in both the planning and motivation roles. First, it is only by coincidence that a padded budget will represent objectives meeting realistic, most probable outcome criterion. Second, a manager's motivation to maximize his own performance may be impaired, since the padded budget is not likely to present difficult yet attainable objectives.

While, in practice, budget slack is likely to be removed as budgets are consolidated in their upward movement, the potential for conflict remains what is best for motivational purpose.

**(b) Motivation vs. evaluation**

Important to understanding this conflict in roles is the widely held belief that the objectives set in the budget should be viewed by the manager as fixed standards against which performance will be judged. Supporters of this position believe that, once the objectives are identified, they should become relatively fixed so that the individual working toward them does not lose direction. In addition, it is also thought that a manager will be more committed to achieving budgeted objectives if he or she knows in advance that failure to do so might be viewed as less than satisfactory performance.

On the other hand, in evaluating individual managers, it is often desirable to remove from the budgeted standards the effects of costs or circumstances over which the manager had no control. Examples of expenses that might be termed “uncontrollable” by an individual manager are allocations of corporate overhead and of corporate research and development expenses, and gains or losses due to fluctuations in foreign exchange rates.

If the purpose of evaluation is to measure manager’s operating abilities as opposed to their forecasting skills, it might also be desirable to remove the effects of uncontrollable or unforeseeable environmental changes that have occurred during the budget period. Examples of uncontrollable environmental variables might be changes in government regulations, labor unrest, and shortages or unexpected increases in the cost of raw materials.

In many situations, the budget that is most effective in the evaluation role might be called an ex-post facto budget. It is one that considers the impact of uncontrollable or unforeseeable events, and it is constructed or adjusted after the fact.

The potential role conflict between the motivation and evaluation roles involves the impact on motivation of using an ex-post facto standard in the evaluation process. Managers are unlikely to be totally committed to achieving the budgeted objectives if they know that the performance standards by which they are to be judged may change. And yet motivation can be just as easily impaired by rigid application of a “fixed standard” philosophy. A manager who is held strictly accountable for meeting budgeted objectives regardless of what happens during the period is likely to lose enthusiasm if faced with continued large negative variances resulting from uncontrollable variables. There is a threshold of frustration that once reached, may

cause all hope of meeting the budget to disappear. Loss of hope can easily lead to loss of effort.

**(c) Planning versus Evaluation**

On the surface, it might appear that the planning role's requirement of providing a realistic assessment of future prospects would conflict with the need to isolate or eliminate the effects of uncontrollable or unforeseeable environmental variables from the budget used for evaluation purposes. Yet, in fact, because they are separated in time, the conflict between those requirements is reduced considerably.

At the beginning of the budgeting period, management should prepare a realistic budget reflecting its assessment of the most probable outcome of future interactions between the company and its environment. The effect on the evaluation role can be lessened, however, since it is not until the end of the budgeting period (or subdivisions there of) that the budget will be used for evaluation.

At the end of the budget period, adjustments or modifications can be made for changing environmental conditions that occurred during the budgeting period. This can be done without adversely affecting the budgets prior role in planning. If we ignore for the moment the budgets role in motivation and focus only on the planning and evaluation roles, it seems possible to have two budget one for planning, the other for evaluation. Hence, there need be no conflict between these roles. The operational budgets role in motivation may preclude the use of two distinctly different versions. Note however, that this fact does not, in itself, create a conflict between the requirements of the planning and evaluation roles.

**2.8 Reducing Role Conflict**

Various managerial techniques have been used to reduce the conflicts inherent in an operational budget's roles. Some of these techniques result from a conscious effort on the part of senior management to design the budgeting system so as to reduce role conflicts. In other cases, the reduction in role conflict is an accidental and perhaps unnoticed advantage of the way in which the budgeting system is designed.

According to Horngreen, (1972) "We have selected six examples of techniques used by large companies to reduce or eliminate the negative affects of role conflicts. The first two deal primarily with the planning versions motivation conflict. The next two chiefly concern the conflict between motivation and evaluation. The

final two have elements that might be seen as dealing with both of these two role conflicts. While we shall deal with the individual techniques in isolation, the reader should remember that it is entirely possible to combine elements from two or more of them. Many companies have, in fact, done just that". (p143)

**(a) Planning Vs. Motivation Conflicts**

The most common manifestation of the conflict between planning and motivation revolves around the belief that, for motivational purpose, an operational budget should contain difficult yet attainable objectives. Clearly, as we have already seen, the objectives of such a budget are not likely to be met on average, by all managers and business units within the company. If the objectives set in the subordinate's budgets are at the difficult yet attainable level and the senior manager's budget is represented as the total of the subordinate's objectives, then for the senior manager, to meet his budget, his subordinates would also have to (on average) meet theirs where senior managers reporting to him, the probability of this occurring may be quite low.

One company uses what is terms general manager's judgment (GMJ) as a means of dealing with this problem GMJ is a form of budget slack, but it is not used in the same way as the budget slack discussed earlier in this company, budgeted objectives are set high enough to motivate managers effectively at lower level in the organization. Then, as the budget is consolidated upward, objectives are reduced to levels more consistent with the purpose of planning and co-ordination.

General Manager in this company asks their subordinate to commit themselves to objectives that the general managers believe will be difficult to achieve. As the general managers consolidate the budgets of his subordinate, he reduces the consolidated budget's objectives to levels that are, in his judgment, more realistic purposes of financial planning. The apparent conflict between the budget's roles is therefore reduced.

By using GMJ, this company runs a risk. Subordinates may perceive that there are, in fact, two budgets; one used to motivate them and another less optimistic, for planning and for evaluation of the senior manager's performance. In addition, they may sense that the senior managers are judged by a standard below that applied to them. Their motivation to achieve the original may thus be adversely affected.

Another approach to reducing the conflict between planning and motivation is embodied in a management control philosophy that might be called a tight ship policy. Here the objectives are set high enough to motivate and planning is based on these budgeted objectives. Budgets are not padded as with GMJ; there are no double standards. All managers are expected to achieve their budget objectives.

With the tight ship philosophy, there is only one sin greater than failing to meet the budget –knowing that the budgeted objectives will not be meeting and not informing top management of the fact. The senior managers of such a company believe that having advance knowledge of the fact that the business unit is not going to perform to budget allows them to reduce the impact that the short fall may have on other operating units in the organization. They also believe that the planning and coordination benefit of the budget can often be retained by timely effective corrective action.

Another means of reducing the possible adverse affects of planning with budgets whose objective are set high to motivate is contingency planning. One company that operates budgeting system based on the tight ship policy has its operating units prepare contingency plan at the beginning of each budget period. These plans are retain for sales levels 20% and 40% below the outlined in the operational budget.

Although the primary purpose of this type of contingency planning is to help the individual managers react more quickly to changes planned activity level, it may also help reduce the role conflict by having contingency plan for several outcomes. Top management has an idea how each outcome might affect the organization as a whole.

**(b) Motivation Vs. evaluation conflict:**

One technique that can reduce the motivation versus evaluation role conflict is to differentiate among the levels of the organization as to where managers will be evaluated on the basis of revised or ex-post facto budgets. There are clearly fewer opportunities to predict, control, or influence random, external variables at the lower levels of an organization. Thus, individual managers at these levels might not be penalized for failure to meet budgeted objectives when the shortfall is due to circumstances not easily controlled or influenced by them.

The production manager, for example, might be evaluated on the basis of his ability to meet budgeted standards for variable costs, fixed costs, delivery dates and (product) quality standards. If a sizable emergency shipment was required of him during the period, the effects of this shipment on his reported results might be shown apart from the results of the remainder of his operations.

The higher one goes in an organization, the greater the number of external variables that can be predicted or influenced. And senior managers are senior largely because of their ability to deal with a more complex and challenging environment. Thus, the bonuses and other financial incentives offered to such managers might be tied much more closely to achieving the objectives established in the original budget. Splitting the basis for performance evaluation and reward in such a manner helps maintain both commitment to budgeted objectives at the top and motivation by people further down in the organization whose objectives are not met because of events they may feel are beyond their control.

The conflict between the motivation and evaluation roles can also be reduced by using “adjustable budgets”. These are operational budgets whose objectives can be modified under predetermined sets of circumstances. Thus, revision is possible during the operating period and the performance standard can be changed.

In one company that uses such a budgeting system, managers commit themselves to a budget with the understanding that if there are substantial changes in any of five key economic or environmental variables, top management will revise the budget and new performance criteria will be set. This company automatically makes budget revisions whenever there are significant changes in any of these five variables. Naturally, the threshold that triggers a new budget will depend on the relative importance of each variable.

With this system, managers know they are expected to meet their budget. The budget retains its motivating characteristics because it represents objectives that are possible to achieve. Uncontrollable events are not allowed to affect budgeted objectives in such a way that they stand little chance of being met. Yet, revisions that are made do not have to adversely affect commitment, since revisions are agreed to in advance and procedures for making them are structured into the overall budgeting system

**(c) Multiple Role Conflicts**

Some company use rolling budgets to reduce role conflicts with the rolling budget, each budget period is likely to be much shorter than the traditional twelve months period; a quarter or perhaps four months. Budgeting becomes more or less a continuous process. As each budget period ends, budgets for the periods in the future are prepared or revised.

For example, a rolling budget might work in the following manner. At the end of period 3 (an arbitrary starting point for this example), top management compares actual results for the period with the budgeted objectives, and performance evaluations are made. At the same time, it revises the budget for period 5 for the last time. In addition, it revises the budget for period 6 for the first time and formulates the initial budget for period 7. The budget for the next period, period 4, has been completed at the end of the last period. A manager's performance during the current period must meet the budgeted objectives before the bonus will be paid.

Commitment is maintained with a rolling budget because a manager knows that, once final, the budget will not be modified for purposes of evaluation. Failure to achieve budgeted objectives results in loss of incentive compensation. Yet, because the budgeting period has been significantly shortened, the individual manager finds the financial impact of such a failure easier to tolerate. The budget undergoes two revisions before it is final. Thus, it can be adjusted for what might be termed unforeseeable events under a more conventional budgeting system. The adverse effects of not revising budgets are thereby somewhat reduced.

Some companies use a second technique to reduce multiple role conflicts; they require the regular submission of revised forecasts during the year. Such companies (as well as most others) divide the period covered by the budget into months or quarters for reporting purposes. At the end of each reporting period, managers are not only responsible for seeing that the actual results of operations are reported; they also must provide a forecast of the operating results for the portion of the overall budget period that still remains.

These revised forecasts become input to the planning process and serve to update those plans that were based on either the original budget or the most recent forecast. These continually updated forecasts restore some of the realism needed for intelligent planning. A comparison over time of original budgets with the revised

forecasts also provides an indication of the manager's ability at forecasting future operating conditions.

In one company that uses a technique similar to the one just described, evaluation of performance is based on comparisons both of original budget with actual results and of actual results with latest forecast. Thus, for this company, the role conflict between motivation and evaluation is reduced in that performance evaluation is based partially on a comparison between actual results and latest forecast. The manager's results are compared both with a fixed standard and with a standard that presumably has been adjusted for uncontrollable and unforeseeable environmental changes.

## **2.9 Budgeting in Non-Manufacturing Company**

According to Glenn (1990:p154) "In case of non-manufacturing enterprises as retailing and wholesaling entities, production budget, raw material budget, labour budget and manufacturing overhead budget are not formulated. Instead of converting material and component parts into finished goods, which are sold, wholesale and retail(i.e. merchandising) enterprises purchase goods and resale them in essentially the same form. Also non-manufacturing companies often sell services, sometimes related to the goods they sell and sometimes services only. Services companies include such enterprises as banks, insurance companies, airlines, hotels and restaurants. Such an enterprise would develop merchandising budget. It includes planned sales, inventory and purchase budgets".

## **2.10 Budgeting in the Service Company**

According to Matthews (1977) "A manufacturing company changes the form of raw materials it uses. It adds value to that material in the course of making it products. A service company provides a needed service. That is its prime function. Any value a service company adds to the material it uses is incidental. (Non-profit enterprises are usually service organizations. However, at this point considering profit-making service companies such as transportation companies, steel service centers, restaurant chains, retail stores, laundries, wholesaling houses, jobbers, mail order houses etc.)". (p6)

The same budgeting principles and understanding that apply to the manufacturing company apply to the service company. However, there are certain difficulties that in practice apply to budgeting in a service company. They are;

- (1) Top managements and owners in many service enterprises commonly do not understand or appreciate the potentials of effective budgeting. All too frequently their attitude is that-“our business is different”. As a result they utilize, at best, a very rudimentary form of fixed budget. A surprisingly large percentage do not avail themselves of the cost control benefits of flexible operating budgets.
- (2) The state of the art of operating budgeting is not nearly as advanced in most service industries as it is in manufacturing. Service company management cannot avail itself of an established body of practice such as there is in manufacturing. As a result, there often has to be a lot more originality and development work in the application of budgeting in a service company.
- (3) Many service industries have unique characteristics that increase the “intangibles” involved. As a result, some of their operating conditions can be difficult to quantify. For example, some have to budget for creative work, or for difficult- to predict manpower deployment, or for the estimated income expected from many costly sales presentations or activity measures may be a problem to both identify and quantify. This does not mean that a full application of operating budgets is not possible, it just become more difficult.
- (4) Because of all the above, budgets can be more expensive to develop and apply in a service company or industry.
- (5) Finally, in certain service industries, management has limited opportunity to adjust expenses to falling revenue. Where practicable cost flexibility is limited, management must identify the areas of cost flexibility they do have and apply their wit and ingenuity accordingly. (in contrast, other service industries have the opportunity to adjust their cost as income drops, seasonally or cyclically, to the same degree as do most manufacturing industries)

The most important difficulty, of course, is the first one, effective budgeting is impossible without top management’s appreciation of what the tool can do for the enterprise and without their initiative and support behind the effort. The second and

third difficulties do not present insurmountable problems. They are problems of technique that, with a little ingenuity, can usually be overcome.

Concerning the fourth difficulty, the question of whether budgets or better budgeting would produce a desired return on the money spent for budgeting has to be answered individually by each management for the particular situation. The most pertinent observation that can be made is that the experience of most practitioners has been that properly done, budgets usually save many times their cost of installation or improvement. It is difficult to conclude that this is not true for those service companies that have either no budgets or poor ones.

### **2.11 Budgeting in a Non-profit organization**

The principles of effective budgeting apply to nonprofit as well as to profit-making organizations. (Nonprofit organizations include colleges and universities, hospitals, religious organizations, historical centers, and museums, to name a few). It was also observed that often budgeting in a nonprofit organization is equated with government budgeting, and that this is wrong.

The management of every one of these nonprofit organizations could use more money. They all have functions or services they would like to expand or new programs they would like to initiate. They could do these things with increased income or reduced expenses. But they have limited sources of revenue, fees, grants, appropriations, etc. because of this constraints, it is essential that their managements utilize monetary resources as effectively as possible. In other words, they must maximize their income and minimize their expenses. This is the basic understanding of effective budgeting, namely, doing better than budget in terms of both revenue and expenses.

A few specific ideas come readily to mind. If you like museums and have been to a variety of them, you have seen a great range in the reproductions that are made available for public purchase. A few have excellent reproductions of the paintings, print, and objects d'art they have in their collection. Many of them, however, have too little to offer and what they do have is poorly displayed. Did you ever see a "buy-of-the-month" highlighted in a museum shop? It is suggested that most museums would be wise to solicit the volunteer services of a few local successful retailers. The effort

could still be tasteful and dignified but the revenues would be increased. Management would “beat” their revenue budget.

A very few universities and colleges have highly successful management seminar programs, conducted by their extension schools and continuing education departments. It has taken these schools some years to develop the programs and mailing lists and to build an image, but no when local businesses receive brochures, they read them, and if interested in the subject, the businesses send their people. From past experience they know the seminar will be worthwhile. As a result, the school is providing a service to the local business community, and the school earns additional revenue. That money provides funds for other things that university management would like to do. (In contrast, many universities and colleges have a very minor effort in this area and lose money on what they do.)

Another example is one metropolitan hospital, which, because of its location, has a transient nursing staff equaling 40% of its total nursing expenses. In other words, management can increase or reduce the nursing staff within that 40% by hiring or not hiring the transients as activity rises or falls. (Hospital activity does vary over the course of the year. For example, December is a relatively low- activity month. Every one who can stay out of the hospital during that time.) Yet every month, this hospital has the same nursing expense. Management is not taking advantage of its ability to adjust its cost to variations in activity, thus it is not minimizing its expenses. In contrast, in some hospitals flexible budgeting is standard operating procedure.

It all comes down to a matter of understanding, of attitude, or of management orientation. The management of a non-profit enterprise should have the same attitude toward using an effective operating budget, including its flexible aspects that the management of a profit making enterprise should have.

### **2.13 Budgeting in Government**

It must be very difficult; thought to be a manager in government. The greatest difficulty lies in the basic difference in management in orientation between profit making operations and government operations at the federal, state, or local level. In a profit making enterprise, the primary orientation has to be to spend less than the revenue received. And this thinking filters down through all levels of management. The need can be recognized and enforced. It had better be, to a sufficient degree, or

there will be no profit. In that case, there eventually will be a new management- or no business.

In contrast, in government management, the basic orientation has historically been to perform a function as best as can be done within the budget limits imposed. In real life practice in government, there is not the attitude; the “thrust” to do better than budget, such as necessarily exists in profit making enterprises. In fact, many a government manager has learned by bitter experience that he or she had better commit all allocated funds by the end of the budget year or the next year’s budget may be cut.

Further Matthews (1977) states that "as the result of all these difficulties, a lot of good people are not attracted to government in the first place, or if they enter it, they can become frustrated and leave in either case, we all lose- the government that needs good management, as does any enterprise, and the taxpayers whose funds are used less effectively". (p9)

All this is said not to be negative, but to spell out the difference that exist in practice between budgeting in government and budgeting in private industry. Some of the basic budget principles and understandings that we in private industry accept as truisms are not available to managers in government. This makes operating budgeting and thus management in government a great deal more difficult. However, there are some hopeful signs developing. For example, the United States government printing office has revenue increments as well as cost increments in its operation. They now throw a monthly profit and loss statement and are proud to be operating at a profit. Under these conditions government management can only apply the same budgeting principles that we use in private industry.

Matthews (1977) opined that "There is also increasing interest and acceptance of the concept of program budgeting at the state level of government. Under program budgeting, we identify costs in terms of the service provided and quantify those services. Doing this we can relate cost of government program to the benefits expected from them. Then we can begin to think in terms of performance standards. Admittedly, it is impossible in some governmental areas to quantify benefits, or we can do this only partially, namely, in a count of numbers of incidents but not in terms of quality. However, there are many areas of governmental operations where activity and results can be measured. When they are so measured and effectively budgeted,

the results are more likely to be better planning of and control over the use of the money spent, and this is better management". (p10)

#### **2.14 Seven Signs of Budget Weakness**

According to Metthews, the seven signs of budget weakness are as follows; (Metthews, 1977: pp.11-17)

**(1) Foreman and superintendents who ignore their budgets:** - This is the situation where the department heads or foremen are rarely, if ever, called in by their boss for a review of their budget performance, good or bad. There can be many reasons why there are not called in. For example, both the boss and the department head may be convenient that the budget cost standards are so poor that they are unusable. In any case, you find the individual foreman, as well as the boss, paying little or no attention to the budget.

**(2) Non- participation of all management levels in the budget development:** - We might sum up this next situation in the phrase "budgeting by fiat". Down from the rarified heights of mahogany row where in dwell top management brings the budget. The persons at the first line of management, the foremen or department head, has never seen it before. He (or she) about the goals it is setting. And, of course, neither has his boss, the superintendent, nor perhaps has his boss, the production manager or plant manager.

Usually such budgets contain serious errors. They not only have been installed in a psychologically poor way, but also are very frequently technically wrong. They contain errors and absurdities, which have never been communicated back to the people topside that established the budgets.

When budgets have been installed by fiat, there is usually a great deal of verbal and memorandum pressure early in the game, but soon it all dies down. Perhaps a few heads might roll, but usually very few. After all, you can't fire every one. As the variance develop, they are allowed for by accounting, for profit-planning and product-costing needs, and the company ends up with budgets that are weak, and thus not nearly as effective as they should be.

**(3) Continued large variances, plus or minus that remain uncorrected:** - Variance is the difference between the budget allowance and the actual expenditure. A favorable cost variance, a black or plus variance, is generated when the budget

allowance exceeds the actual money spent. An unfavorable cost variance also called a red or minus variance, is generated when the actual money spent exceeds the budget allowance. With items of income or activity, these meanings are reversed. For example, if a budget activity is 100000 units and actual activity is 110000 units, you have a favorable variance of 10000 activity units. If actual activity is only 90000 units, you have 10000 units of unfavorable variance.

Under this third system of weakness, when we study a series of the periodic budget reports being issued, we find many large variances, favorable or unfavorable, showing up month after month. This is an obvious sign of poor budgeting. It indicates one or more of the following conditions; (a) Unrealistic or poor budget standards (b) blatantly poor budget maintenance, (c) poor management follow-up on performance to budget, or (d) bad management policy, such as “the budget shall remain as initially established for the budget year.”

**(4) Budget people who do not get out into the operation:** -This may at first seem like a rather odd sign of budget weakness, but we come to find it extremely indicative. When we encounter a situation where the personnel involve in the budgeting effort either don't have the time or do not have the interest to get out into the operation enough, we invariably find weak budgets. The causes for such inaction by the budgeting people may be either under staffing or worse, inertia.

Operating budgeting deals with operating matters and operating matters are dynamic. The only way to keep current with them is to get out into the operation often. If it is a manufacturing plant, the budget people have to get out onto plant floors. If it is a bank, they have to get out onto the bank floor and out to the branches. How often they have to get out will depend on the dynamics of the situation, but they have to keep current. If they do not, absurdities will begin to creep into the budgets. And they will not be continuing to learn more about the enterprise they are helping to budget.

**(5) Foremen who don't know how their allowances were determined or what makes up the charges to their budget:** - when we find foremen or department heads who do not really know how the allowances on their budget were determined, or what kinds of expenses are charged to individual budgeted cost items, we can safely suspect that the budget is not the vital management tool it should be. They simply

don't understand the data they are supposed to be using. This situation can be a result of several things;

- (a) Adequate initial training.
- (b) Failure to enforce the training with a follow-up program.
- (c) Lack of sufficient management support or use of the budget.
- (d) Too little contact between the budgeting function and operating people.
- (e) Failure to have foremen participates sufficiently in their budget's development.

Notice that it is not included in the above listing-"failure by department heads to evince active interest." Perhaps in theory, management above the department-head level should expect this of active inquiry. In practice, management at the department or cost-center level, namely, foremen or department heads have so many pressures on them, so many things to handle, and often so little training that higher management has to take over the burden of correcting any failure in this area.

According to Matthews (1977) "We might test our own enterprise for this system. Next time we are with one of our department heads, take his or her budget report, and for three or four of the items ask; -"How was that budget allowance determined? What items of cost are charged to that account?" A department head that can't give us intelligible answers to those budgeting questions doesn't understand his or her budget. We, in turn, have to honestly ask ourselves, "Has this person had the training needed from higher level of management and from the budgeting function?" (p15)

**(6) No improvement action because of the budget:** - A great many constructive things may be going on in a company, namely, new techniques being started in a number of operating areas, new planning, or control procedures initiated. But the key question. From a budgeting standpoint, has to be, "which were started because of what the budgeting process revealed?"

Budgets result in periodic reports. And the acid test of any report is what happens because of it. If neither the budget- development steps nor the performance-to-budget reports cause changes, then there are only two possibilities-either we have the perfect enterprise, which we will never live to see, or the budgets are not resulting in the needed improvement action.

The solution to this situation can be varied and will depend basically on top management's vitality and use of the budgets. But any budget person involved in such a symptomatic situation should be concerned, because the question must inevitably arise; "what are we really getting out of this effort and expense?"

**(7) No Continuing Measure of Budget Results:** - Good budgeting costs money. The larger and the more complex the organization, the greater is the cost. Budgets demand an investment to design and install, and a continuing investment to maintain properly. We do not capitalize budgeting costs, but in fact, we should evaluate them in the same manner that we evaluate a capital investment.

When a well managed company buys a new machine for the production floor, it makes a past-audit to check that the results expected of that machine are actually being realized. The same logic should be applied to the investment made in budgets. If this is not done, we may end up with too low or no return on the investment being made in the budgeting effort.

Despite all the modern techniques such as operations research, and mathematical modeling to quantify decision-making, management continues to consist largely of the application of experienced judgment to large and important areas of operations. Therefore, where we can measure, where we can quantify, we should, we often can in budgeting, and thus we should. It can be done relatively simply at the time of a new installation or with a budget revitalization program.

Where a management does not measure the result of its budgets, we have to question about the interest and the faith they have in this widely used management tool.

Lord Kelvin summed it all up very well: "when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind" (Metthews, 1977: p 17).

### **2.15 Budget Administration;**

According to Willsmore (1960) "The most frequent cause of failure to obtain satisfactory result from the introduction of the profit planning system arises from an adequate supervision and administration. Unless arrangements exist for the efficient

administration of the profit planning system, the time and trouble involved in the preparation of the estimates are, to a large extent, so much waste effort". (p146)

The budget is administered through the budget committee. The data on which the budget committee bases its actions are provided in the form of budget and cost reports, mainly emanating from the accounting department. These will usually be drawn up by the budget controller.

These reports, or a summary there of, may form the real agenda for the meetings, through it may be well to have a more formal meeting at longer intervals with full agenda and minutes.

Such reports should be furnished to all members of the budget committee, supplemented by special reports in detail to individual members, which are of interest to them in particular and on which they in turn may have to report the committee as a whole. These reports must be prompt.

It is suggested that a very brief daily report be made out. This will be followed by a more detail weekly report, and, if monthly accounts are in operation, a full monthly report or series of reports will be submitted. Such reports will generally be in the form of a comparison of budget and actual figures, both periodic and cumulative.

Scott (1970) opined that "When a budgetary control system is started, it may be wise to limit its sphere to a very few persons or departments and then slowly extend the scope of its operation. At first in practice it may be found that actual figure may vary considerable from budget figures in detail, through in total the budget may be attend. Too much criticism of variations should not be made till some time has been given for the technique to be mastered. Cumulative figures may help". (p20)

## **2.16 Behavioral Implications of Budgeting**

According to Tosi & JR (1974) "if there is any single factor, which makes the presence of accountants felt in organization, it is the budget. Every manager lives with a budget. Budgets represent the intensely impersonal character of bureaucratic controls and are the target of criticism by those who must live with them. Basically, the negative connotations associated with budgets probably stem from the fact that they tell a manager what he can do and what he cannot do. They tell him how many dollars he is allowed to spend. In short, the budget represents a constraint on decision-making imposed by others. This constraint serves the specific function of managerial

control. The manager who is authorized to spend a particular amount of fund is expected to do so in the fashion specified in the budget: x dollar can be spent for advertising, y dollars may be spent for personnel and Z dollars may be spent for equipment. The budget is a device by which managers at higher levels, carrying out the managerial planning function, can translate objectives into quantified dimensions of dollars and time is communicated them to lower organizational levels". (p53)

The budget then may be defined as a specification of how and at what rate a manager may expend resources to meet the responsibilities associated with job. The determination of these expenditures levels and rates are for the most part, influenced strongly by the desires of managers at higher levels of the organization to ensure that the expenditures fall within desired and specified limits to ensure that the resources expended do not exceeds limits that result ultimately in ineffectiveness.

The budget is a systematic factor. A systematic factor, as used here, refers to a part of the formal structural system of the organization, which affects and conditions behavior. It is impersonal and in general, applies to all, members of an organizational unit in a fairly evenhanded way. Rules and policies, the nature of formal authority, and job design are specifications of behavior, which becomes embodied in a system to affect behavior independent of differences in human beings. As a systematic factor, the budget is part of the formal system of organizations, which expends large amounts of resources. It is an instrument used by managers. In order to understand its effects, the nature of the instrument must be considered as well as the manner in which human beings devise and use it.

The budget is an inanimate factor brought to life by human use. But it has major significance-it is a critical vehicle in the general systematic structure of the organization. This vehicle, the budget, takes on this significance because it is; a planning and control device which is relatively easy to alter; a mechanism through which authority may be increased, decreased, delegated, or decentralized: a document which is seductively appealing as a basis for evaluation since it is quantified; and an ever-present factor in the life of a manager.

As a planning and control device, the budget is well known. However, it is a device, which is relatively easy to alter, at least on the surface. Operating budget may be cut back, expanded or otherwise redirected during operating periods. Many times these budget changes occur at the stroke of a pen as a response to pressures for

efficiency. Cuts are merely communicated to lower levels with the requirement “live with it”. In this way, executives at higher levels at least have the illusion that they are managing the organization below them.

This characteristic, the flexibility of the budget, is related to another of its important attributes. It can be a powerful mechanism for the redistribution of power in an organization. Managers are always prodded to delegate more, to participate, to involve lower levels, and so on. The budget can be used to accomplish these goals. By simply increasing both the amount of funds and the discretion over them, power of lower level managers can be increased. Decentralization of power occurs when a manager no longer has discretion to expand funds when that decision is made at a higher level.

Perhaps the most important attribute of the budgeting is that it is a numerical presentation of the expenditure plans of an organization. This is both advantageous and insidious. It is advantageous because it provides a guideline for assessing how well an individual manager performs against a set of targets. At the same time, it is insidious in that all too often evaluators lose sight of the significance of other factors and merely assess how well the manager met his budget, as if it were created initially with such precision as to be a perfect measure.

Further Tosi &JR (1974) opined that "finally, like the poor, the budget is always with us. Managers are constantly bombarded with information about- “expenditures as a percent of budget to date”, “excess” and so on. Monthly, weekly and perhaps even daily reports emanate from the comptroller’s office with such regularity that they may begin to lose utility as a management tool". (p54)

## **2.17 Role of Public Enterprises in Developing Countries**

The increasing role of public enterprises in developing countries is an accepted fact to day. Since the great depression, it has virtually been accepted that the private sector along may not be able to work the way it was contemplated. Even if the maximum free play is allowed to them. According to Pushkar Bajrachara and Balkrishna Shrestha (1983), “After the Keynesian revolution the role of the state in the economy is well recognized and well established. Besides, contributing to the development efforts being pursued by different developing nations PEs have specific roles and motives, all of which private sector is not known to contribute properly.

Further, there is a sort of urgency and immediateness in the process of industrialization in underdeveloped countries, which is quite different from the early stages of industrial development in developing countries" ( p3).

Fernands (1982:p5) viewed that "Public enterprises have become important instruments of socio-economic policies in developing countries. In many cases, they have become dominant features of the economic scenario and claim lion share of public investment. Their micro-level plans generally get integrated with the micro-level national development plans. They are required to accomplish multidimensional objectives and discharge a complex array of obligations. In recent years, however their social objectives of providing essential goods, services and employment opportunities to promote public welfare are being looked upon as complementary to business objectives of marking profits through surplus generation. Public enterprises in developing countries are almost wholly dependent either on government budgetary support or support by government intermediary agencies for their financial resources. This has traditionally provided justification for government control in their functioning. The members of the board of directors, who manage the affairs of public enterprises are appointed by the government, so is the chief executive. Economic controls exercised by government in public enterprises may take the form of price administration, regulation of salaries and remuneration, appropriation of surpluses, and the approval of their budgets and long term plans, etc".

Explaining the importance of PES, Manandhar (1987) states that "The political base for the establishment of public enterprises in Nepal can be ascribed to the constitutional arrangement for mixed economic system where by public and private sectors co-exist to enhance public welfare by creating a society which is just dynamic, democratic and exploitation free. However the guiding rationale for their establishment have been pragmatic ones and such pragmatism as articulated in different plan documents are, creation of infrastructure; supply of essential public goods and services, control private sector monopoly, enhance public welfare, huge capital investment etc". (p1)

Public enterprise is expected to be the principal agent for rapid economic and social transformation, by developing infrastructure and the core sector and closing the gaps in the industrial structure. Its dominant position in the financial field is intended to control and guide the private sector, wherever necessary. "It is also likely to step in,

if and when private enterprise fails the economy. And the economic growth via PE will be adequately leavened with social justice" (Narayan, 1992: p57).

Since the time of great depression no one is left with any doubt that, "the invisible hand" does not work the way it was contemplated even if the individual initiative is allowed the maximum possible free play. The theory that if the government is kept out of the business, it would automatically provide the community with all it desired, with out any plan or conscious planning opened the door to the devil has long ago been exploded. Government intervention in the economic system for social and economic reasons is now clearly accepted and has come to stay." Governments all over the world, particularly in the developing countries, have gone far beyond the indicative planning to price, wage and numerous other controls and to state entrepreneurship. However, the level, extent and methods of controls, and the ownership of industry and business by the government of ten lead to wide and violent difference of opinion." (Narayan, 1992: p1)

It has been made clear by experience of other developing nations that the public sector can play an active and important role in augmenting the national economic and social development activities on the basis of mixed economy, in which the private sector alone may not be able to perform wholly. "Besides, government of Nepal has to take initiative in the promotion of service oriented industries associated with the national and public benefit, which generally require a large investment as the private sector will generally be attracted by profit oriented industries. This realization has led government of Nepal to take initiative in the promotion of varied PEs according to the national need. Further, our constitution also has recognized the need for developing PEs in the country." (Bajracharya and shrestha, July 1983: p10)

The study made by Ahamad on PES of Asian and Latin American Countries describes that "Public enterprises are productive entities, which are owned and/ or controlled by the state and the bulk of whose output is sold in the market place. As a sector, PEs play a significant role in mixed economies, averaging 10% of GDP in countries higher than the average (17%), Asian and Latin American countries some where in between 12%. They dominate important sectors in most countries (e.g. infrastructure, heavy industries etc). Furthermore, PEs are major borrowers in domestic and international markets, they draw extensively on government budgets, and of ten employ a large segment of the labor force. Therefore, attempts to improve

their performance are critical to the macro-economic performance of most countries." (Ahamad, 1990: p1)

## **2.18 Public Enterprises of Nepal and Budgeting**

Nepal is just at the beginning of the development process. Squeezed between two Asian superpowers and increasingly linked with the Indian economy, the country possesses few of the natural or human resources necessary for industrialization. Geography and political history have further conspired against the economic advancement of the nation. The stunning beautiful Himalayas, one third of the countries, landmass, are virtually unproductive, save for the comparative advantage they provide Nepal in the tourist industry. The rugged terrain of the hills, and the southern alluvial plains of the country-the Terai, malarial swamp until forty years ago-served historically, to isolate communities of subsistence farmer from one another, and from the center of power in Kathmandu. Today 91 percent of the population is still engaged in subsistence agriculture.

According to Zivetz, (n.d.,) "Nepal was never colonized, as a result, it remained, untouched by the external influences which set the stage for post colonial development in other third world nations in 1951, when Nepal opened her doors to the world, few among the ruling elite were literate, health and other services were virtually non existent in rural area; the industrial sector was extremely rudimentary confined largely to two or three urban areas. In addition, the country was undergoing a massive reorganization of its political priorities and institutions in an effort to replace centralized, feudal control with democracy and for ranging economic development". (p3)

In the study of "Management Problems in MPEs of Nepal" Bajracharya and Shrestha (July,1983) states that "Nepal in her pursuit for development has basically embanked upon PEs for development in service as well as productive sectors. Lack of institutionalization on the one hand and the stagnatory private sector enterprises on the other contributed its growth in a highway. After 1954 A.D., since the running of Nepal Bank Ltd as a public sector enterprise, there has been spurious growth of such enterprises in varied sectors. Dissemination of some government departmental activities and special characteristics of foreign aided projects further aided the growth of public enterprises in the countries". (p2)

Although, the history of business in Nepal stretches many countries back, the origin of corporate sector can be traced back to 1936, only when Biratnagar jute mill, the first corporate body was established. Immediately, after the establishment of the jute mill, world war second started resulting in the emergence of ample business enterprises. But most of them were only "bubble companies" in the sense that they were out of existence, soon after their birth. Quite few of these were successful enough to persist. The largest number of company failure took place during the period 1951 to 1959.

There might be several different causes of failure of public enterprises in Nepal. Some of them include external environmental factors but the major ones were internal management problems which could be solved through budgeting.

A budget can be regarded as primarily a plan or goal or objectives, and we know of no better definition of budgeting than to say it is primarily a planning and control system. Each word in that definition is important for a full understanding of budgeting's proper role. The planning and control aspects relate to the fundamentals of the management process mentioned previously. To regard budgeting as a system is most important, because this implies a continuing process throughout the year the key to good budgeting in any business operation.

The role that good budgeting play in the management of a business is best understood when related to the fundamentals of management. The many existing definitions of business management can be expressed in terms of three major functions; planning, execution, and control, those are the key elements of the management process business management must plan its activities in advance, carryout the plan and institute appropriate techniques of observation and reporting to insure that the deviation from plan are properly analyzed and handled.

Willsmore (1960) states that "To ensure success, before any system of budget control is put into operation, there should be a clear how the system is to operate and what objectives are in view. The nature of budget control is such that all the various estimates involved are strictly interdependent. It is, consequently very necessary for arrangements to be made to ensure that they are prepared in a logical sequence. And it is unwise to commence the operation of a budget system before these arrangements are made and before a comprehensive procedure has been established to govern the preparation and use of various estimates". (p9)

In the word of Zivetz (n.d.) "In the context of developing countries like Nepal, the term profit planning and control is not being so much familiar due to the backward position of business enterprises". (p2)

### **2.19 Performance and Control of PEs in Nepal;**

Management control in PEs can be looked upon as a process where by managers assure that resources are obtained and used efficiently as well as effectively in accomplishing the objectives. Control takes place within the context of objectives; it is concerned with the attainment of stated objectives rather than the formulation of new objectives. "Any control system, therefore must fit and be consistent with the stated objectives of the enterprise. Planning generally provides the framework for the control process. Effective control, in essence is concerned with making the performance conform to time, quality, costs and other specifications. Conscious planning is therefore, the prerequisite for control. Management information system within the enterprise serves as the raw material for control. Control implies some standard of performance, which can serve as a norm or target of a frame of reference for comparing actual results. Standards are set in advance. They indicate desired outcome. The actual outcome is compared with the desired outcome and appropriate adjustments are made to correct the deviation so that the gap between the two can be reduced" (Anthony et al., 1972: P8).

According to Shrestha (1962) In Nepal, an appraisal of public enterprises financial performance thus indicated a general pattern of low profitability compared with the big size of investment. Numerous reasons are put forward and argued as responsible for their poor performance and consequent huge losses viz;

- (a) Absence of clarity of objectives
- (b) Absence of required performance evaluation, monitoring and remedial actions.
- (c) Managerial inefficiency.
- (d) Unnecessary intake of employees.
- (e) Untimely replacement of machinery and equipment.
- (f) Absence of required incentives.
- (g) Interferences from outside including the government in its functioning etc.

In an appraisal of the study Puskar Bajracharya states that the resultant picture is not very bright. Manufacturing sector, cannot always survive without financial

considerations. Being enterprises of commercial nature they cannot always depend on government subsidies. The study had concluded in the following main points; (Bajracharya & Shrestha, July 1983: p.171)

1. On the various efficiency indicators, performance of manufacturing PEs in Nepal is generally poor as indicated by low productivity. Low capacity utilization and low or negative return.
2. There is no adequate understanding and realization of objectives even between top and middle management.
3. Profit followed organizational growth and development have been perceived, as should be main objectives of manufacturing PEs.
4. Existing objectives are not adequate and clear.
5. Boards are viewed as not effective; appointment system of chief executive is viewed as not adequately satisfactory.
6. Great interference from HMG is perceived in the planning procedure of PEs.
7. In general commitment of managers has been rated highly.
8. The major factors hindering the performance are perceived as existing rules and regulations, effect to government only from poor performance, political interference and frequent changes of chief executives.
9. There is too much bureaucratization.
10. Rules and regulations have evolved in such a fashion that quick decisions are becoming less feasible, sincere and hard work are less likely to get rewarded and promotion and other modes of recognition are made to depend on seniority.

Puskar Bajracharya refers to the following recommendations to improve the low efficiency and profitability of Nepalese PEs (Bajracharya & Shrestha, July 1983: p172)

1. The mission, goals and objectives of PEs should be clearly and adequately stated. There is virtually no spelling out of these objectives in manufacturing PEs these days. Every manufacturing PE therefore, must have a properly spelled out objectives in specific and clear terms.
2. Manufacturing PEs should function in the line of a private sector organization with due consideration to business and economic motives.
3. Government policy regarding manufacturing PEs should be clear and specific.

4. Consequences in the failure of performance should be clearly spelt out.
5. Planning process should be as much as possible organization based.
6. Long term planning should be developed and short-term plans and policies should be based upon it.

Govind Ram Agrawal (1984) in his study on 'Management Control System for Public Enterprises in Developing Countries' has deduced the following conclusions regarding the performance of PEs, "it implies outright mismanagement of scarce national resources. Above all, it is a clear indication that these enterprises have utterly failed in effective mobilization of internal resources for accelerating the country's pace of development." (p30)

## **2.20 Challenges of PEs in Nepal**

The study of the report of Ministry of Finance describes the following challenges to the PEs of Nepal.

- (1) The analysis that in fiscal year 1999/2000 performances of public enterprises have not improved. The operating profit of 39 public enterprises in fiscal year 1998/99 was Rs3026.2 million whereas the profit decreased sharply to Rs.2397.1 million in the fiscal year 1999/2000. On the sectoral basis, industrial sector, social sector and financial sector are at loss while trading sector; service sector and public utilities are at profit. The huge operating loss made by Rastriya Banijya Bank has turned the whole financial sector into loss.
- (2) Most public enterprises have very weak financial position and lack of professional competence. Especially industrial sector enterprises are bearing losses for many years. Major factors for such dismal performances are the low capacity utilization, poor competitive capacity, lack of professionalism, weak managerial capability, delay and untimely decision making, lack of risk taking capability to mention a few.
- (3) Other factors contributing to poor performance is the frequent changes of management. Political interferences that has further worsened situation.
- (4) Public enterprises have not shown any seriousness to even carryout day-to-day business. The account updating, final and internal auditing is rarely completed

in time, which has given avenues for financial indiscipline and mismanagement.

- (5) The financial situation of public enterprises has been worsening day to day due to unbearable burden of liabilities created without reviewing its own position. Most public enterprises have not even booked their liabilities related to its employees such as leave, gratuity and other facilities and no provision has been made for disbursing such liabilities. Therefore, no clear financial picture and health of the public enterprises can be ascertained.
- (6) It is evident that public enterprises are not functioning in a business like manner, they are neither productive nor goal oriented. Hence, they are not able to deliver goods and services to the consumer as expected. However, they are wasting scarce national resources and becoming a burden to the government and the treasury.

Looking through the aforesaid challenges and the poor state of the public enterprises, immediate and drastic reform measures cannot be ruled out. Management reform with the induction of professional, competent and experienced persons and a system of proper evaluation and monitoring of their performance is essential .the compliance of the prevailing rule and regulation and government directives must be emphasized so that administrative control and financial discipline could be maintained. Good working relation between the public enterprises and the concerned ministries must be established so as to achieve the goal of the enterprises. (Ministry of Finance, 2001: pp xv-xvi)

## **2.21 Review of Related Studies**

This part of the study consists of the review of national and international publications/ reports. They are as follows:

The paper on **Budgeting and Budgetary Control** presented by Jan F. Jacobs, Published in 1974, contains seven chapters. First is introduction, second, examples with extracts concerning various variances that are stated and calculated by way of some definition and respectively some formulae from R.M.S. Wilson and Wai Fong Chau, third, A few examples with extracts from T. Lucey, fourth, Dispute Vernooij-Jacobs described about capacity usage variance, fifth, analyzing variances, what and how? Sixth, sheer Bad Education, seventh chapter includes worked examples of Post

Electric Company and Pi ltd. to show all types of variances. In this paper the author states that operational management needs to know the causes of off-standard performance in order to improve operations. The knowledge of variances (real result versus budgeted) will aid control, at least if and when these variances are understood well enough. The only criteria for the calculation of variance are its usefulness of course variances must be calculated immediately after the event and one should act upon them immediately.

Further it is stated that budget processes in many cases actually exemplify what is harming to companies instead of helping them. Measuring performance, by whether or not achieving set targets for the period of missing them, is ridiculous. Budgets and targets mean nothing without thorough detailed budgetary control; how should it be conducted?

This paper presents a few examples, with quotes from various text books and examinations. Problem definitions are quoted literally. Working-outs as explained by famous writers/lecturers/consultants are given. The author's opinion is that these working-outs cannot stand the test. Author has given elaboration in full detail, in reaction to the corresponding working-outs published in well-known text book/examination papers, and may the best one prevail. Of course the elaboration of others and the author has a lot in common, but the discrepancies are at stake. Wrong, incomplete, unclear analyses will lead to mismanagement. In literature a so called Dutch method is advocated versus what is supposed to be the American way to handle variance analysis for solving the problem of budgeting and budgetary control. The author's opinion is that only one calculating method can be the right one. Only the best integral working out is the essential base to better operational management.

Further he states that, variance analysis is a means to an end. A deeper understanding of the state of the company is the ultimate goal of all representations in budget and budgetary control. Management's task is to find the reasons for the variances and to take proper action to bring operations into line with the budget. May be that variances and trends indicate that the standards need amendment. The realized results ex-post (not just future cash flows resulting out of an investment today) should be analyzed in full detail.

The working paper on **Budgeting and Fiscal Management in Transitional countries**, presented by Jorge Martinez-Vazquez and Jameson Boex on September

2000, under International Studies Program focused on the budgeted and fiscal management on the reform process of former planned socialist economics in central and Eastern Europe and the former Soviet Union. In this paper the authors tried to investigate the main reasons for why fiscal management reform has failed to take hold during the first decade of the economic transition and discusses what challenges remain ahead in budget policy reform. They have attempted to construct an explanation for the slow pace of fiscal management reforms in countries in transition (CITs) and examined the institutional context of the transition and evaluate the incentive for and against reform in budgeting and fiscal management faced by policy makers in transition economies.

This paper has been organized under seven sections. The first is introduction, second, review of the significance of the legacy of central planning in determining the early performance of CITs. Third section, includes discussion of the reforms in budgeting and fiscal management during the easily transition years. Section four includes the examination of the first serious attempts at fiscal management reform induced by the unsustainable fiscal policies and fiscal crises most CITs went through sooner or later in the transition process. Section five addresses the absence of hard budget constraints during much of the transition period, which often contributed to the failure of this initial wave of budgetary reforms. Section six includes the review of the progress and ongoing reforms in different CITs in the adoption of modern fiscal management techniques and section seven is conclusion.

This paper conclude that transforming the fiscal management and budgeting systems of CITs has been a very time intensive process and only has taken hold after these countries, each at their own pace as determined by many other political, historical and cultural factors, have gone through a well-delineated sequence of stages that necessitated reform.

This, study, identified three phases of budgeting and fiscal management reform in CITs over the last decade. In the first phase the emphasis as political transformation and fundamental economic reform with basically no reform of fiscal management and budgeting practices in the second phase, many CITs were forced to implement drastic fixed austerity programs because of unsustainable macro economic imbalances. However, these austerity programs were not sustainable in the absence of budgeting and fiscal management reforms, so that the public sector continued to a

drag on any chances of economic recovery and growth. In the third phase, most of CITs have embarked in a process of transformation of budget process and are regaining a measure of fiscal control by including fiscal fringe activities in the budget, controlling the growth of budget arrears, strengthening budget institutions and building analytical capacity, and seeking to increase the overall efficiency of the public sector by decentralizing fixed decision making.

Further, it is stated that, although it is hard to make a general statement about the overall accomplishments of CITs due to the diversity of country experiences, substantial progress has been made in recent years in the reform of the budgeting process and fiscal management practices. Most transitional countries have laid the foundations of a modern budgeting system which will allow government to implement their fiscal policies with increasing effectiveness and efficiency. In this respect, CITs should focus on three emerging global trends in the reform of budgeting and fiscal management, including the introduction of a multi-year fiscal strategy; the inclusion of performance – based budgeting techniques; and the devolution of fiscal responsibilities to line ministries and sub- national governments. In fact, some CITs have already taken initial steps to implement these budgeting techniques and fiscal management practices.

The paper **Using different Budgeting Procedures to Co-ordinate Principal-Agent Relationships** presented by Christian Hofmann, university of Munich, Germany on July 27, 1999, describes that principal- agent relationships consider vertical coordination problems within a firm with at least two hierarchical levels (i.e. number of Lower level called agent and member of higher level called principal), when there is a trade off- between efficient risk-sharing and efficient incentives to work. One reason of the agency problem is the activities set available to the agent and the principal's inability to costlessly observe the agent's action choice. Budgeting systems reduce the agent's activity set, therefore reducing the agency problem, when applying a budgeting system e.g. in an overhead cost department, the principal determines the activity set which is available to the agent. Then, the principal might either specify several activities which account for known environmental conditions under the flexible budget and the agent's task is to choose one of the given activities. Alternatively, the principal might specify fewer activities that are available to the

agent which reduces the diversity of the agent's reactions to environmental conditions. Then a rigid budget result.

This paper has analyzed a moral hazard problem resulting from a combined hidden action or hidden information situation. The agency problem is formulated with the assumptions of the LEN-Model. For several budgeting procedures, the effort has made to determine the second best reward schedules, activity sets and levels and to show the conditions, where flexible or rigid budgeting systems are likewise to be applied to.

The analysis has shown the application range of rigid and flexible budgeting systems. The result shows that rigid budgeting systems shall be applied to when the cost of foregoing a more detailed system are relatively low seems to be quite intuitive. Flexible budgets seem to be appropriate within the extreme conditions of the rigid budgeting systems. Nevertheless, flexible budgeting systems are inferior to rigid budgets when the agent is in extreme risk or work averse, or when a high variance of the production process exists.

An important extension refers to the transition from an authoritative budgeting approach to a participative budgeting approach.

**Administration Reform Commission, 2048 B.S.** conducted a study on the Nepalese Public Corporations. According to the report, there were 62 government-owned institutions working in different sectors. Among them, 28 were working in the manufacturing sector, 9 in the trade sector, 8 in the service sector, 3 in the public welfare, 6 in the social and cultural sector, and 8 are working in the financial sector.

The report shows that the number of manufacturing public enterprises is low in comparison of private sector industries but according to the report of the World Bank, these corporations have share of 36 percent in total fixed assets, 29 percent in value added and 25 percent share in employment sector of our country. The report exhibits that corporations have fixed assets of Rs.1500 crore and 63000 staffs are working in them in the fiscal year of 2046-47.

According to the report, the operation and management situation of these public enterprises are as follows;

- (1) Objectives are not clear and specific.
- (2) Excessive control and undue interference of government in day to day operation and management.

- (3) Most of corporations are not free to prepare their planned policy on different subject matters.
- (4) Appointment of inappropriate and inefficient people in the top level management of corporations.
- (5) Overstaffing i.e. more than their requirement.
- (6) Ineffective role of management committee with unclear responsibilities towards government.
- (7) Inexistence of proper evaluation system about success or failure of activities or objectives by which the sentiments of responsibilities in management bodies are deteriorating.
- (8) Lack of appropriate reward system to motivate the people involved in the management of corporations.
- (9) Lack of appropriate training to the staff about the management of activities of corporations.
- (10) Use of obsolete technology in most of the corporations.
- (11) Lacking in market management planning of corporations.
- (12) Improper management of economic resources and accounts keeping.

The report also mentioned some recommendations about the policy reforms to be made in the corporations. These are as follows:

1. Creation and promotion of competitive situation in the sectors, where corporations have monopoly situation.
2. A higher-level commission should be formed to determine or change the provisions about the appointment of the people at the top-level management as managing director or deputy managing director.
3. Professionals, management experts and the people who represents in favor of customers should be appointed in the member of Board of Directors.
4. The managing committee should be made responsible for economic and effective achievement of objectives of the corporations.
5. Appropriation and development of Reward system to the personnel working as manager or staff who has contributed more for the management and operation of the corporation to achieve their objectives.
6. Government should confine their functions as doing appointment of the Board of Directors and Managing Director, financial resource provider, help to

determine objectives and short- and long-term goals, supervision of activities conforms towards achievement of objectives, management of rewards and punishment and help to make coordination among corporations whose activities are correlated.

7. Take immediate action to solve the problem of overstaffing.

The report also suggested about the improvement and change to be made in operation and ownership of corporations.

**The Annual Report of Auditor General's Office (2063 B.S.)** showed that, there were 37 organized institutions working under the full ownership of the Government of Nepal. Among them, 22 institutions were functioning under the Company Act, 3 were under the Authority Act, 8 under the Special Act, 2 under the Corporation Act, and under the Communication Corporation Act.

According to the Report, 14 organizations had earned profits of Rs. 742 million that year. Among them, Nepal Telecom registered the highest amount of profit earned during that year. Others that followed the Telecom were Rastriya Banijya Bank, Nepal Rastra Bank, etc. The accumulated loss of other 21 Government-owned enterprises that year, however, recorded to Rs. 4,517 million. Since the total capital of these institutions accounts for Rs. 1,087 million, their losses came to 415 percent of the total capital employed.

The major causes of loss reported were ineffective internal control mechanism, ineffective internal audit, increment in production cost, unable to conduct in full capacity, lack of clear long-term government policy about these institutions, lack of objective decisions and responsibility of their Boards of directors, and ineffective supervision of the enterprises (Annual Report, AGO 2062).

## **2.22 Research Gap**

Previous studies made by Administration Reform Commission 2048B.S. and researchers like Prof. Dr. Pushkar Bajracharya, and Dr. Bal Krishna Shrestha in 1983, professor Dr. Govinda Ram Agrawal in 1984, Narayan Manandhar in 1987, have raised issues and problems of management in Public enterprises like absence of clarity of objectives, performance evaluation, monitoring and remedial actions, managerial inefficiency, untimely replacement of machinery and equipments, absence of required incentives, interferences from outsiders including the government in its functioning

etc. They have given suggestions to overcome those problems in their publications, which are actually a great contribution to the country and the researchers. This study has given emphasis on Budgeting process, Assessment of Operational/financial performance and behavioral implications of budgets in the Manufacturing Public Enterprises under study, which bridges the gap of research on these aspects on the basis of time period.

## **CHAPTER- 3**

### **RESEARCH METHODOLOGY**

This part reveals the way and methods used to conduct this study. It contains research design, population and sample, data collection procedure, technique of analysis with hypotheses taken for the study and lastly, the pre-testing.

#### **3.1. Research Design**

In order to achieve the basic objectives of the study, this study first attempts to examine the budgeting procedure followed by public enterprises to develop their final budgets. Secondly it analyzes the deviation between budgeted and actual quantity of production, sales, incomes and expenditures budgets for the period of study. Thirdly, it attempts to evaluate the financial performance of the public enterprises taken as a sample for the study for the period of ten years. Lastly, the study tried to analyze the behavioral implications of budget to the people who participate in the process of the preparation and implementation of the budget in the enterprises under study. Hence, descriptive and explanatory research design has been used for the purpose of the study.

#### **3.2 Population and Sample**

The population of this study comprised all manufacturing public enterprises of the country Nepal. As it is known there are twelve public enterprises of manufacturing sector. Some of them are not in running position. Among them, nine manufacturing public enterprises have been selected for the study on the basis of the nature and products of manufacturing public enterprises.

#### **3.3 Types and Sources of Data and its Collection Procedure**

To collect the data related to production, sales, purchase, selling and distribution expenses, administrative expenses, etc. a questionnaire having number of tables has been prepared. The purpose was to collect primary data related to different aspects of budget according to current prevailing budgeting approach or system, which has been shown in Appendix. But, during visit of different public enterprises, it is found that they are not maintaining their records and statements according to the requirements of the questionnaire prepared for the study. So, it was not possible to fill up questionnaire with help of account officer of respective MPEs because of lack of

data. Therefore, the secondary data were collected by personal visit of different public enterprises and also from public enterprise division of finance ministry.

Similarly, the primary data related to behavioral aspect of budgeting in these enterprises were collected from top level, middle level and lower level people of respective MPEs who participate in preparation and implementation of budget in MPEs study. Three separate sets of questionnaires were developed to collect the opinions and views of people working in three distinct level of management. For this purpose, forty sets of questionnaires to top level, sixty sets to middle level and seventy five sets to lower level managers were distributed to the employees of different MPEs under study. Among them thirty pieces of responses to questionnaires were collected from top-level managers, forty pieces from middle-level and sixty pieces from lower level managers. The facts about behavioral implications of budget were measured through multiple items developed based on five-point likert-type scale.

The primary sources of data are;

- 1) Top, middle and lower level managers of MPEs under study.
- 2) Administration and Account division of respective MPEs under study.

The secondary source of data is “Targets and Performance of Public Enterprises of Nepal”. Published by Ministry of Finance, Kathmandu, Nepal

#### **3.4. Pre-Testing;**

The pre-testing of the questionnaire was done on a sample of fifteen people working in Dairy Development Corporation, branch office, Biratnagar. These peoples were working on different level of management form 10<sup>th</sup> level to 5<sup>th</sup> level of designation. Among them three were of top-level management, five were of middle level management and rests seven were working in lower level management. Depending on the difficulties encountered by them in answering these questions, its initial format was suitably modified.

#### **3.5. Statement of hypothesis**

To test the significance of the study, following hypotheses are taken into account.

- (1) "There is no significant difference between budgeted and actual quantities/amount of sales, production, income and expenditure of MPEs”.

- (2) “There is no significant difference of responses among the people working as top-level, middle level and lower level managers regarding preparation and implementation of budgets in MPEs”.

### 3.6. Techniques of Analysis

The data collected from various sources are categorized, tabulated and processed for the purpose of analysis as per the requirement of the study. The analysis of data presented are of two types; descriptive and inferential. In descriptive analysis, the data presented are analyzed calculating different ratios, and using different statistical tools like Mean, C. V., Analysis of Time series (Trend line equation), Correlation, and Multiple regressions, Coefficient of determination, Paired sample tests and Factor Analysis. In inferential analysis, on the other hand, to make the study conclusive some hypotheses are formulated and tested using some Non-parametric statistical tools such as student ‘t’ and Chi-square test.

### 3.7. Statistical Techniques Used

The brief descriptions of the statistical tools used for this study are mentioned below.

- (ii) **Mean:** - Mean is also known as average or central value. It is a single value, which represents the entire distribution. The average provides us the gist and gives a bird’s eye view of the huge mass of unwieldy numerical data. It is very much useful;

- i. For describing the distribution in concise manner,
- ii. For comparative study of different distribution.

In this study, this tool serves as a measure of average sales, production, income and expenditure of MPEs.

- (iii) **Coefficient of variation:** - It is relative measure of dispersion or variation. There are two types of measure of variation, i.e. absolute measure and relative measure. The measures of variation, which are expressed in terms of the original units of a series, are termed as absolute measures. Such measures are not suitable for comparing the variability of the two distributions, which are expressed in different units of measurement. On the other hand, relative measures of dispersion are obtained as ratio or percentages and thus pure numbers independent of units of measurement. It is most appropriate for

comparing the variability of the two distributions if they are expressed in different units and also if they are expressed in same unit.

Variation is calculated to find out that to what extent the mean value is representing about the series. When the value of c.v. is below 40%, it shows lower degree of variation and it means the mean value is highly representing about the series. If c.v. is within the range of 40 to 60 percent, it shows moderate degree of variation and it means the mean value is moderately representing about the series. If c.v. is more than 60%, it is known higher degree of variation and it is interpreted that the mean value is not representing properly about the series of data.

In this study c.v. is used to find out the reliability of mean value of sales, production, income and expenditure of MPEs.

- (iv) **Trend- line Equation:-** It is a model by which we can predict the value of production, price, consumption, etc, in accordance with its time of occurrence. It is based on time series analysis. A time series is an arrangement of statistical data in a chronological order. It reflects the dynamic pace pf movements of a phenomenon over a period of time. Most of the series relating to economics, business and commerce. This technique can also be applied for the study of behaviour of any phenomenon collected chronologically over a period of time in any discipline relating to natural and social sciences.

In this study, this tool or equation is used to show the trend (either increasing or decreasing trend of budgeted and actual) of production, sales, total income and expenditure on the basis of the time series data. Therefore, a time series invariably gives a bivariate distribution, one of the two variables being time (t) and the other being the value (y) of the phenomenon at different points of time. The main purpose is to find out or show the growth rate (positive or negative) of budgeted and actual data.

- (v) **Correlation:** - The correlation is a statistical tool which studies the relationship between two variables and correlation analysis involves various methods and techniques used for studying and measuring the extent of

relationship between two variables are said to be correlated if the change in one variable results in a corresponding change in the other variable.

There are two types of correlation. These are positive and negative correlation and linear and non-linear correlation.

(a) **Positive and Negative Correlation:** If the values of the two variables deviate in the same direction i.e. if the increase in the values of one variable results, on an average, in a corresponding increase in the values of the other variable or decrease in the values of one variable results, on an average, in a corresponding decrease in the values of other variable, correlation is said to be positive or direct for example, height & weight and price & consumption. On the other hand, correlation is said to be negative or inverse if the variable deviate in the opposite direction i.e. if the increase (or decrease) in the values of one variable results, on an average, in a corresponding decrease (or increase) in the values of the other variable. The example of series of negative correlation is price and demand of the commodity.

(b) **Linear and Non-linear Correlation:** The correlation between two variables is said to be linear if corresponding to a unit change in one variable, there is a constant change (in the same ratio) in the other variable over the entire range of the values. The relationship between two variables is said to be non-linear if corresponding to a unit change in one variable, the other variable does not change at a constant rate but at fluctuating rate.

In this study, correlation is used to show the relationship between budgeted and actual amount of production, sales, total revenue and expenditures of public enterprises.

(vi) **Coefficient of Determination:** - Coefficient of correlation between two variables or series is a measure of linear relationship between them and indicates the amount of variation of one variable, which is associated with or is accounted for by another variable. A more useful and comprehensible measure for this purpose is the coefficient of determination, which gives the percentage variation in the dependent variable that is accounted for by the independent variable. In the other words, the coefficient of determination gives the ratio of the explained variance to the total variance.

The coefficient of determination is a much useful and better measure for interpreting the value of 'r'.

For example, if the value of r is 0.8, it is not concluded that 80% of the variation in the relative series (dependent variable) is due to the variation in the subject series (independent variable). But coefficient of determination in this case is  $r^2 = 0.64$ , which implies that only 64% of the variation in the relative series has been explained by the subject series and the remaining 36% of the variation due to other factors.

This tool is used to show that to what extent the actual amount of production, sales, total incomes and expenditures are affected by their relative variable i.e. budgeted amount of sales, production, income and expenditures.

- (vii) **Multiple Regressions:** - Regression analysis means the estimation or prediction of the unknown value of one variable from the known value of the other variable. It is especially used in business and economics to study the relationship between two or more variables that are related casually and for estimation of demand and supply curves, cost function, production and consumption function etc. According to M. M. Blair, "regression analysis is a mathematical measure of the average relationship between two or more variable in terms of the original units of the date".

The regression analysis confined to the study of only two variables at a time is termed as simple regression. But quite often the value of a particular phenomenon may be affected by multiplicity of factors. The regression analysis for studying more than two variables at a time is known as multiple regressions.

In this study this tool is used to show the relationship among different financial ratios to predict the ROI.

- (viii) **Paired Sample t- Test:** - It is actually paired t-test for differences of means. In the t-test for differences of means, the two samples were independent of each other. This method is used where: (a) the sample sizes are equal i.e.  $n_1 = n_2 = n$  and (b) the sample observations are not completely independent but they are dependent in pairs.

In this study, it is used for two variables i.e. budgeted and actual amount of production, sales, total incomes and expenditures. Here, the test has been

made to find out that budgeted quantity is really effective for actual quantity or not. For that purpose  $r$ ,  $r^2$ ,  $t$ - test has been made for pairs. The hypothesis is made that there is no significant difference between budgeted and actual quantity of sales, production, total incomes and expenditures.

- (ix) **Factor Analysis:** - Factor analysis is a statistical technique used to identify a relatively small number of factors that can be used to represent relationships among sets of many interrelated variables. For example, variables such as scores on a battery of aptitude tests may be expressed as a linear combination of factors that represents verbal skills, mathematical aptitude, and perceptual speed. Factor analysis helps to identify this underlying, not-directly-observable construct.

In this study, factor analysis is used to find out the major components, which are affecting the financial performance of manufacturing public enterprises.

- (x) **Chi-square Test of Goodness of Fit:** - Karl Pearson in 1900 A.D., developed a test for testing the significance of the discrepancy between experimental values and the theoretical values obtained under some theory or hypothesis. This test is known as chi-square test of goodness of fit and is used to test if the deviation between observation (experiment) and theory may be attributed to change (fluctuations of sampling) or if it is really due to the inadequacy of the theory to fit the observed data.

This tool has been used to test that the responses obtained for different questions developed for behavioral analysis are significantly differ or not. For this purpose, the null hypothesis is taken, as “there is no significant difference between the observed and the hypothetical values of responses

## CHAPTER– 4

### ASSESSMENT OF REVENUE BUDGETING IN PUBLIC ENTERPRISES

This chapter is concerned with a brief introduction of manufacturing public enterprises and assessment of their budgeting process. It includes historical backgrounds, short description about the nature and objectives of public enterprises, their products and raw materials used. The organizational structure of public enterprises is explained by showing organizational chart. This chapter also examines the budgeting process of different public enterprises under study.

#### 4.1 Agro lime Industry Limited (ALIL)

Agro Lime Industry Ltd. is situated at Chovar in Kathmandu district of Bagmati Zone. This organization was established on 2<sup>nd</sup> Magh 2030 B.S. This industry has started its function with basic authorized capital of Rs.1, 10,000. Agro Lime Industry is incorporated under the Company Act of 2021 B.S. and works under the administration of Ministry of Agriculture. The present objectives of ALIL are: (1) production and sale of Agro-lime as well as chemical limestone and mine research, (2) to improve and sustain the fertility of soil which has been detonated as a result of increased acid constraint due to environment pollution.

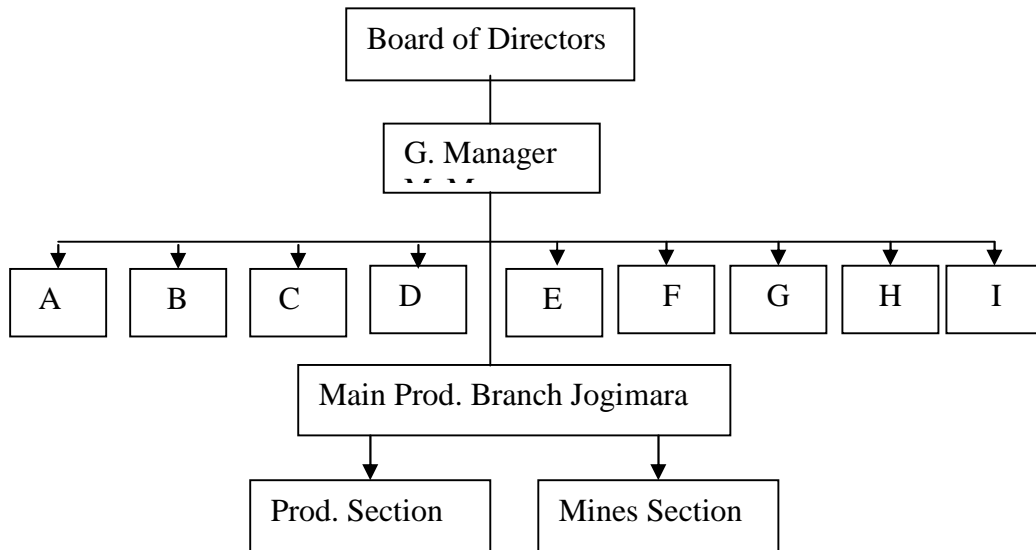
##### **Organizational Structure**

As organization chart shows the main production works are performed at Jogimara where the big plant is established. This plant consumes high quantity of fuel and it disposes of a large amount of carbon dioxide. In this plant, first the stones are boiled or fired then only it turned into limestone. This plant is established at Jogimara because the mines of raw materials used are available there. At Jogimara the raw material are processed and used to produce Agro-lime, quick lime etc. But at the central office, a mini plant has been established to produce surkhee and colour lime. The production quantity of this industry is dependent upon availability of raw materials and amount of fuel available.

The sale of its products is made through agent decided by the organization. The agents used to purchase finished products from organization and sell them to consumers, in turn get commission from the organization. The selling of its products is made from Jogimara branch and central office also.



**Figure: 1**  
**Organizational chart of Agro-lime Industry Ltd.**



**Index**

- A: - Production Section
- B: - Maintenance Section
- C: - Selling Section
- D: - Advertisement Section
- E: - Personnel Administration Section
- F: - General Administration Section
- G: - Planning Section
- H: - Account Section
- I: - Internal Audit Section

**(Source: Administration Department of ALIL.)**

The Jogimara branch sells quick lime to sugar, paper, and leather industries for processing of their raw materials.

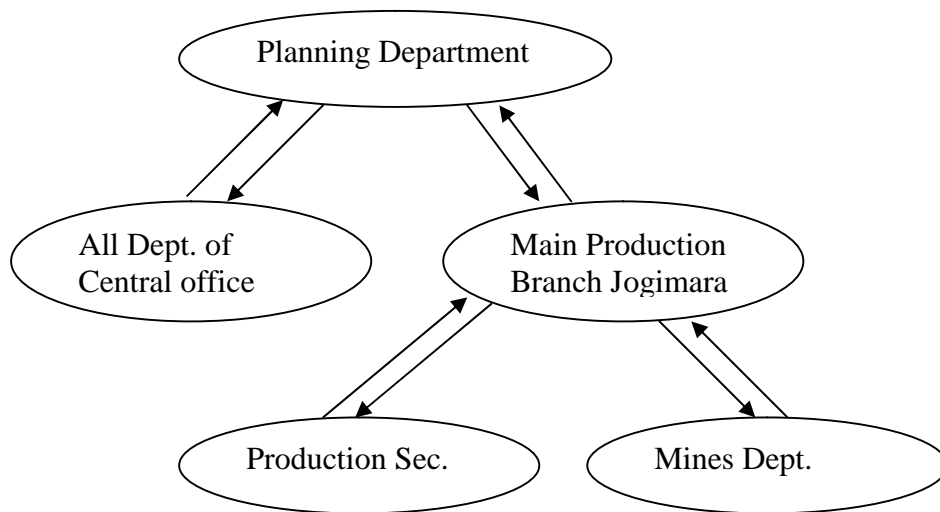
In this organization 119 people are working now- a- days. The economic position of this organization is going to be abolished. The production work has not been conducted for a year because of Maoist activities, but its fixed expenditure cannot be curtailed.

## Budgeting Process

The annual budget of the organization is prepared by joint effort of planning and Account department of central office. To prepare the budget of the organization the planning department issues a circular for branch office of Jogimara and the departments of Central office, Chovar. This circular is to be dispatched within the month of Magh to all concerned departments, which is to be collected within 15<sup>th</sup> of Jyestha from all concerned departments and branch offices.

**Figure 2**

### **Budget Cycle of ALIL**



**(Source: Account Department of ALIL)**

Now, first it is to be seen about the budget preparation work of main production centre i.e. branch office of Jogimara. Once the circular received by branch office then the head of the branch office conveys this circular to production department as well as to the mines department. The head of production department calls a meeting of the sub-sectional heads and foremen. They make estimate about the target of production. The target of production depends upon the raw materials available, which are made available from mines department. According to the estimate of mines department the production department makes target of production and makes estimate about the requirement of coal or fuel and also make estimate about the other expenses required for production of quick lime. The production department prepares a proposed budget for their own section and forwarded to the head of the branch office. Similarly, the mines department also make estimate of

expenditures required to collect required amount of raw materials to meet the targeted production. The head of mines department makes discussion among the members of mines department and prepares the proposed budget for its own department and forwarded to the head of the branch office. Both departments have to prepare their estimated budget and send to branch office within the month of Baisakh. The head of branch office calls the meeting of department heads and technicians to make discussion on the proposed budget of departments and to prepare the budget for the branch office as a whole. From this meeting they prepare the proposed budget of branch office as a whole and forwarded to the planning section of the head office.

Similarly, the different sections of the head office of Agro-lime Industry prepares proposed budget for their own section. There is a mini plant established at head office where colour-lime and surkhee is produced. So the production section estimate the amount of expenditure required for estimated volume of production. They prepare the proposed budget for their section from the meeting of its sectional staffs. Similarly, maintenance section also calls meeting of its sectional staffs and prepares the proposed budget by estimating the amount required for maintenance of production section and vehicles also. In this way sales department, advertising, personnel, general administration, account section, planning department, and internal audit department or section calls the meeting of their sectional members and prepares the proposed budget for their own section and forwarded to planning department up to 15<sup>th</sup> of Jyestha.

Once the planning section received the proposed budget of branch office and different departments, they call a joint meeting of the heads of all departments and branch office. In this meeting Account department first checks the estimates of different sections or departments and the proposed budget of branch office and compares with last year's budget. In the meeting they discuss on proposed budgets collected from different sections and prepare final proposed budget for the organization as a whole and forward in the meeting of board of directors through general manager of the organization. In the board meeting, the members of the Board make discuss on different aspects of budget and give approval of the final proposed budget. In the meeting they make certain changes in the budget if they think necessary. Once the Board meeting approves the budget, it is to be implemented in the organization throughout the fiscal year.

## **4.2 Birgunj Sugar Factory Ltd.**

Birgunj Sugar Factory Limited is situated at Birjung in Parsa district of Narayani Zone. This factory is established on 2021\10\18 B.S. and incorporated under Company Act 2021. Now a day this organization is functioning under the Company Act 2053 B.S. Birgunj Sugar Factory has started their activities with basic authorized capital of Rs.10, 00,00,000. The objectives of this institution are production, sale and distribution of sugar, import substitution and employment generation. This institution is functioning under the administration of Ministry of Industry, Commerce and Supply.

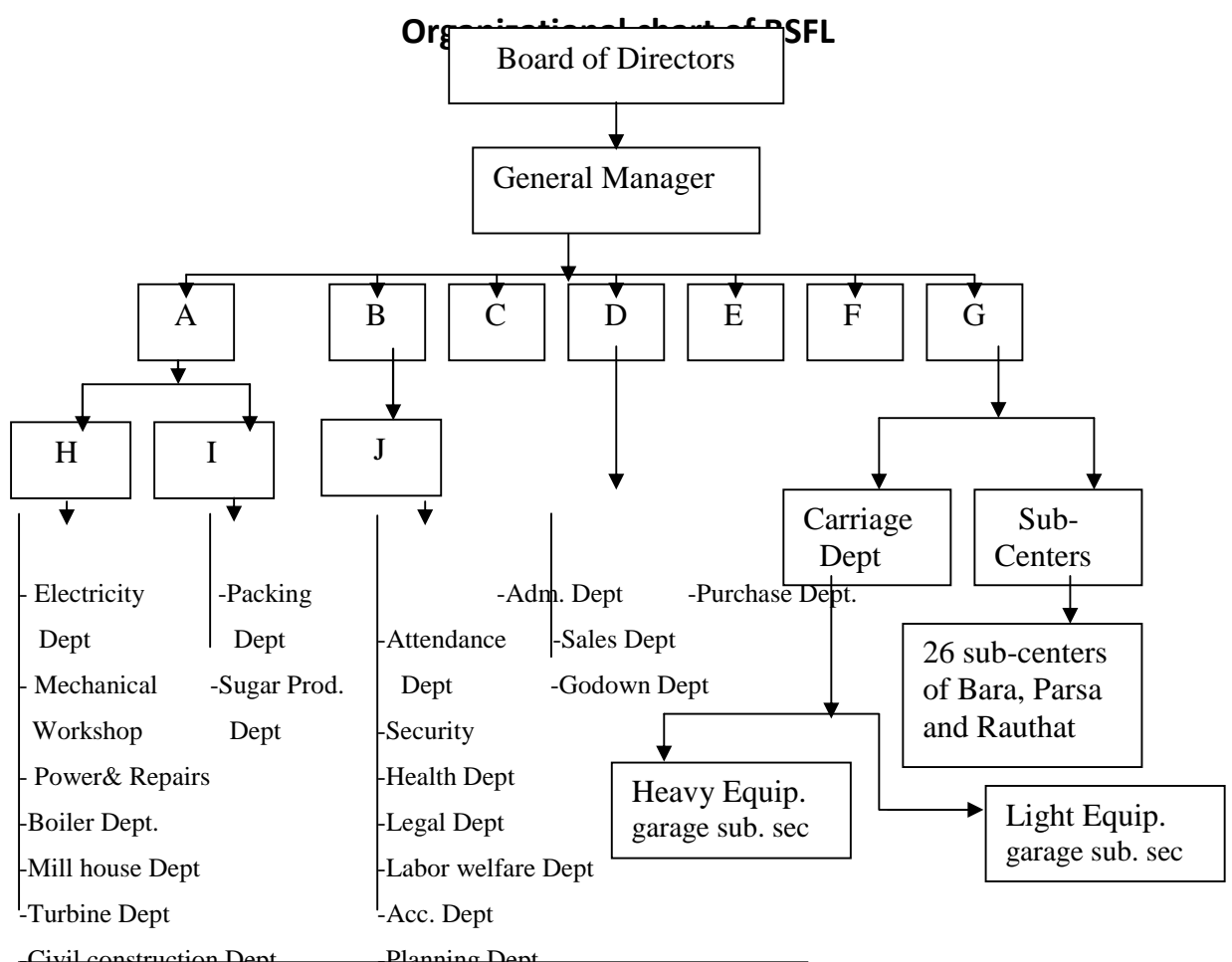
### **Organization Structure**

Birgunj sugar factory limited is one of the largest organizations established by foreign aid given by Russian government, where 928 people are working. Among them, some are seasonal staffs and rests are permanent staffs' i.e. full time staffs. Seasonal staffs get 60% of their salary in off seasons. During off seasons they are not allowed to work in other organizations. They can be called on work by the organization any time whenever the organization feels necessary. The seasonal staffs get full salary plus provident fund and also Dashain kharch during the season of working. All staffs working in the organization are insured. Their insurance premiums are paid by the organization. At the time of retirement, they get amount equal to 45 months' salary at the rate of initial amount of salary with insurance amount.

As organizational chart figure 3 shows, the Board of Directors is the chief authority of an organization. General Manager is the chief secretary of board of directors who has full responsibility to conduct the total organizational activities. There are three Deputy General Managers working under direct control of general manager. These DGMs are solely responsible for their sections like Works, Administration, and Marketing. Distillery division, Sugarcane division, and Laboratory and Internal audit section are also functioning under direct control of general manager of this organization.

The production work of the organization is monitored and controlled by the deputy general manager of works section. There are two divisions functioning under direct control of D.G.M. of works. These are Works division and Production division. Number of departments has been established and functioning under Works division. These are Electricity department, Mechanical workshop department, Power and Repair department, etc. Under Production division, there are two departments. These are packing department and Sugar production department.

**Figure 3**



**Index**

- ‘A’ – Deputy General Manager of Works division
- ‘B’ – Deputy General Manager of Administration division
- ‘C’ – Deputy General Manager of Marketing division
- ‘D’ – Distillery division (own budget & sections)
- ‘E’ – Internal audit section
- ‘F’ – Laboratory section
- ‘G’ – Sugarcane division
- ‘H’ – Works division
- ‘I’ – Production division
- ‘J’ – Administration division

**(Source: Administration Department of BSFL)**

The Administration division of an organization is functioning under direct control of deputy general manager of administration. There are number of departments functioning under Administration division. These are administration dept, attendance dept, security dept, etc. There are three departments working under direct leadership of D.G.M. of Marketing. These are purchase dept, sales dept and godown or warehouse department.

The Distillery division is an independent division of this organization functioning under direct leadership of General Manager. In sugar industries, the distillery products are taken as By-product. To prepare fresh sugar the juice of sugarcane are boiled and in order to make fresh juice, the waste part of juice is taken away. The waste part of juice of sugarcane can be used to produce different types of wines. In this organization Distillery division is preparing its own budget and it has established its own type of sections.

Sugarcane division of an organization is one of the major parts of an organization that supplies raw materials for its products. It has two departments, first is carriage department which carry the large volume of sugarcane through heavy means of transportation as trucks, tractors, etc. For maintenance work two sub-sections are functioning under carriage department or section. These are garage sub-sections for maintenance of heavy means of transportation and light vehicles.

To collect sugarcane from the farmers, the organization has established 26 sub-Centers located in three districts i.e. Bara, Parsa and Rauthat respectively. These sub-centers are functioning under Sugarcane division. The central collection center is the head office of the organization itself. The farmer can deposit their sugarcane in head office of Birganj also and get payment. But for the farmer of long distance, the organization has established sub-centers to collect sugarcane.

The organization has established laboratory section in their institution to check or test the juice of sugarcane. They make confirmation about the freshness of sugar

and other by-products. This department is also functioning under direct control of general manager of an organization.

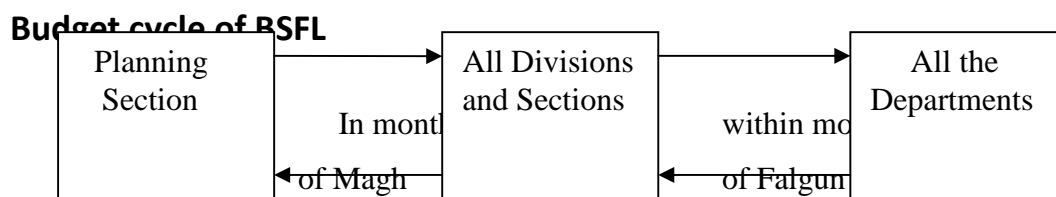
Out of these, the Internal Audit department is functioning under direct control of G.M. Internal audit section is established to check the accounts internally.

The quantity of production of this factory is depending upon the availability of sugarcane. This industry is utilizing only 50% of its capacity due to unavailability of sugarcane. The farmers are not intended to supply sugarcane due to delay in payment made by the organization. If such type of problem is solved by the organization, the farmers will supply sufficient quantity of sugarcane so that it can use its maximum capacity of production.

The sale of sugar is made through Salt trading corporation, National trading company by the organization. If any person or wholesaler wants to purchase 100 quintals at a time, in such a case the organization can sell directly to that party. The by-products are sold through dealers only. The determination of dealers is made through calling tender by the organization.

### Budgeting Process

**Figure 4**



**Source: Account Department of BSFL**

The budget preparation work of an organization starts in the month of Magh when planning department of the organization issues a circular in the name of all divisions and sections directly controlled by the General Manager of an organization. Once the divisions get circular they inform their departments to prepare budget of their own.

Let us talk about the budget preparation work of Works division. The Works division informs to its concerned departments working under this division to prepare

budget. The Electricity department, Mechanical Workshop department, Power and Repair department, Boiler, Millhouse, Turbine and Civil Construction department are working under this division. All the departments call the meeting of concerned staffs and prepare target of their work on the basis of last year's target. If any change is required that is added or subtracted in their target of works and then also make estimate of the amount of expenditure required to meet targeted work. In this way they prepare proposed budget of their concerning departments within month of Chaitra and send to Planning Department, through the channel of works division within the month of Baishakh.

Similarly, production division informs to its concerned departments to prepare budget of its department. As we know the target of production of sugar production department is depends on the supply of sugarcane. For this purpose, they make estimate about the supply of sugarcane after consultation of sugarcane division and make estimate about the production of sugar. Once they determine the target of work then they make estimate of required amount of expenditure to produce such quantity of sugar. In this way sugar production department prepares its budget within the month of Chaitra and forward to the Production Division, which is forwarded to the Planning Department within the month of Baishakh. The target of work of Packing department of Production division depends on the production of sugar. In this way, packing section determine the target of work and they also determine the amount required to meet targeted work and prepare proposed budget of their department and forwarded to the Planning Section through Production Division.

Administration division also prepares budget for its own division informing their departments working under this division, to prepare budget for their concern department. There are six departments working under this division. All departments call meeting of their staffs working in their department and they determine the target of work and required amount of expenditure and prepare budget of their own and forward to Planning Department through their division.

Similarly Marketing Division also informs to its concerned departments to prepare budget for their own departments. There are three departments working under this division. The Purchase Section calls the meeting of its staffs and first they determine the quantity of different materials to be purchased then they make estimate of the amount required to purchase those materials and in these way they prepare

budget of their own department. Similarly, Sales Department also calls the meeting of their staffs and make target of works and the amount required to perform those works and prepare budget. Godown department also prepares budget in the same way and forwarded to the Planning department through marketing division within month of Baishakh.

Same process of preparing budget is followed by other departments of different divisions and sections also. They call the meeting of their staffs and through meeting they determine the target of works and also make estimate of the amount required to fulfill those targeted work and gives the form of budget. These proposed budgets should be forwarded to the Planning Department within the month of Baishakh.

Once the proposed budget of all the divisions and sections are collected or received by Planning department then this department calls the meeting of all Heads of different divisions and sections. In this meeting the proposed budget of all the departments are reviewed and compared with last year's budget. From this meeting the planning department prepares final proposed budget for the organization as a whole and forwarded to the meeting of the board of directors through General Manager of this organization. In this meeting the board members make review or study of the budget and once they get satisfied with the proposed budget of an organization, that budget will be approved within month of Asad. This approved budget will be distributed to all divisions and sections and implemented throughout the year from the month of Shrawan.

### **4.3 Dairy Development Corporation**

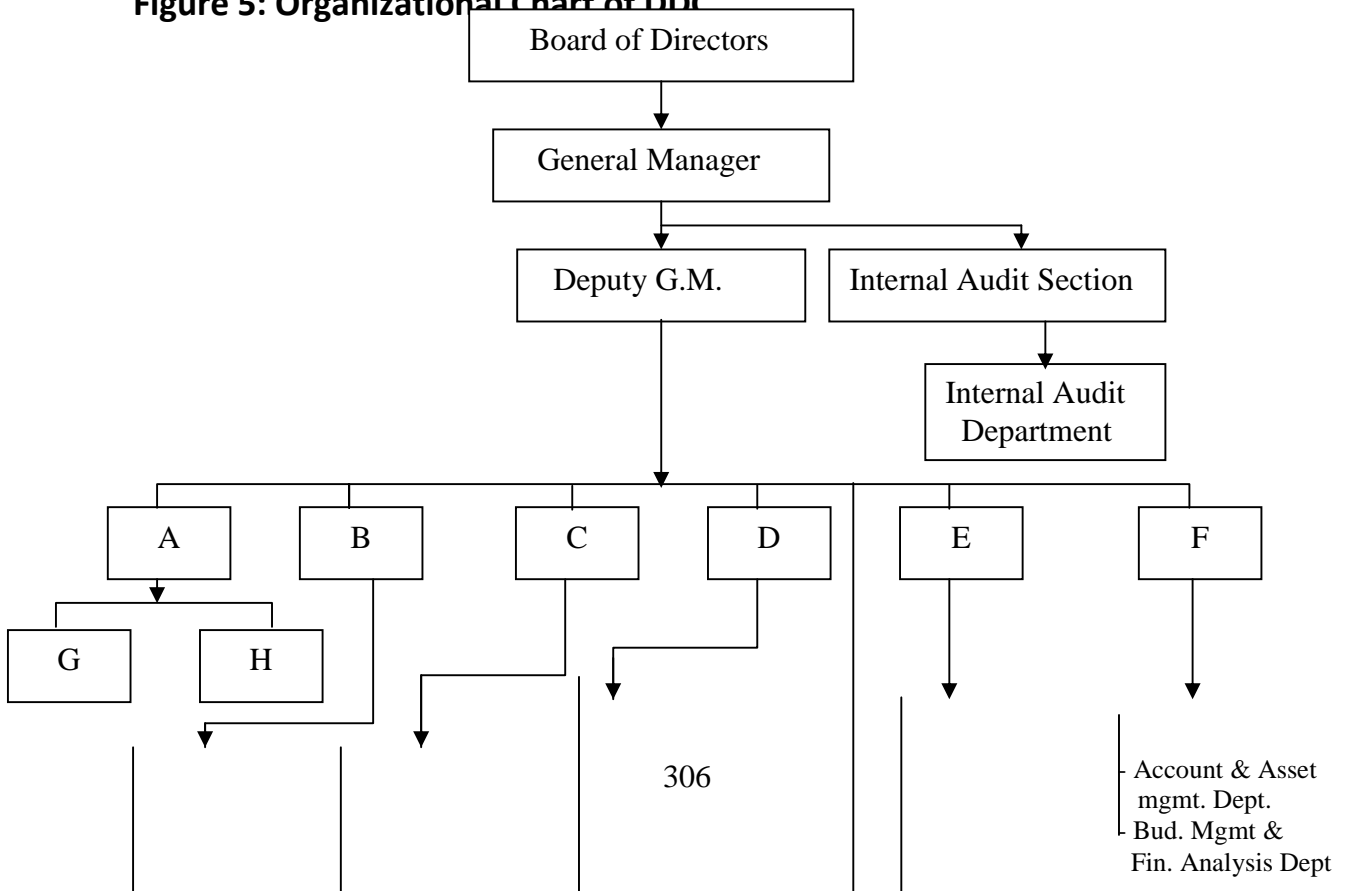
Dairy Development Corporation is established on 2026 B.S. and incorporated under Company Act of 2021 B.S. Now a day this corporation is functioning according to the Company Act of 2053 B.S. The head office of this organization is situated at Lainchaur, Kathmandu in Bagmati Zone. This institution has started their activities with basic authorized capital of Rs19 Lakh. The present objective of DDC is to process the milk purchased from farmers and supply pure dairy product to the urban people. This corporation is functioning under the administration of Ministry of Agriculture and Co-operative.

**Organizational Structure**

As organizational chart, figure 5 shows, the Board of directors is the top authority of the organization. General Manager is the member secretary of Board committee and functioning as chief person of the organization. Under the General Manager of the organization there is provision of deputy General Manager, who is responsible to see the activities of overall organization. Internal audit section is also functioning under direct control of General Manager of the organization. There are six sections functioning under direct leadership of deputy general manager of the organization. These are production management section, planning and evaluation section, quality control & Technology development section, etc.

There are six projects established by the organization in different Regions of our country. These are Kathmandu Dairy Distribution Project at Balaju in Kathmandu, Hetauda Dairy Distribution Project at Hetauda, etc. All these projects collect raw milk from small farmers living in the villages and remote areas through chilling centers established by different regional projects offices. These chilling centers collect raw milk through local cooperatives organizations.

**Figure 5: Organizational Chart of DDC**



-Planning and Evaluation Dept	- Marketing mgmt.sec.	- Qlt.control Dept.	- Manpower mgmt. Dept.
-Training Dept	- Market Research & sales promotion Dept	- Tech.Dev. Dept.	- Purchase mgmt Dept.
-Computer Unit			- Int.Mgmt.Dept

- Kathmandu dairy distribution project, Balaju, Ktm.
- Hetauda Dairy distribution project, Hetauda
- Biratnagar Dairy distribution project, Biratnagar
- Lumbini Dairy distribution project, Butwal
- Dairy and Dairy products Production and Selling &  
Distribution project, Lainchaur, Kathmandu
- Mid-Western Dairy distribution project, Dang

**Source: Administration Department of DDC**

These chilling centers keep raw milk by making it cool till the tanker of regional project offices does not come to carry that milk. Once the milk of different chilling centers are carried to the regional project office by tankers, those milk are kept in process of different stages in production section of projects. From processing of raw milk they produce different types of dairy products like cheese, paneer, ice cream, skimmed milk, powder milk, makkhan, ghee and packet milk.

The products of Dairy Development Corporation are sold through the retail shops opened by different project offices. But the packet milks are sold through public retail shops also. For this purpose the people have to deposit certain amount in the project office to have dealership. The regional project office has the responsibility to send demanded carat of milk packet to their retail shops by their own means of transportation. For this purpose the regional offices use their own trucks to carry the carats of milk packet. These trucks make unload of demanded quantity of milk packets to dealers and after few hours those trucks collect the empty carats i.e. boxes which are used to carry on the milk packets. At the time of collection of empty boxes

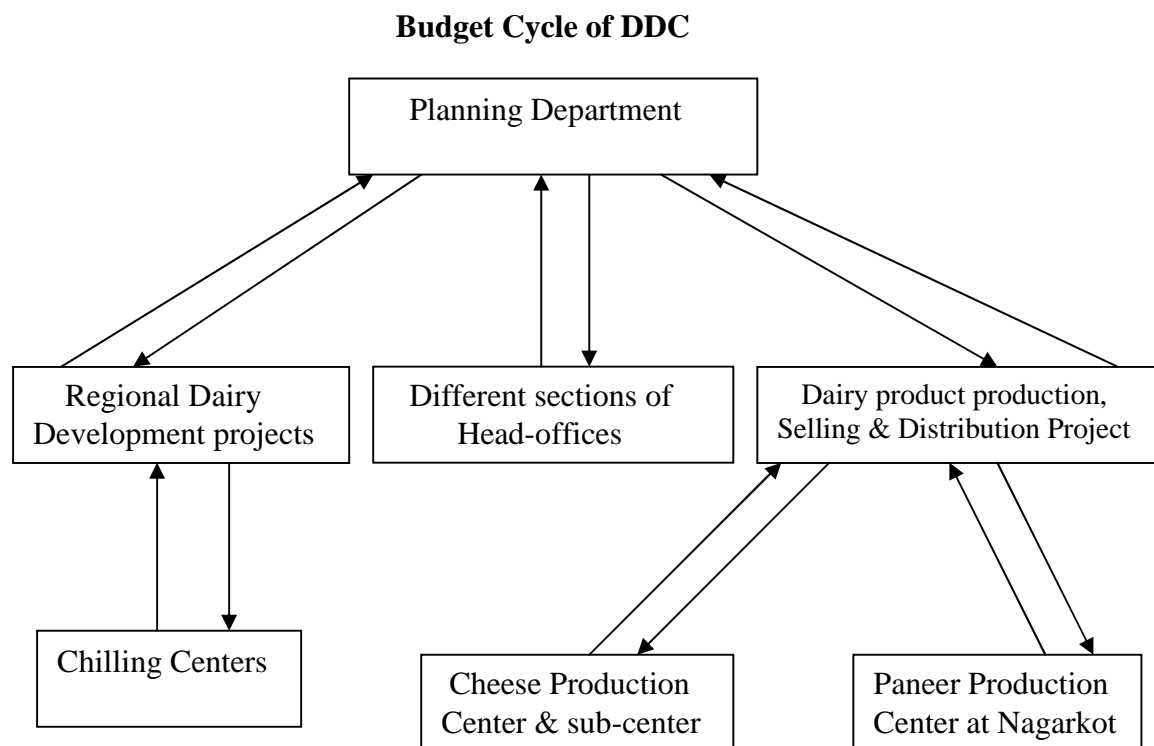
they also collect the payment of packet milk and give a note for the payment of packet milk and they deposit those money to the regional or project office. If an individual makes demand of high quantity of milk or dairy products, the project office provides delivery of those demanded quantity of things to their residence also. In this way this organization makes selling and distribution of their product through their own retail shops and private dealers.

This DDC organization has given employment to 1279 people directly in their organization. But indirectly it has given employment to large number of people through dealership of dairy products.

The different sections of head office perform the monitoring function of different regional offices, as they feel necessary.

## Budgeting Process

Figure 6



**Source: Planning Department of DDC.**

The Planning department of Planning and Evaluation Section of the Head Office initiates the budget preparation work for the organization. The planning department issues a circular to different sections of head office and also to the Regional dairy distribution projects & Dairy products production, Selling and distribution project, within the month of Magh. On the basis of the circular the different sections of head office inform to their departments working under them, to prepare the budget for their own department. This information should be conveyed within 15<sup>th</sup> of Falgun. All the departments of different sections call the meeting of their staffs and they decide the target of their work and also make the estimate of the amount required to perform those targeted work. From their meeting they prepare proposed budget for their departments and forwarded to their concerned section within 15<sup>th</sup> of Chaitra. In different sections, the proposed budgets of their departments are reviewed and discussion made among the members of section and heads of departments. From this

meeting the proposed budget for the section as a whole is prepared and forwarded to the planning department within the month of Chaitra.

Similarly, the Regional projects or Dairy distribution projects also convey information to prepare budget when they get circular from planning department. Regional Projects also have different departments as shown in organization chart. In these projects, there are Production department, Planning and Evaluation department, Quality control department, Marketing department, etc. In these Regional offices, large-scale productions of dairy products are made. So, the Planning department of Dairy Development Project takes initiation for the preparation of budget when they get circular for preparation of budget from Central or Head Office, Planning department of project offices issue a letter to all Departments of its office and also to chilling centers to prepare budget. Once they get letter then they call meeting of their staffs working in their department. In the meeting, they decide about the target of work for their department. The target of production section depends upon the availability of raw milk and sales quantity of dairy product. On the basis of past experience they determine the target of work and amount required to meet the targeted work. In this way, from the meeting of their department members they prepare proposed budget for their department within 15<sup>th</sup> of chaitra and forward to planning department of regional office. The planning department collects all the proposed budgets of departments and chilling centers within 15<sup>th</sup> of chaitra and calls the meeting of all heads of different departments. This meeting is arranged under chairmanship of project chief where all the proposed budgets of departments are reviewed, target of production and sales are modified by their discussion and they prepare final proposed budget for their project as a whole by accumulating all the proposed budgets of departments. The final proposed budget for different regional projects and dairy distribution projects are forwarded to the planning department of the head office within the month of chaitra.

Once the Planning department of Head office collected the proposed budget of dairy distribution projects then they call the meeting of all sectional chiefs of Head office. In this meeting all the proposed budgets of regional projects are reviewed. The proposed budget i.e. target of work of different department of project offices are reviewed by the concerning section of Head office. The target of work of different

department of different project offices may keep for discussion in the meeting of their concerned section. The concerned section may change the target of work.

After the discussion is made in the meeting of all heads of different sections, the tentative target of work and targeted amount of expenditure with their details are forwarded to the Ministry of Finance as per demand within the month of Baishakh.

But for their own purpose, the organization forms a budget committee to make final of proposed budget for the organization as a whole. Once the details of proposed budget of different project offices are reviewed and discussed by concerning sectional heads then the proposed budget is forwarded to budget committee by the planning department of head office. The budget committee has responsibility to prepare the final proposed budget for the organization as a whole. Once the budget committee makes final proposed budget for the organization then it is forwarded or presented in the meeting of the board of directors through general manager. In this meeting different aspects or parts of proposed budget are reviewed by the board members, discussion and analysis made by them and finally they approve the budget. They may make some modification if they feel necessary. Once the board meeting approves the proposed budget, it will be implemented in the organization throughout the fiscal year.

#### **4.4 Herbs Production and Processing Company Ltd.**

Herbs Production Processing Company Limited is situated at Koteshwar, Kathmandu in Bagmati Zone. This institution is established on 17<sup>th</sup> Poush 2038 B.S. and incorporated under Company Act 2021 B.S. Now a day this organization is functioning according to Company Act of 2053 B.S. This company has started their activities with basic authorized capital of Rs.2crores 86lakhs. The present objectives of HPPCL are: (i) to collect and process raw Herbs, (ii) to farm medicinal Herbs suitable to the environment, (iii) to provide raw materials to domestic industries, and (iv) to assist in import substitution by exporting processed herbs. This company is performing their activities under the administration of Ministry of Forest and Soil Conservation.

## **Organization Structure**

Herbs Production and processing co. Ltd is producing different products known as Ayurvedic product. As its organization structure shows, the company has established different branch offices and Rosin collection center in different parts of the country. The central office of the institution is at Koteshwar in Kathmandu. There are six branch offices established for different purposes. These are:

- (1) Tamagadhi Jadibuti Firm, Bara
- (2) Belbari Herbal center, Belbari, Morang
- (3) Tarahara Jadibuti Firm, Tarahara, Sunsari
- (4) Farming extension Program Nepalganj
- (5) Farming extension Program, Tikapur, Kailali
- (6) Farming extension Program Mahendranagar, Kanchanpur.

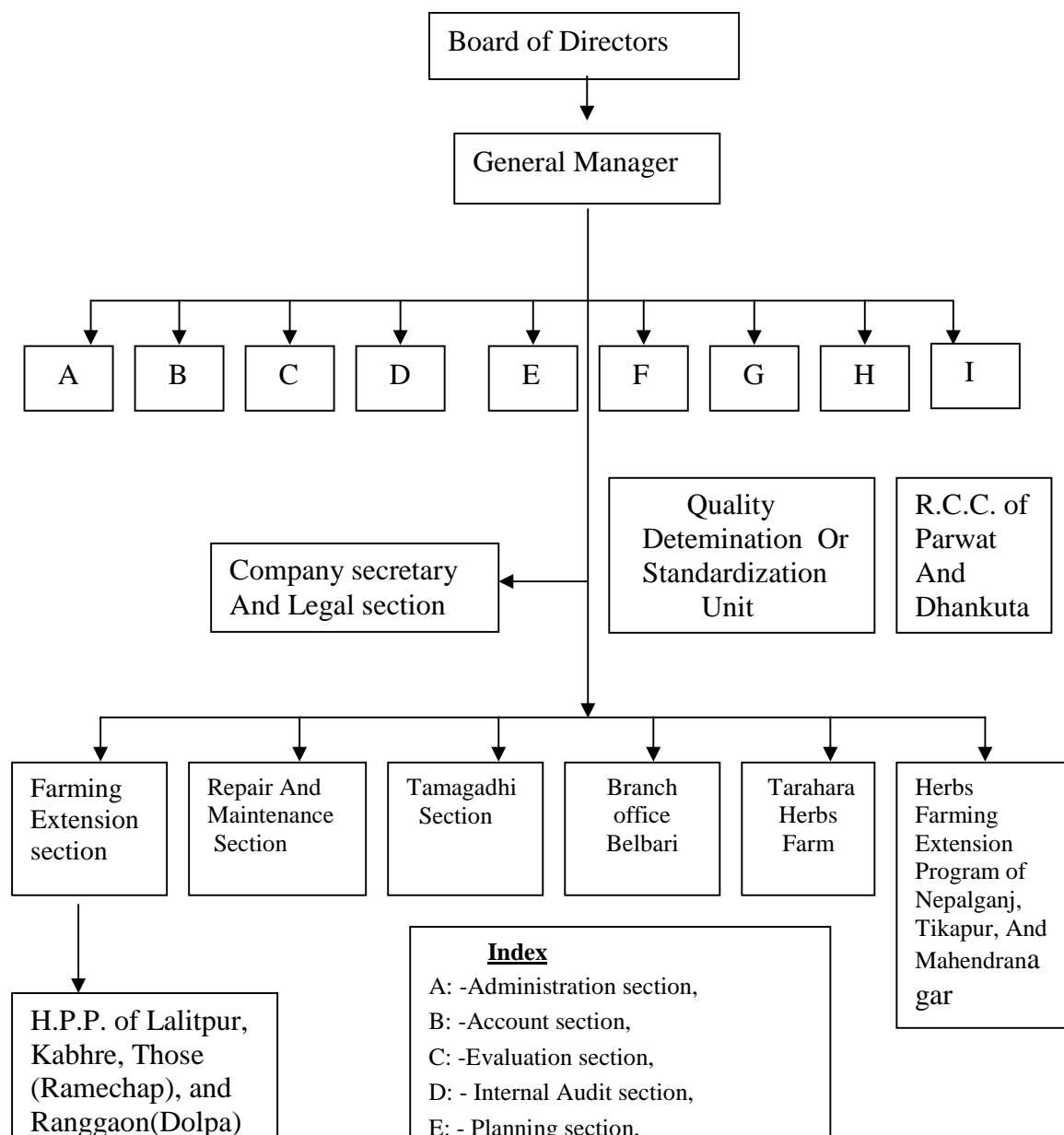
Besides this the company has initiated farming extension program and processing program of private sector in different districts. These districts are Bara, Rauthat, Banke, Bardia, Kailali (Tikapur), Kanchanpur in Mahendranagar. In these districts, 243 farmers are involved in farming of 139 hectares land. Similarly in rural area also, there are number of processing units of Herbs. These places are Nala in Kabhre, Chapagaon in Lalitpur, Ramechap, Rangaon in Dolpa, Jumla and Humla. In these places there are 44 farmers engaged in processing of herbs of different varieties.

This organization has given employment to 147 people of our country on different posts of the organization. These are the people who are directly benefited by organization but there are number of farmers and people who are indirectly getting benefit through farming extension program and processing units of this organization. This organization provides training to the farmers involved in farming of herbs and also provides technical assistance to the people who are involved in processing works of Herbs. The company purchase raw herbs and finished products of herbs produced by farmers through nearest branch offices of the organization. In this way the

company collects raw herbs from farmers and from their own farm and make processing of these herbs in their own processing section or units. The total production of Herbs product is sold through stockiest from branch office and Central office of the organization. There are two types of products produced by organization i.e. industrial product and consumer product. Industrial products are sold from central and branch office directly. But consumer products are sold through stockiest from branch and central office. These products are sold not only in national market but also in the international market. The products of this company are exported in different foreign countries like France, Italy, Britain, Australia, Spain, India, and Pakistan respectively on priority basis.

**Figure 7**

**Organization Chart of HPPCL**



**Source: Administration Department of HPPCL**

Now-a-days the company is producing 20 varieties of herbs products and they have target to produce more 26 varieties of herbs products in near future (According to bulletin published on 2052 i.e. progress report, page number,8).

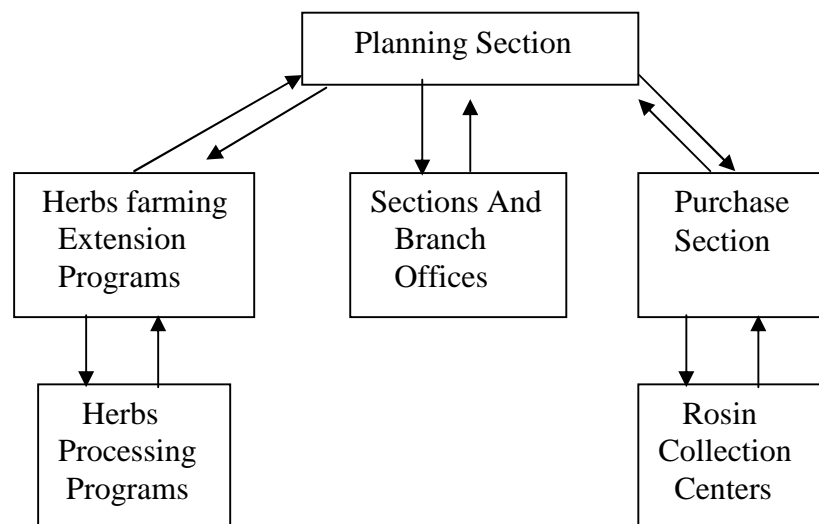
### ***Budgeting Process***

The annual budget of herbs production and processing company is prepared by planning department of head office. Planning department or section first issues a circular and convey to all sections of the head office, branch office and also to rosin collection centers. Through circular the planning section demands the estimated amount of expenditure with details about the progress of current year's target on quarterly basis, from all sections of head office, branch office and rosin collection centers. This work is performed in the month of Falgun. Once sections, branches and centers, receive the circular then they start the work of preparing budget for their own.

Let us start from the budget preparation work of Rosin collection centers. As organizational chart of HPPCL shows, the collection centers work under the purchase section of head office. In rosin collection centers, the non-gazetted level staffs are appointed as a chief of the office. The chief of the centers calls meeting of the staffs working in their office. They prepare their target of works on the basis of their past year's achievements plus some additional quantity. The target of works should be expressed on quarterly basis. Once they determined the quantity of works to be done (or target to be achieved) on quarterly basis then they make estimate of the amount required to perform those targeted quantity of work. Now from the meeting of their official staffs with head of labor team they prepare the tentative budget for rosin collection centers and forward to planning department through purchase section of head office within the month of chaitra.

Figure 8

Budget Cycle of HPPCL



Source: Account Department of HPPCL

Now we see about the budget preparation work of farming extension section. Under this section we find that there are herbs processing programs launched at four different places of Lalitpur and Khabhre in Ramechap district and at Ranggoan in Dolpa district. This section first collects target of their work to be performed and amount required to meet targeted work of processing of herbs in different herbs processing centers. As we know, in these centers the financial supports are provided by the organization, which is deducted when the processed herbs are purchased by the organization. Keeping all these things in mind, they prepare budget for their section. In this way this section calls meeting of the staffs of their section and prepares estimate of their targeted work and required amount of expenditure. This final proposed budget of their section is forwarded to planning section within the month of chaitra.

Similarly the branch office of Belbari, Morang and Tarahara, Sunsari also prepares proposed budget for their branch office. As we know in theses places the raw herbs are produced. Once they get circular of preparing budget they call meeting of their staffs and prepares target of quantity of herbs to be produced in their farms respectively. Then they also estimate about the amount required to produce such

quantity of herbs. In this way they prepare the proposed budget for their branch offices and forwarded to planning section of the organization.

Likewise, the different farming extension program offices of Nepalganj and Mahendranagar also have to prepare the proposed budget from the meeting of their staffs and those budgets should be forwarded to planning division.

Similarly, the branch office of Tamagadhi at Bara and other sections of central office prepares the target of their work and also estimate the amount required to perform those target of works. In this way they prepare proposed budget of their branch and sections from the meeting of their staffs and forwarded to the planning section of the organization within the month of chaitra.

Once the proposed budget of different Branch offices, Farming extension program offices and different Sections of the organization are collected by planning section and examines the progress of the current year's and target of works of coming year by comparing with progress reports- collected quarterly from different branch offices and sections on regular basis. After verification, the planning section calls the meeting of all the heads of different sections, farming extension program offices and different branch offices. They make discussion on progress and targets of concerned sections and branch offices. From this meeting they prepare final estimates by adding or subtracting or making amendments in target of coming year's budget. This final proposed budget is forwarded to meeting of board of directors through general manager of the organization where the budget is approved. This final approval of budget is made within the month of Asad. From the beginning of Shrawan month the approved budget is distributed to all the branch offices and sections of the organization.

#### **4.5 Hetauda Cement Industry Limited**

Hetauda Cement Industry Limited is located at Lamoure of Hetauda Municipality of Makawanpur District in Narayani Zone. This industry is established in 2033 B.S. and incorporated under existing Company Act of 2021 B.S. Now a day it is functioning under Company Act of 2053B.S. This organization has started their function with basic authorized capital of Rs.2500 lakh. Hetauda Cement Industry has been working with basic objective of production, selling, and distribution of ordinary

Portland and Portland slag cement. This organization comes under the administration of the Ministry of Industry, Commerce and Supply.

### **Organization structure**

The Hetauda cement factory is one of the largest industries of Middle Region. This organization has been given employment to 782 people of our country this time. At the same time more than hundred people are working as a daily wage labour in different quarry divisions of the organization.

As organization structure figure 9 shows, the main production works are performed at Lamoure of Hatauda Municipality ward No.9. This is the central office of HCIL. In Central office there is Factory also. The raw materials are collected from two places i.e. Bhainse Quarry Division and Okhere Quarry Division. At both places the organization has established branch offices. Both quarry divisions are functioning according to the instructions given by concerning deputy general manager.

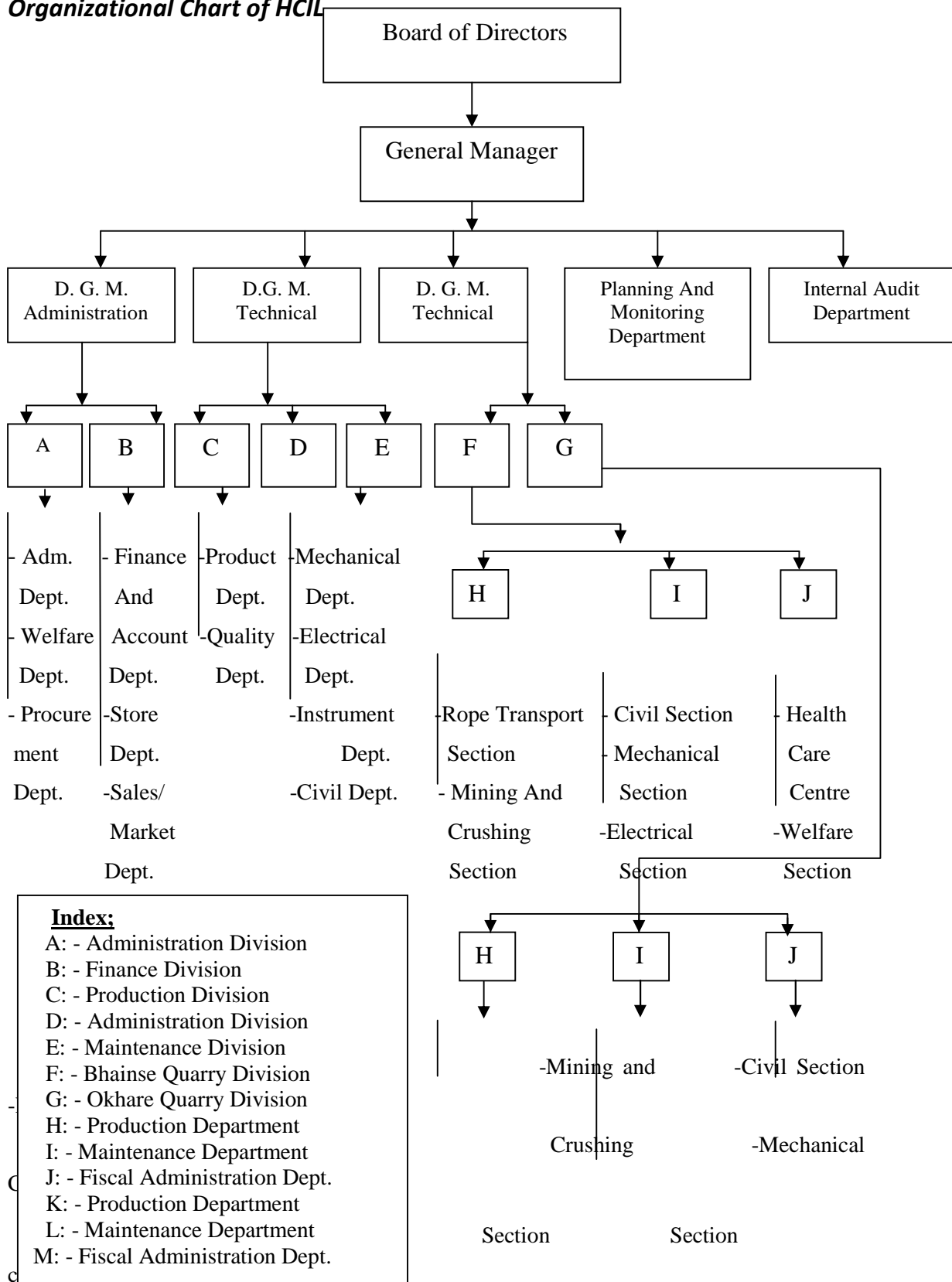
The organization has managed three deputy general managers. Among them two deputy general managers are known as deputy general manager for technical and deputy general manager for administration respectively. These two deputy general managers are appointed for central office. One more technical deputy general manager is appointed to manage the mines located at two places i.e. Bhainse and Okhere.

As organizational chart of this organization shows, the board of directors appoints the general manager. Three Deputy General Managers, Planning and Monitoring Department and Internal Audit Department have to work under direct leadership of General Manager of the organization. The production of cement function is performed under direct leadership of Technical Deputy General Manager of Central Office. The raw materials required for production of cement is carried from Bhaise and Okhre quarry divisions through rope way and sometimes from other means of transportation. The volume of production of this organization depends upon the availability of raw materials. Now a day, there is scarcity of quality stones (i.e. raw material) in quarry divisions, so that the volume of production is decreased.

Sales& Marketing Department performs the selling function of their product. This department is functioning under the Fiscal Administration Division. Fiscal Administration has to function under direct leadership of Deputy General Manager of Administration. The selling of cement is made through authorized dealers. These authorized dealers are either Government dealers or

**Figure 9**

**Organizational Chart of HCIL**



**Source: Administration Department of HCIL**

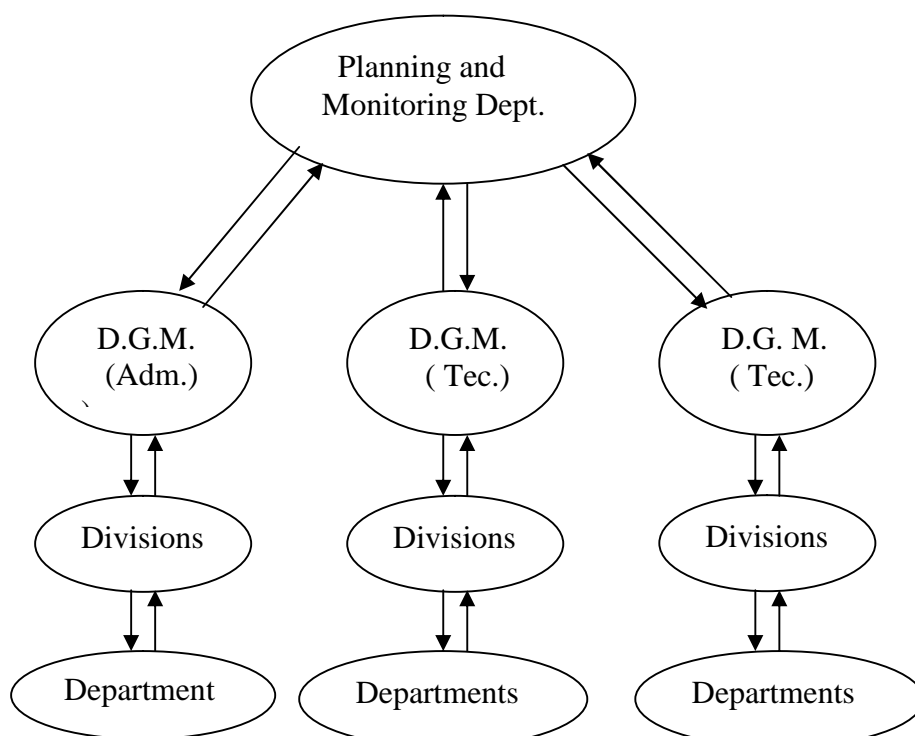
Registered Firms and Trading Houses. Government dealers are of three categories i.e. Ka, Kha, and Ga. The national level government dealers are National Trading Limited, and Salt Trading Corporation Ltd. Other government dealers are Sanjha Bhandar, Taragaon Bikas Samiti, Sajha Pasal, Rastriya Sahakari Board etc. Similarly, there are number of registered firms and trading houses through which the selling functions of cements are performed. For selling of cement a notice is published to invite tender from different government dealers and registered firms. After processing of tender forms the selling of cements are made.

**Budgeting process**

Planning and Monitoring department of HCIL prepares the annual budget for this institution. This department has to perform their work under direct control of General Manager of this institution.

Figure 10

**Budget cycle of HCIL**



### **Source: Planning Department of HCIL**

The preparation of annual budget work starts from month of Magh by planning and monitoring department. This department prepares circular and send to all deputy general managers to provide the proposed budget of their own divisions. Once deputy general managers receive the circular then they inform the divisions to prepare the budget for their division within the month of Falgun. Other divisions also to inform their different departments working under them follow same process.

Once the message for preparation of budget is conveyed to bottom level then the actual budget preparation works start. First the department heads call meeting of their working members and they discuss about the target of production. Some times the target of production is fixed and the departments have to estimate the required expenditure to meet the targeted production. Let us first take the budget preparation works of Bhainse and Okhare divisions. As we know, now a day the Hetauda cement factory is not working in their full capacity due to unavailability of high-grade raw material. Instead of all these facts the institution has to fix the target of production. On that targeted production the Quarry Divisions have to make the target of their production of raw material. Under the Quarry Division, two departments are working i.e. Production Department and Maintenance Department. Production department calls the meeting of the sections working under this department i.e. Rope way and Mining and Crushing. They make discussion about the target of production and make estimate of expenditure to meet the target of production and prepare the budget of

their department. Maintenance department, to prepare the budget for their own department follows the same process. Maintenance department also calls the meeting of their heads of the sections working under this department i.e. heads of civil, mechanical and electrical section. They also make discussion about the targeted production and make estimate of the required amount to meet the targeted production and prepare the budget for their own sections and department as a whole. One more department i.e. Fiscal Administration Department is working under Quarry Divisions. Under this department the Health care center is working. They also call the meeting of their heads and important members working under this department and after discussion they also prepare the budget for their own sections and department as a whole. Once the proposed budget of all the departments is prepared then all these budgets are forwarded to the quarry divisions. In quarry division, the heads of divisions call meeting of all the heads of departments. From that meeting they make final proposed budget for their divisions and forwarded to the concerned deputy general manager's office. Through deputy general manager, the proposed budgets of quarry divisions are forwarded to the planning department. The time period covered for all this process is chaitra to Asad. It is rule that the estimated budget of all the public enterprises of our country is to be sent to the Finance Ministry. For this purpose, the divisions have to forward the estimated budget within the month of Chaitra to the Planning department and the Planning department has to send a copy of proposed budget within the month of Baisakh to the Ministry of Finance. But the budget for own purpose can be forwarded to the Planning Division within 15<sup>th</sup> of Ashad.

Now we see about the Cement Production Division of Head Office. There are three divisions (i.e. Production division and Maintenance division and Administration division) functioning under direct control of technical D.G.M. of head office. There are two departments i.e. Product department and Quality department working under Production Division. To prepare budget of their own department Product department calls meeting of engineers, overseers and foremen. They discuss about the target of production and estimated expenditure required to meet the production target. Once they make final about the estimated expenditure they prepare proposed budget of their own department and forwarded to Production Division. Similarly, Quality Department also calls the meeting of their members and after making discussion they prepare

proposed budget for their own department and forwarded to Production Division. Same process is followed by different department of Maintenance Division and forwarded to concerned division. Once proposed budget of different departments collected by divisions then they call meeting of heads of different departments and make final proposed budget for their divisions and forwarded to the Planning Division through D.G.M.

When we see the budgeting process of Administration Division and Fiscal Administration Division working under control of D.G.M. for administration of Head Office, we find that first the different departments calls meeting of their members and make estimate of required expenditure to perform their target of works. In this way they prepare budget for their own department and forwarded to concerned division. Concerned division makes revision of required expenditure in joint meeting of all department heads and make final proposed budget for their own division and forwarded to Planning Department through Administrative D.G.M.

Once the proposed budget of all the Divisions, Planning department and Internal Audit department are collected then the Planning department calls the meeting of Heads of Technical departments, Account department and G.M. Among them Account department do checking of all proposed expenditure of all departments i.e. Division wise and compare them with the last year's expenditure and put it in the meeting. In meeting, they make discussion on different aspects of proposed budget and make final proposed budget for the whole organization including all proposed budget of different divisions. This final proposed budget is forwarded to the meeting of Board of Directors by Planning Department through General Manager. The members of Board of Directors see the proposed budget, make discussion and make certain change if necessary. From the meeting of Board of Directors the budget of the organization as whole is approved and to be implemented throughout the fiscal year.

#### **4.6 Janakpur Cigarette Factory Limited**

Janakpur Cigarette Factory is situated at Janakpur Dham of Dhanusha district in Janakpur Zone. This factory is established with the financial help of existing government of USSR on 29<sup>th</sup> Poush 2021 B.S., and incorporated under the Company Act of 2021B.S. This institution has started their operational work with the basic authorized capital of Rs.204 Lakh. The JCF has been working with objective of

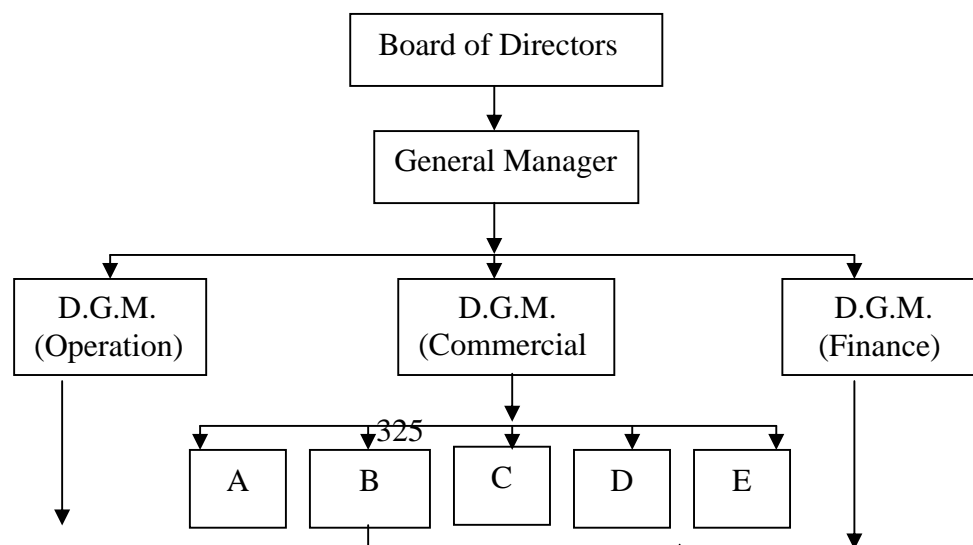
making contribution of industrial sector in national economy by producing and supplying the required needs of general people, to make our country self dependent in this field, and to contribute for the economic prosperity of our nation. The present objective of JCF is to attain the self-sufficiency in cigarette supply in order to increase its contribution to the National Economy. This organization is functioning under direct administration of Ministry of Industry, Commerce and Supply.

### Organizational Structure

Janakpur cigarette factory is one of the largest Public Enterprises of our country. It has given the employment to approximately 4000 people of our country. Previously there were 84 Branch and Sub-branch offices working under four Regional offices. But now a day this institution has closed some of the Branch and Sub-branches of interior areas where Maoist activities are prevailing and dominating and offices are unsecured. Still there are four regional offices and 60 Branch and Sub-branch offices functioning all over the country. As organization chart figure 11 shows, the Board of Directors is the superior authority of an organization. There are three Deputy General Managers appointed by the General Manager to control the different Divisional works. The Regional offices are working under the administration of Marketing Division. The four Regional Offices established by this organization are at Biratnagar, Janakpur, Kathmandu, and Butwal respectively. All the Branch and Sub-branch offices are working under the administration of these four Regional offices. All these Branch and Sub-branch offices are involved in selling of cigarettes produced by this organization. The JCF is producing five brands of cigarettes according to the demands and taste of the people living in the different parts of our country.

**Figure 11**

Organization Chart of JCF



-Making Unit	-
Stores and Ware-	
-Packing Unit	
housing Division	
-Printing Unit	-
Finance or	
-Blending Unit	Account
Division	
-Quality Control Unit	-Internal
Audit	
-Workshop Unit	Division
-Vehicle Unit	
-Electrical Unit	
-Carpentry Unit	
-Construction Unit	
-Air-condition Unit	
-Powerhouse Unit	

**Source: Administration Department of JCF**

These are Yak, Gaida, Lahure, Deurali and Uphar. Among them some are filter cigarettes and rests are non-filter cigarettes.

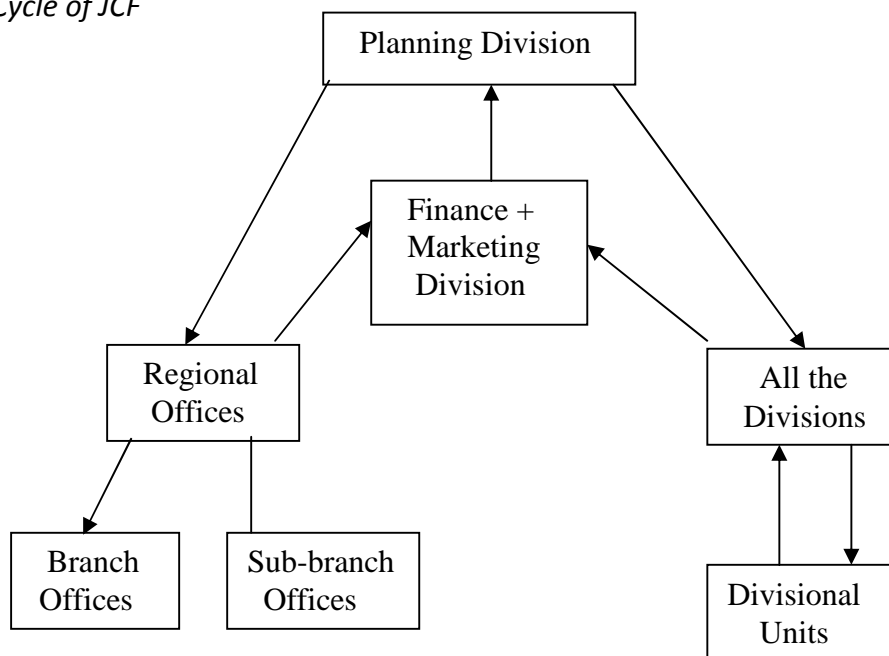
**Budgeting process**

The annual budget of Janakpur Cigarette Factory is prepared by the joint effort of Planning, Finance and Marketing Division. The initiation of preparing budget is taken by Planning Division of this institution. The budget preparation works are started from Planning Division by inviting the proposed budget from different wings of the institution. The Planning department sends circular to different Divisions and Regional offices to prepare the budget of the coming fiscal year in the month of

Poush of current fiscal year. Once the Divisions get information then they disseminates such information to their Divisional units. Divisional units prepare their target of activities and required amount of expenditure to meet the targeted activities. Taking consent of all members of the unit working there does the budget preparation works. The unit should complete their proposed budget within month of Falgun of current fiscal year and forwarded to the concerned division. The Division should forward those budgets of units including their own Unit's proposed budget to Planning Division within the 1<sup>st</sup> week of Baishakh of current fiscal year through Finance Division. Same provision of time is given to Regional offices to collect proposed budget of Branch and Sub-branch offices and should be forwarded those budgets to Planning Division through Finance and Marketing Division. In this way the time period given for budget preparation work of coming fiscal year is from Poush to 1<sup>st</sup> week of Baishakh of current fiscal year.

Figure: 12

Budget Cycle of JCF



**Source: Planning Department of JCF**

As shown in the organization chart of JCF, all the Regional offices are working under Marketing Division and the entire Branch and Sub-branch offices are conducted under the direct leadership of Regional offices. The whole marketing functions of their products are performed through Regional, Branch and Sub-branch offices. Therefore, the Marketing Division of Central Office collects the total sales target of the products for JCF by adding or accumulating the sales targets of all Branch and Sub-branch offices. The Branch and Sub-branch office determine their sales target on the basis of previous sales plus 10% or 20% increment made according to the requirement of market. To extend the amount of sales, the branch and sub-branch offices have to launch the promotional programs like posturing, advertisement through Electronic Medias, free sampling programs etc. In this way the Branch and Sub-branch offices first determine their target of sales and the amount required to meet the targeted sales and to conduct the offices. By mentioning all these matters in a budget format the Branch and Sub-branch office should forward it to the Regional office and the Regional office prepare the proposed budget of their own region by accumulating all budgets of Branch and Sub-branch offices working under their

territories. Once the Regional office prepared the budget of their own regional office then that proposed budget should be forwarded to the Planning Division through Marketing and Finance Division. The proposed budget of Regional offices are verified and checked by Marketing and Finance Division, and then only those proposed budgets are forwarded to Planning Division.

Once the target of sales of JCF is determined by the Marketing Division then the budget preparation works of Works Division start because the volume of production is determined on the basis of sales target. The D.G.M of Operation determines the production target for the coming fiscal year by taking consent of the members of Works Division. Once, production target is fixed, the budget preparation work of different units of Works Division starts. For this purpose the members of concerned unit keep their meeting and determine the target of activities to meet the targeted production and also determine the amount required to meet the targeted activities. In this way all the concerned Units related to Production or Works Division have to prepare their budget for coming fiscal year on the basis of the required production. Once the proposed budget of concerned Units are prepared then it should be forwarded to the concerned division and after verification and modification in the budgets the concerned Division prepares the proposed budget of Division as a whole including the budget of all the Divisional Units plus the budget required for Divisional office. The Divisional Head should forward their proposed budget to Finance Division and Finance Division should forward these budgets to Planning Division after verification and modification if needed.

Other Divisions like Procurement, Store or Warehousing Division, General Service Division etc follow the same process. Procurement division has to prepare their budget for coming fiscal year on the basis of the production target. How much raw materials, chemical and other required materials are to be procured depends on the volume of production to be made. Like this the Store or Warehousing Division prepares their estimated amount of expenditure on the basis of the volume of raw materials, work-in-progress and finished goods to be kept in the warehouse. In this way on the basis of required or targeted production and targeted sales, the overall activities are determined. Once the Units and Divisions determine the targeted activities, it will help to estimate the required amount of expenditure to meet the

targeted activities. In this way by taking consent of all the members of the Unit and Division the proposed budget for the Units and Divisions are made.

Once Planning Division collected the budgets of all Divisions then joint team of Planning, Finance and Marketing Division reviews all those budgets. The joint team has responsibility to verify that the target of sales and production and estimated expenditure also are reasonable or not. In this way on the basis of justifications and reasonableness Planning, Finance and Marketing divisional joint meeting can change the estimated figure of budgets demanded by divisions. After verification and revision of budget this team classifies the budget of whole organization under the different heads like estimated total sales, direct selling expenditures, production cost, administrative expenses etc. The Planning Division of the organization prepares final proposed for the coming fiscal year by mentioning above heads including other heads like depreciation and other incomes then shows the estimated profit or loss for the budgeted year.

When Planning, Marketing and Finance division finalizes the budget for coming fiscal year jointly then that final proposed budget should be forwarded to the Board of Directors. In the meeting of Board of Directors the proposed budget is presented and described by the chief of the Planning Division. The member of the board of directors makes review of budget and discussion made on different aspects of the budget. If they want any change then that can be made, if not, they give approval of budget. When Board meeting approves proposed budget, it is implemented in the organization throughout the budget year.

The monitoring of budget is also one of the important aspects of budgeting process. This work is performed through the system of organizational hierarchy. The Regional offices perform monitoring work of Branch and Sub-branch offices. There are some regular works of control to be made under the system of operation. The task force of Divisional offices make some times sudden visits of Branch and Sub-branch offices also. Generally sudden visits are made by Marketing Division related to marketing activities, Finance Division for financial activities and some times by the member of Internal Audit Division also.

#### **4.7 *Nepal Rosin and Turpentine Limited***

Nepal Rosin and Turpentine Limited is situated at Attaria in Kailali district of Seti Zone. This institution is incorporated under Company Act of 2021 B.S. and established on 2043-1-18 B.S. Now a day it is functioning under the Company Act of 2053 B.S. This institution has started their function with basic capital amount of Rs.20 crores. This NRTL comes under the administration of Ministry of Forest and Soil Conservation. The main functions of this institution are to collect Khoto from the root parts of the trees of salla, to produce rosin and turpentine by processing khoto with the help of other chemicals, to make selling and distribution of rosin and turpentine to the national industries based on these products and to make export of rosin and turpentine to the neighbor countries. The present objective of NRTL is (a) to collect a raw material from natural resources, (b) providing required Rosin and Turpentine to the industries by expansion of its production, and (c) to sale Rosin and Turpentine in the internal as well as external markets.

### **Organizational Structure**

Nepal Rosin and Turpentine Limited is a single Public Enterprise of their field. The Head office of NRTL is at Attaria and Central office is at Kathmandu. There are 547 people working in this institution whereas the total post or Darbandi is 619.

Nepal Rosin and Turpentine Limited have established their plant for production work at two places. The major amount of production is made from the plant established at Attaria. The Mini Plant for production is established at Tarahara of Sunsari district. The Branch office of Tarahara is called as Eastern Regional Office of Tarahara. This Branch office collects their raw material (khoto) from their four depots established at Dhankutta, Dharpa of Panchthar district, Amarpur of Dhankutta district and Udaypur of Udaypur district.

The central production center of Attaria collects their raw material (khoto) from the depots established at different places of Seti and Mahakali zones. In this way the production work of rosin and turpentine is made from two places i.e. Attaria and Tarahara.

One more Branch office is established at Babarmahal in Kathmandu. This office is established as a Central Administrative Office as well as the sales depot also.

The selling functions of Rosin and Turpentine are performed through sales depots. Previously there were number of sales depots established by this institution. They were in Biratnagar, Janakpur, Birgunj, Attaria, Tarahara and Kathmandu. But the institution has closed three depots of Biratnagar, Janakpur and Birganj. According to source there were no any reasons of closing them. They were functioning very well. They made large amount of selling. There were no any complain against them. But because of political reason these sales depots were closed. Now a day the consumer of Janakpur and Birganj are facing problem. They have to pay more cost to purchase rosin and turpentine because, they have to purchase either from Kathmandu or Tarhara. In this way the selling of their product is made through three sales depots. These depots are central production or head office of Attaria of Kailali, eastern regional office Tarahara of Sunsari and central administrative office Babarmahal of Kathmandu.

The selling price Rosin and Turpentine is determined by Nepal Rosin Board. But the rate of sales for export to India is determined by joint agreement between forest department of India and Nepal rosin board. In this process, first the forest department of India determines the consortium price. This consortium price provides the basis to determine the price of rosin. Nepal Rosin Board determines own rate by adding some amount in consortium price. In this way the price of rosin and turpentine is determined and exports are made to India.

The Factory Division of the institution determines the production planning of their product. The volume of production is not affected by the volume of sales or demand. The volume of production is determined by volume of khoto collected. If it is sufficient then the volume of production is fixed by its capacity of production. Sales do not affect the volume of production.

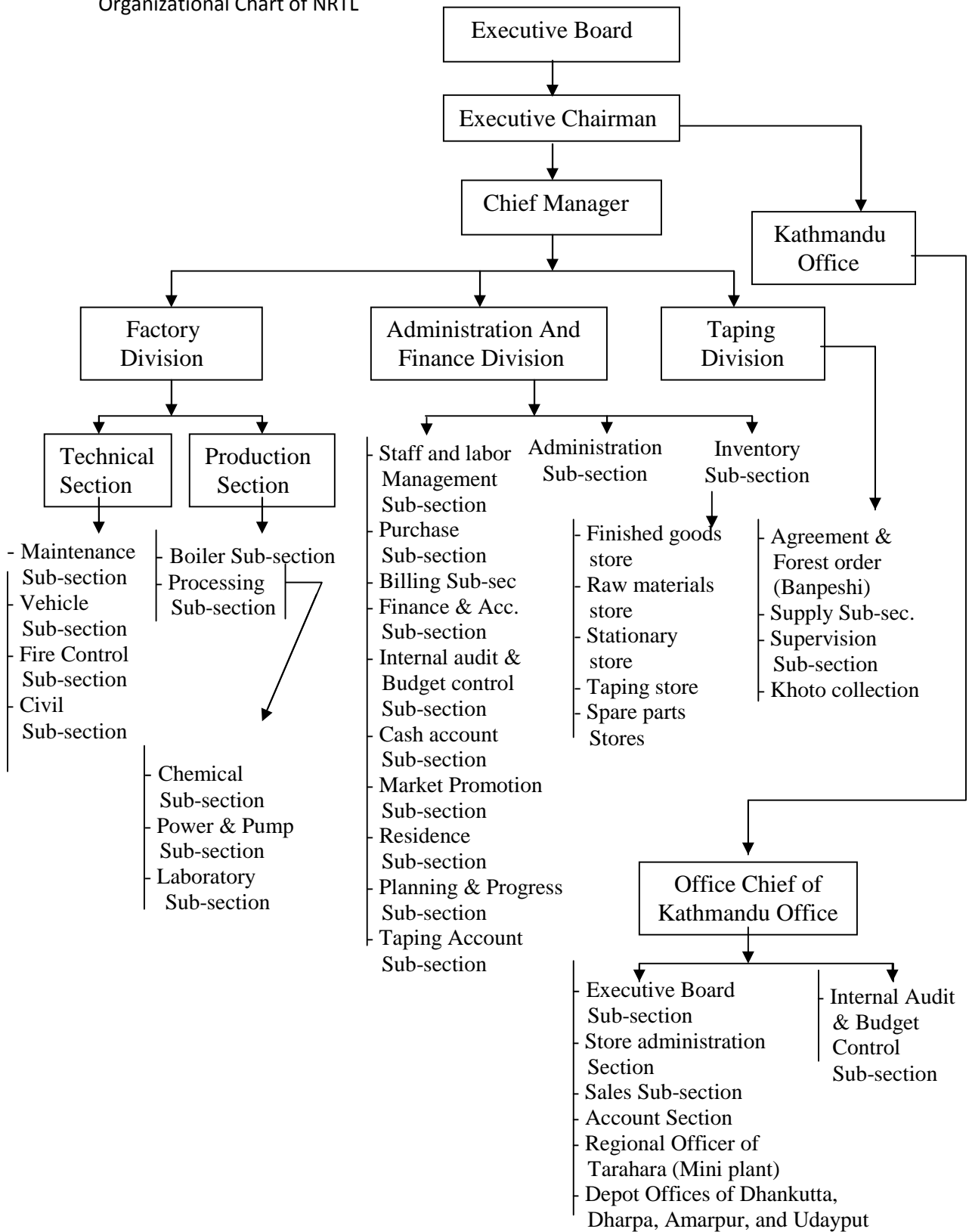
In the figure 13, it is found that Executive Board is superior authority, which is leaded by Executive Chairman. The Chief Manager is appointed by Executive Board

to conduct the Head office of Attaria. The whole Head office is divided into three Divisions i.e. Factory Division, Administration and

Finance Division and Taping Division. Factory Division controls production functions of the organization. Accounting, Purchasing, Store management works are controlled by Finance and Administration Division. Supply of raw material (i.e. khoto), their collection, supervision, and making agreement for collection of khoto with Forest Department etc., are managed and controlled by Taping Division. Like the Head office, the Kathmandu office is also kept under direct supervision of Executive Chairman of this institution. The Eastern Regional Office of Tarahara does their function under the supervision of Kathmandu office.

Figure: 13

Organizational Chart of NRTL



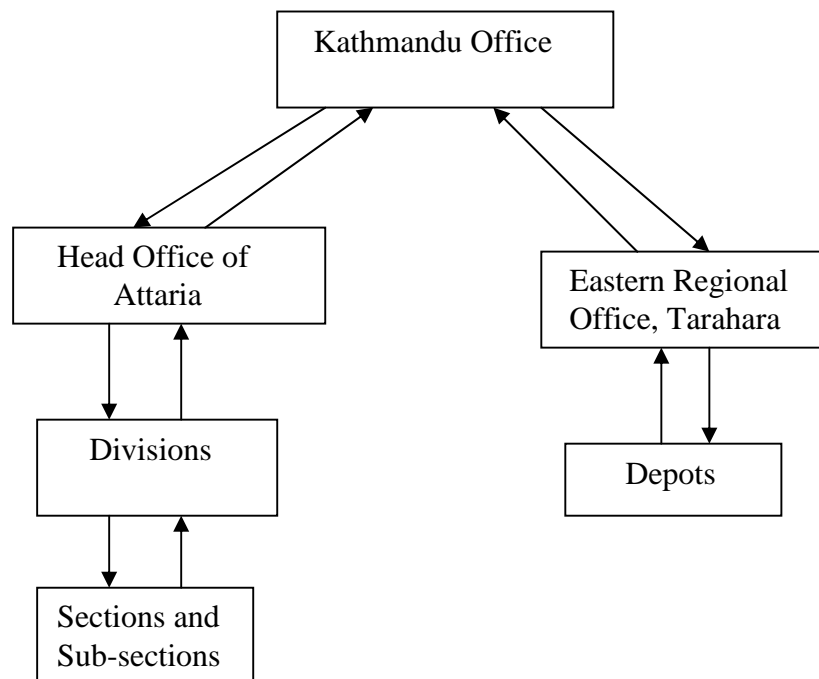
**Source: Administration Department of NTRL**

### **Budgeting process**

The annual budget of this institution is prepared by Budget Section of Kathmandu office. First, the Budget section of Kathmandu office issues circular to the Head office of Attaria and Eastern Regional office of Tarhara at the same time inviting proposal of targeted production and required expenditure to meet the required production and to conduct the office as a whole. This work is performed in the first week of Jyestha.

**Figure 14**

### **Budget Cycle of NRTL**



**Source: Planning Department of NRTL**

According to the circular made by Kathmandu office, the Head office of Attaria invites proposal of required expenditure and target of works from different Divisions like Factory division, Administration and Finance division, and Taping division. The target of production of NRTL is fixed. The amounts of sales do not affect the target of production of this institution. But the target of Taping division may fluctuate. First the Factory division invites proposal of required expenditure with detail from their Technical and Production sections. Both sections call meeting of their members including the members of their sub-section and determines the required amount of

expenditure to meet the targeted production and forward to Factory division. All these works should be finished within the month of Jyestha. The Administration and Finance division follows same process for the preparation of budget. But the Taping division has different nature of work. The works of Taping division or their target of works depend upon the agreement made between Forest Department and the institution. There are different depots working under Taping division. These depots are functioning at different places of Seti and Mahakali Zones. Taping division first calls meeting of the Chiefs of different Khoto Collection Centers. From that meeting they collect targets of works and also determine the required amount of expenditure to meet the targets. These targets are finalized by joint meeting of different sub-sections working under Taping division i.e. agreement and Forest Order (Banpeshi) sub-section, Supply sub-section, Supervision sub-section and Chiefs of Khoto Collection Centers. From this joint meeting of Sub-sections the final proposal of targets of work and required amount of expenditure is prepared and forwarded to Taping division. In this way all the divisions of the Head office prepares proposed budgets and forwarded to the Planning and Progress sub-section of the Head office. The Chief Manager of the Head office calls the meeting of different Divisions according to the schedule of Planning Section. From the meeting of Planning Section including Divisional Heads and Chief Manager, the final proposed budget for the Head Office is prepared and forwarded to the Budget Department of Kathmandu office within the first week of Asad.

Similarly the Regional office Tarahara, where the organization has established mini-plant, also prepares proposed budget for the coming Fiscal Year. The Budget Section of this Regional office demands the target of works and estimated amount of expenditure from Depot offices working under this Regional office. Once, the budget of Depot offices collected by Regional office, the Chief of the Regional office calls meeting at the Heads of different Sections of Regional office and Heads of Depot offices. From that meeting they prepare the estimated budget for the Regional office and forwarded to the Budget section of the Kathmandu office within first week of Asad.

Same process of preparing estimated budget for the coming Fiscal Year is followed by Kathmandu office also.

In this way the Budget section of Kathmandu office collects the proposed budget of Head office, Regional offices and Sales Depots. Once these budgets are collected, the Budget Section makes review of all the proposed budgets. This review works are performed jointly with the Budget Department of Attaria office. Now they

prepare the budget for the institution as a whole by accommodating the proposed budget of Head office, Kathmandu office, Regional office and Sales Depots.

Once, the Budget Section of Kathmandu office prepares the final proposed budget for the institution then it is presented in the meeting of the Board of Directors of this institution. The Board members see the different aspects of the budget, make discussion and may make certain change if they feel necessary. From the meeting of the Board of Directors the final budget for the institution is approved, which is to be implemented throughout the budget year.

#### **4.8 Royal Drugs Limited**

Royal Drugs Limited is situated at Babar Mahal in Kathmandu. RDL is established in 2029 B.S. in the Public sector as an undertaking of HMG of Nepal. The institution has its beginning in plans which formulated a program for the production and marketing of some medicines by Royal drugs research laboratory within the Department of Medicinal Plants, Ministry of Forest. Later, a separate production unit under the same laboratory was created with the help of technical assistance of the British Government in the form of expertise and equipment.

After a successful trial period of four years in the manufacture and marketing of pharmaceuticals, the production unit was converted into a company in accordance with Company Act of 2021 B.S.

The main aims & objectives of Royal Drugs Limited have been put as follows:

- (1) To produce and distribute safe, efficacious and quality medicine in a reasonable fair price in a way that will lead the country towards self-sufficiency in essential drugs.
- (2) To produce new varieties of medicines as per the market demand and deliver them in time.
- (3) To help the other local industries by using their products in production and packing areas.

The present objective of RDL is self-sufficiency on Drugs and Pharmaceuticals through quality production and distribution at a reasonable price all over the country.

Royal Drugs Limited produces and markets 30 clinical groups of medicines that consist of 70 preparations in 92 varieties in the form of Tablets, Capsules, Powder, Liquids, Ointments and Injection fluids.

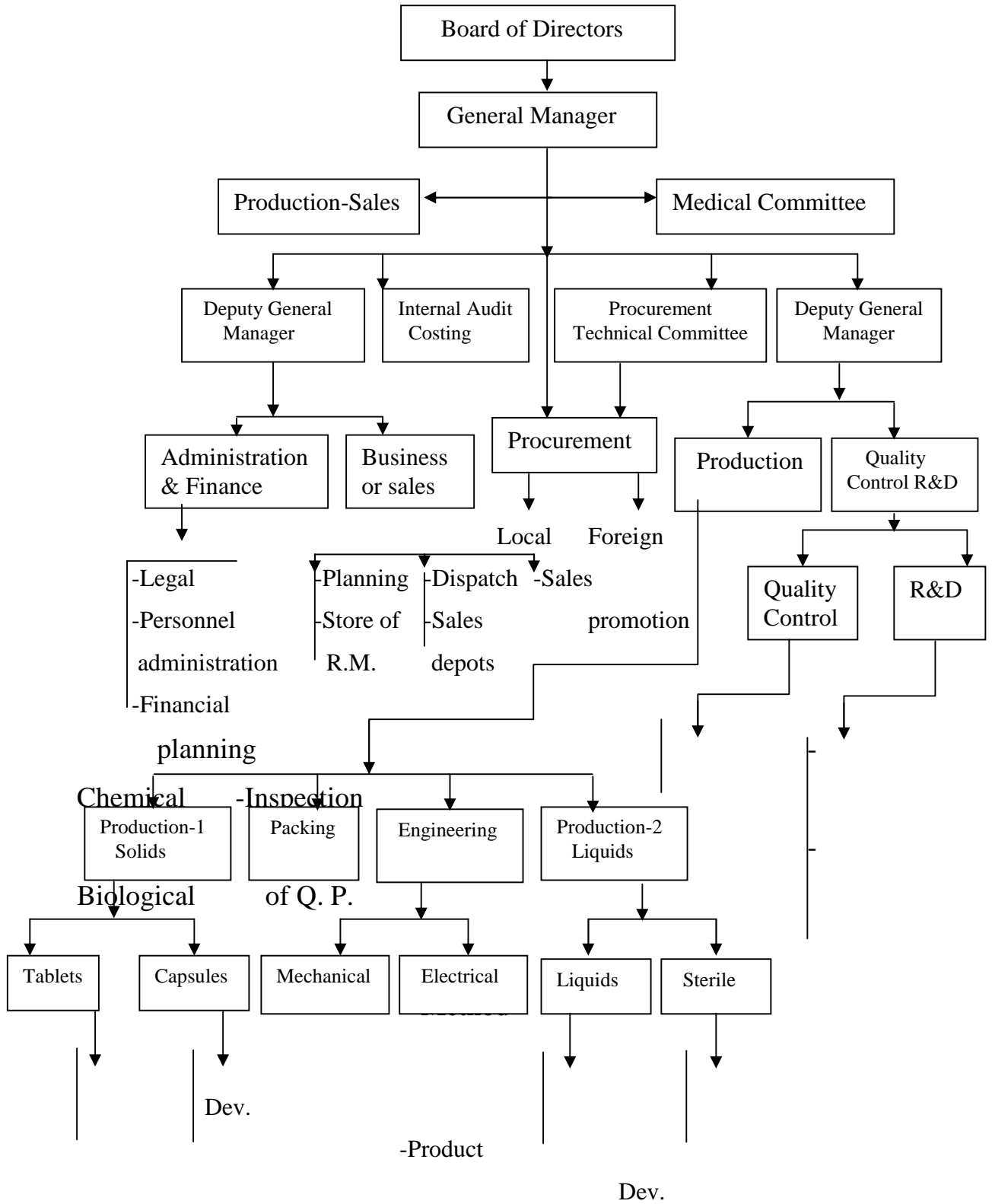
This organization comes under the administration of Ministry of Industry, Commerce and Supply.

#### **Organizational Structure**

Royal Drugs Limited, an enterprise of His Majesty's Government of Nepal, is a milestone in the pharmaceutical industry of the nation. There are 552 people working in this organization. As organization charts figure 15

**Figure-15**

**Organizational Chart of RDL**



-Ordinary	-Capsules	-Internal	-P.V.F.
-Coated	-Powder	-External	-ENT

**Source: Administration Department of RDL**

shows, the Board of Directors is the superior authority of the organization. General Manager is the administrative chief of the organization.

The General manager of the organization appoints two Deputy General Managers, one, for Administration & Finance Division and Business or Sales division and another for Production division and Quality control R&D division. For the management of Business or Sales division one Deputy Manager is appointed who see the management of raw materials and processed materials. Another Deputy Manager is appointed for the dispatch of sales and also to manage the Sales Depots.

The Production Division is divided into two parts i.e. Production of Solids and Production of Liquids called as Production-1 and Production-2 respectively. To manage the Production-1, a Deputy General Manager is appointed. This Deputy Manager manages the total production function of Tablets and Capsules and also sees the management of Liquids according to instructions provided by the Deputy General Manager of Production, Quality Control & Research and Development. Packing and Engineering departments are also come under the Production division of the organization.

Quality Control and Research & Development division is also divided onto two parts i.e. Quality Control department and Research and Development department. Quality control of medicinal products is regular and most essential work of this organization, so the organization has appointed a Deputy Manager to monitor the works of this department. The Research and Development department is divided into three parts. These are Inspection of Quality Products section, Method Development section and Product Development section. Actually the R&D department is created to make innovation about new product, new method or technique of production.

Besides these, there are other two departments working under direct leadership of General Manager. These are Internal Audit/Costing department and Procurement department. Procurement department is functioning according to the decisions made by the Procurement Technical Committee.

There is a Medical Committee formed by the General Manager of RDL. This committee is formed to provide advice to the General Manager about the organization as a whole.

Medicines of RDL are marketed through 60 stockiest appointed by the company. These stockiest supply medicines produced by RDL to retailers of respective areas covering all the 14 zones. As we know the stockiest have to supply their RDL product to the retailer of certain area identified or mentioned in the contract paper or agency certificates given by the institution. RDL has established a sales depot in Nepalganj with full storage facilities. Besides wholesale supply, RDL supplies medicines directly to various hospitals, institutions and foreign agencies through sales division.

Sales stockiest get trade and cash discount from the organization, on the basis of sales made by them. There is provision of overriding bonus to the stockiest if they make standard amount of sales declared by the RDL or according to the agreement made between stockiest and RDL. At the end of the fiscal year RDL pays all these amount of discount and bonus to the concerned parties.

The monitoring function of Sales of RDL products is performed by Sales Division time to time.

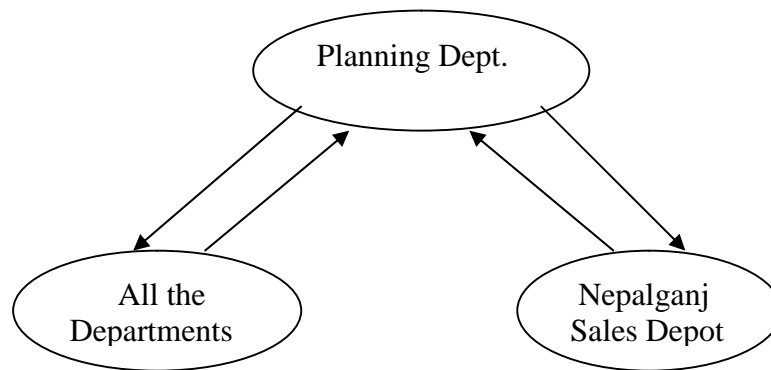
### **Budgeting Process**

The budgeting work of the organization as a whole is done by the Planning department of RDL. Planning department first issue a circular to all the Divisions of the organization and also to Nepalganj Sales Depot in the first week of the Jyestha month.

**Once the Production Division gets the circular for the preparing of budget then they call the meeting of whole Production divisions i.e. production-1 and 2. First they prepare the target of production volume. For this purpose they consult with Sales division. Sales division provides data of medicines sold**

Figure: 16

Budget cycle of RDL



**Source: Planning Department of RDL**

and also about the quantity of medicine sold. Sales division also provides the data about the demand of medicines either increased or decreased. From these data the Production division makes final estimate of production target. Once they determine the target of production then they make estimate of raw materials, chemicals, etc. and the total amount required for targeted production. In this way, from their meeting they prepare the budget for their Production department within the 1<sup>st</sup> week of Asad and forwarded to the Planning department through their Deputy General Manager. Similarly, the Quality Control and R&D division also calls the meeting of both separately and prepare target of their works and also determine the amount required to meet the targeted work. In this way, the budget of their separate sections are send to the Deputy G.M. then through G.M. the budget of Quality Control and R&D division is forwarded to the Planning department within the 1<sup>st</sup> week of Asad.

All other divisions and departments of the organization also call the meeting of their respective staffs and determine the target of their works and the amount required to meet their target. From their meeting they prepare budget of their respective divisions and departments and send to the Planning department within month of Asad.

Once the Planning department collected the budgets of different divisions and departments then they check the target of production and works of different divisions and departments and also their estimated expenditure jointly with Accounts or Finance division. Once they checked the budgets of all concerning divisions and departments then they prepare a budget of the organization as a whole by accumulating all the budgets of different divisions and departments within month of

Asad and forwarded to the meeting of the Board of Directors through General Manager. The Board members make review of the budgets and makes final of proposed budget after some modifications if they think necessary. The Board meeting approves the budget of the organization within first week of Shrawan and distributed to all divisions and departments of the organization for their implementation.

#### **4.9 Udaypur Cement Industry Limited**

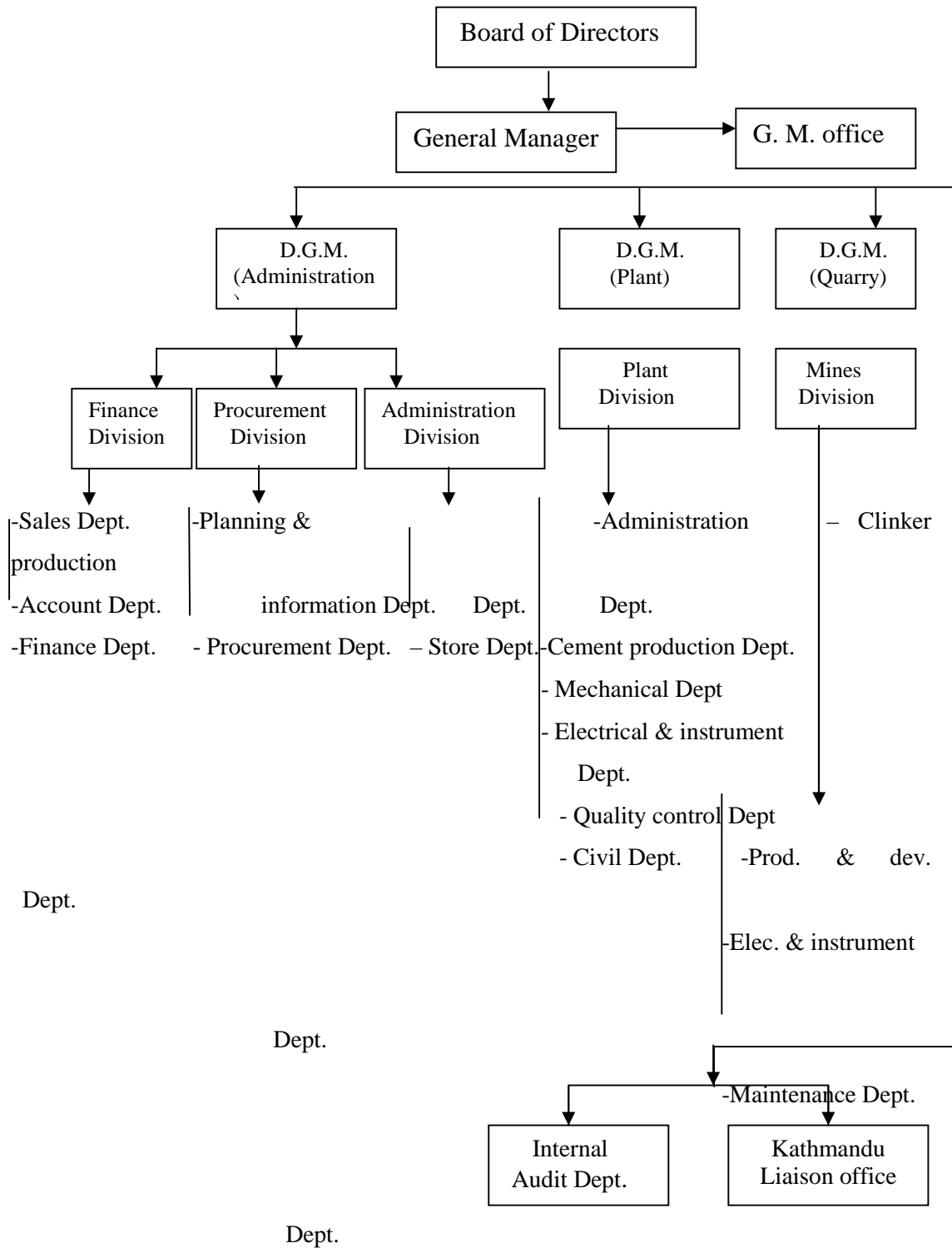
Udaypur Cement Industry is situated at Jaljale of Udaypur district in Sagarmatha Zone. It is established on 31<sup>st</sup> Jyestha 2044 B. S. and incorporated under Company Act of 2021 B. S. Now a day it is functioning under Company Act of 2053 B. S. This industry has started their function with basic authorized capital of 43000lakhs. The present objective of this institution is production, selling and distribution of cement. Udaypur Cement Industry limited comes under the administration of Ministry of Industry, Commerce and Supply.

##### **Organizational structure**

Udaypur Cement Industry is the largest cement factory of Eastern Region of Nepal. This organization has given employment of 617 people of our country Nepal. Among them 419 people are working as permanent staff, 167 people are working on monthly wage basis and rests 31 people are working on daily wage basis. As organizational chart figure 17 shows that the main production works are performed at Jaljale where the industry is situated. The basic raw material for

Figure: 17

Organizational Chart of UCIL



**Source: Administration Department of UCIL**

production of cement is collected from Sakura of Udaypur district. At Sakura there are big mines where the Quarry division is established by this industry. For Quarry division, a separate Deputy General Manager (Technical) is appointed, who has to perform their function under the direct control of General Manager of this industry.

General Manager appoints two more Deputy General Managers. These are Deputy General Manager of Administration and Deputy General Manager (Technical) of plant. There are three divisions functioning under direct leadership of DGM of Administration. These are Finance division, Procurement division and Administration division. There are three departments functioning under Finance division. These are Sales department, Accounts department and Finance department. Accounts department has responsibility of keeping records and preparing operating accounts. The Finance department has responsibility of preparing balance sheet.

Previously there were three Branch offices established by this organization. These Branch offices were functioning under direct control of General Manager of the organization. These were Kathmandu Branch office, Biratnagar Branch office and Birganj Branch office. The Branch office of Biratnagar and Birganj were established for custom clearance. This organization purchase Gipson as raw material for production of cement, which is brought from Rajasthan of India. Now a day both Branch offices are closed. The Kathmandu Branch office is converted into Liaison office.

The Plant division of this organization has to perform their function under direct control of Deputy General Manager of Plant division. There are number of departments functioning under Plant division. These are shown in the organization chart.

Sales department of Finance division performs the selling of their products. Cement is sold through authorized dealers. These authorized dealers are either government dealers or registered firms and trading houses.

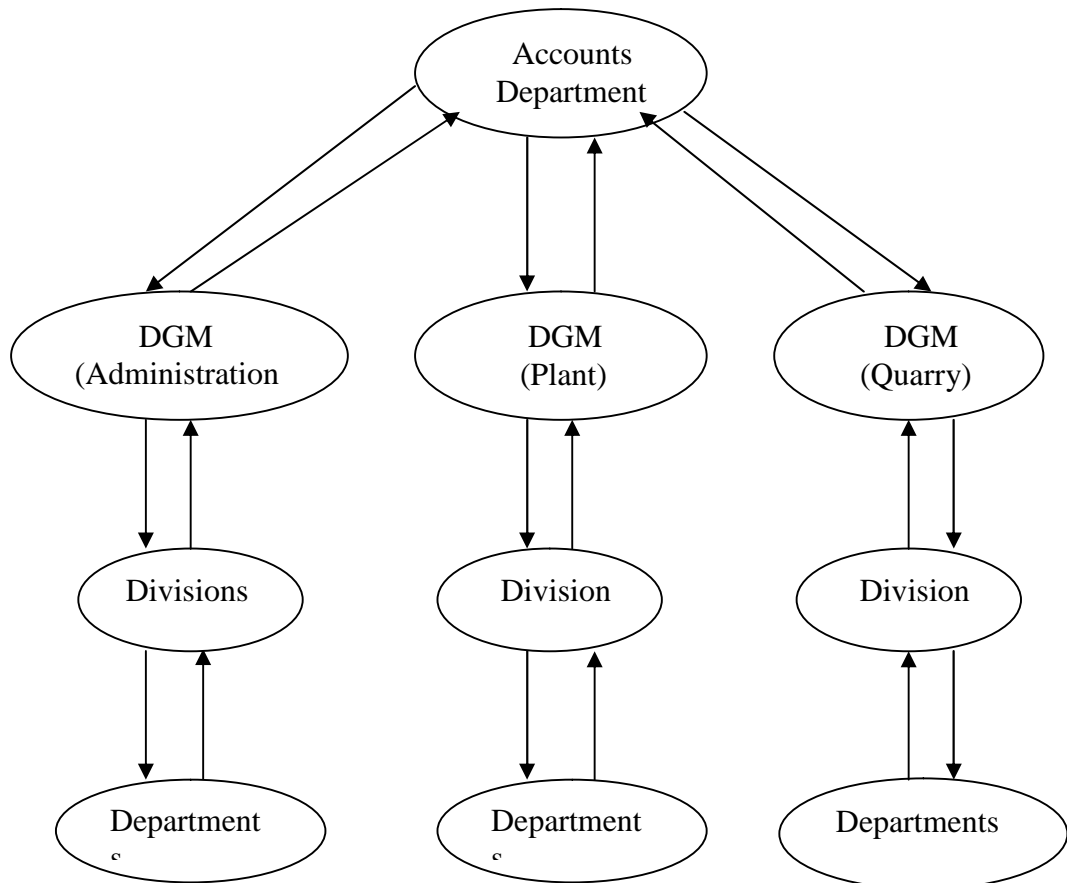
**Budgeting process**

Accounts department of Finance division prepares the annual budget of this organization. First of all Accounts department issue a circular to all divisions of the organization through concerned DGM in the month of Magh. Once this circular

received by concerned DGM then they inform their division or divisions within month of Falgun to prepare the budget for their division. Different divisions also have to inform their concerned department within month of Falgun to prepare their budget.

Figure: 18

Budget Cycle of UCIL



**Source: Planning Department of UCIL**

Once, the message for preparation of budget is conveyed to bottom level of the organization then the actual budget preparation work starts. When departments of all the divisions received information, then they call the meeting of their working member to make discussion about target of production or works of their own department and the amount required to meet their targeted production or works. From their meeting they make final proposed budget for their department and forwarded to concerned division within the month of Baishakh. Departments have to prepare their budget by showing details about the requirements in a specified way so that it will be

easy to make sanction by higher authority and be convincing. Once, the budget of departments received by concerned division then divisional head calls meeting of Heads of departments including DGM. They make discussion on budgets of different departments and makes final proposed budget for their division as a whole and forwarded to Accounts department through concerned DGM within 15<sup>th</sup> of Asad.

When Accounts department collected the budget of different divisions then they prepare budget for the organization as a whole by accumulating the budgets of all divisions. Once the final proposed budget for the organization as a whole is prepared by Accounts department then it is forwarded in the meeting of Board of Directors through General Manager. In Board meeting the member of the Board make discussion on budget and gives final approval of budget, which is to be implemented through out the coming fiscal year.

### **Summary**

All nine selected MPEs prepare annual budgets. The process and mechanism of preparing the budget are similar in all the MPEs. Generally, Planning Divisions or Departments of MPEs issues circular to all Divisions, Departments and Branch offices working in the organization. After that all Divisions, Branch offices, Departments have to inform their sub-units or units to prepare budgets for the coming fiscal years. On the basis of the circular, lower level units call a meeting of its staffs, and prepares target of works to be done and the amount of expenditure required to meet the targeted work. Once the budgets of Units are collected by Departments and the budgets of Departments by Divisions, they prepare the budget for their own Division by accumulating the budgets of their Units and Departments and forward it to the planning division through respective higher authorities. The final proposed budget of the organization is prepared by planning division or department by accumulating the budgets of all divisions calling a meeting of all divisional heads. The final proposed budget of the organization is forwarded to the meeting of the Board of Directors through Chief Executive or General Manager of the organization. This meeting approves the final proposed budget of the organization through discussion made on different aspects of budget by the Board members, which is to be implemented throughout coming fiscal year.

## CHAPTER- 5

### ASSESSMENT OF OPERATIONAL AND BEHAVIOURAL ANALYSIS OF MANUFACTURING PUBLIC ENTERPRISES

The basic objectives of the study are to make a survey of patterns and process of revenues budgets, examine the budgeted and actual production, sales, incomes and expenditures of budgets on the financial performance, and have an insight into the behavioral implications of the budgets in the manufacturing public enterprises. In order to achieve the objectives of the study, the previous chapter (chapter 4) has already dealt with the survey of the patterns and process of the budgets in the selected manufacturing public enterprises. In this chapter, however, an attempt has been made to present and analyze the data collected from different sources for achieving the rest of the objectives of the study. This chapter is, therefore, divided into two parts.

- (i) The analysis of operational aspect, and
- (ii) Behavioral analysis

#### **5.1 Analysis of Operational Aspects**

Since one of the main objectives of this study is to examine the effectiveness of revenue budgets of the selected manufacturing public enterprises. For this purpose, it is necessary to evaluate the budgeted and actual sales, production, incomes and expenditures. In order to do so, first, the necessary data have been collected from secondary source i.e." Targets and Performances of PEs" published by Ministry of Finance, and then the data are processed and presented in separate tables for the purpose of their analysis. The presentation and analysis of these data begins with the budgeted and actual production followed by sales, income and expenditures. The analysis of data has been made with the help of appropriate statistical tools like mean, coefficient of variation and trend- line equation and factor analysis. For the purpose of paired sample tests budgeted and actual figures of production, sales, incomes and expenditures are compared by using statistical tools like mean, c.v. standard error of paired differences, student's t-test, correlation and coefficient of determination. The purpose of such analysis is to look into the performance of the enterprises in achieving the targets of production, sales, total incomes and expenditures. Secondly, financial ratios of the manufacturing public enterprises under study have been

analyzed to assess their financial performance. The financial performance analysis has been done using different statistical tools like mean, c.v., multiple regression analysis. Besides these, factor analysis has also been made to identify the principal components contributing to the performance of manufacturing public enterprises under study.

The following tables headed by 5.1 to 5.66 are exhibited respectively under each head of respective manufacturing public enterprises selected for the study. These tables are:

- (i) Budgeted and Actual Production.
- (ii) Paired sample test of Budgeted and Actual Production.
- (iii) Budgeted and Actual Sales, Total Incomes and Expenditures.
- (iv) Paired sample test of Budgeted and Actual Sales, Total Income and Expenditure.
- (v) Financial Ratios,
- (vi) The tables of Factor Analysis.
- (vii) Comparative chart of Operational and Behavioural analysis of MPEs.

### 5.1.1 Agro-lime Industry Limited

Table - 5.1

#### Budgeted and Actual Production of ALIL during 2049-2058 B.S.

Fiscal Year	Fiscal Year	Agro lime, chemical limestone, lime-surkhee, colors lime.		Variation (in m.ton)
		Budgeted (m. ton)	Actual ( m.ton)	
	$X_1$	$X_2$	$X_3$	$X_3 - X_2$
1992/93	2049/50	.	16860.00	- 474
1993/94	2050/51	17400.00	16926.00	- 4462
1994/95	2051/52	23400.00	18938.00	- 248
1995/96	2052/53	19500.00	19252.00	- 4624
1996/97	2053/54	18850.00	14226.00	- 13770
1997/98	2054/55	24950.00	11580.00	- 7325
1998/99	2055/56	19600.00	12275.00	13721
1999/2000	2056/57	9968.00	23689.00	0
2000/01	2057/58	29550.00	29550.00	
2001/02	2058/59	25350.00	.	
Mean		20952.00	18144.00	
C.V.		27.04%	31.34%	
Trend line equation		$X_2 = -$ 1072324+532.3 ( $x_1$ )	$X_3 = -$ 1694434+834. 183( $x_1$ )	

(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).

Table 5.1 shows the budgeted and actual quantity of production of Agro-lime Industry limited for the study period of ten years from fiscal year 1992/93 to 2001/02. As ALIL manufactures products like agro-lime, chemical limestone, lime and surkhee and colour lime. The table reveals that their budgeted productions have significantly varied during the period of study. As it can be seen in the table, the highest production i.e. 29550mt. is budgeted for fiscal year 2000/01 and the lowest production i.e. 9968mt for fiscal year 1999/2000, averaging the budgeted production of 20952mt during the period of study. On the other hand, the actual production of the industry

varied between the highest of 29550mt in 2000/01 and the lowest of 11580mt in 1997/98, averaging out at 18144mt. The difference between budgeted and actual production of ALIL ranges between negative differences of 13721mt (i.e. – 13721) to positive differences of 13770mt (i.e. + 13770). The analysis of budgeted and actual production shows that there has always been a deviation between budgeted and actual quantity of production except the year 2000/01.

The coefficient of variation of budgeted and actual quantity of production are showing lower degree of variation so that both mean values are representing properly about the series of budgeted and actual quantity of production. But, the higher percentage of c.v. of actual production depicts that there is lesser degree of uniformity in actual quantities of production in comparison of budgeted production quantities during the period of ten years.

The trend line equations are showing positive growth in the budgeted and actual quantity of production but the actual quantity of production is increasing by higher amount than the budgeted quantities during the period of study.

The above analysis reveals that the organization is trying to achieve their target of production.

**Table 5.2****Paired sample test of Budgeted and Actual production of ALIL.**

Pair	Paired differences			t	d.f	Sig. 2tailed	Result at 5% S. L.	R <sup>2</sup>	r	Sig. 2tailed	Result at 10% S.L.
	Mean	c.v.%	S.E.								
Budget & Actual	2097.75	372.34	2761.5	0.76	7	0.472	N. S.	0.0174	0.132	0.755	N.S.

[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantity of production of Agro lime.]

Table 5.2 exhibits that the average difference between budgeted and actual quantity of production of agro lime is 2097.75 m. ton. The c.v. value of paired differences is 372.34 percent which reveals the fact that this mean value is varying by 372.34% from paired difference of different fiscal years. Since it is showing very much higher degree of variation, so that this mean value is not representing properly about the series of paired differences of budgeted and actual quantity of production and it is concluded that there is very much lesser degree of uniformity in the budgeted and actual quantity of production in this industry.

The tabulated value of 't' at 5% level of significance for 7 d.f. is 2.37. Since the calculated value of 't' is less than the tabulated value so that the result is not significant. It means the null hypothesis is accepted which shows that there is no significant difference between budgeted and actual quantities of production at 5% level of significance.

The value of r<sup>2</sup> shows the fact that only 1.7 percent of variation in actual quantity of production of agro lime is due to budgeted quantity of production and rest 98.3 percent of variation in actual quantity of production is due to other factors or vice versa (i.e. only 1.7 percent of variation in budgeted quantity of production of ALIL is due to actual quantity of production and rest 98.3 percent of variation in budgeted quantity of production is due to other factors).

The value of r shows that there is lower degree of positive correlation between budgeted and actual quantity of production of different fiscal years. It means when budgeted quantity of production is increased by one m. ton, the actual production quantity will also increase by 0.13m.ton. This value of r is not significant at 10 percent level of significance.

**Table No 5.3**

Budgeted and actual Sales, Total operating income & expenditure of Agro-lime industry during 2049 to 2058 B.S.

Fiscal Year	Fiscal Year $X_1$	Sales (m. ton)		Total operating income (Rs. in Lakh)		Total operating expenditure (Rs in Lakh)	
		Budgeted	Actual	Bud.	Act.	Bud.	Act.
		$X_2$	$X_3$	$X_4$	$X_5$	$X_6$	$X_7$
1992/93	2049/50	.	17716.00	.	114.78	.	124.79
1993/94	2050/51	17600.00	17075.00	125.00	137.28	125.00	135.62
1994/95	2051/52	23400.00	17841.00	178.60	128.82	172.65	171.15
1995/96	2052/53	19500.00	18494.00	172.52	128.40	178.98	198.56
1996/97	2053/54	18850.00	17512.00	192.95	181.00	197.48	185.10
1997/98	2054/55	24950.00	10261.00	269.12	153.00	286.66	166.00
1998/99	2055/56	19300.00	11940.00	215.00	77.00	227.00	121.00
1999/2000	2056/57	9968.00	23368.00	200.00	228.00	159.00	243.00
2000/01	2057/58	29550.00	29550.00	380.00	219.00	377.00	275.00
2001/02	2058/59	25350.00	.	310.00	.	303.00	.
Mean		20940.89	18195.22	227.02	151.92	225.2	180.02
C.V.%		27.03	31.32	34.76	32.44	36.13	29.22
Trend line equation		$X_2 = -1034678 + 513.93(X_1)$	$X_3 = -1561930 + 769.67(X_1)$	$X_4 = -48425.7 + 23.69(X_1)$	$X_5 = -20720.2 + 10.17(X_1)$	$X_6 = -44778.3 + 21.91(X_1)$	$X_7 = -26855.2 + 13.17(X_1)$

(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).

Table 5.3 reveals that the average budgeted quantity of sales of Agro Lime Industry is 20940.89mt, during 10 years of study. This mean value is varying by 27.03 percent from budgeted quantities of sales of different fiscal years. The trend line equation shows positive growth rate of 513.93 m. ton per year with value of constant.

The average actual quantity of sales is 18195.22 m. ton per year. This mean quantity is varying by 31.32 percent from the actual quantity of sales of different fiscal years. The trend line equation reveals the positive growth rate of 769.67m.ton per year with the value of constant.

The above analysis of budgeted and actual quantity of sales reveals the fact that the organization is trying to achieve their targeted sales.

The average budgeted total operating income of the organization is Rs.227.02 lakh during 10 years of magnitude. Since there is lower degree of variation shown by c.v. value, this mean value is representing properly about the series of budgeted total operating income. The trend line equation shows increment of 23.69lakh per year with value of constant.

The mean value of actual total operating income is Rs.151.92 lakh. The c.v. value shows that this mean value is varying by 32.44% from the other items of the series. The trend line equation reveals increment of total actual operating income by Rs.10.17lakh per year with value of constant.

The above analysis of budgeted and actual total operating income depicts that there is greater differences between budgeted and actual total operating income which is not favourable sign for the organization.

The average budgeted total operating expenditure is 225.2lakh. This mean value is varying by 36.13 percent from other items of the series. The trend line equation shows that there is positive increment of Rs.21.91lakh per year with the value of constant.

The mean actual total operating expenditure is Rs180.02lakh during 10 years .The c.v. value reveals lower degree of variation. So, we conclude that the mean value is representing properly about the series. The trend line equation shows positive growth rate of Rs.13.17 per year with value of constant.

The above analysis of budgeted and actual total operating expenditure reveals the fact that average actual total operating expenditure is less than budgeted one but

the growth rate of actual operating expenditure is high in comparison of actual total operating income which is not good sign for the organization.

**Table No. 5.4**

**Paired sample test of budgeted and actual Sales, Total operating income and Total operating expenditure of ALIL**

Pair	Paired difference		t	d.f.	Sig. (2tailed) at 5% s.l.	Result	r <sup>2</sup>	r	Sig. (2tailed) at 10% s.l.	Result
	Mean	C.V.%								
X <sub>2</sub> -X <sub>3</sub>	2134.63	374.36	0.76	7	0.475	N.S.	0.009	0.096	0.822	N.S.
X <sub>4</sub> -X <sub>5</sub>	60.09	117.79	2.40	7	0.047	Sig.	0.206	0.454	0.259	N.S.
X <sub>6</sub> -X <sub>7</sub>	28.54	256.07	1.11	7	0.306	N.S.	0.218	0.467	0.243	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantity of sales, amount of total operating income, and total operating expenditure.]**

Table 5.4 reveals that the mean paired difference between budgeted and actual sales quantities is 2134.63m.ton. The c.v. value shows that the mean value of paired differences of sales is varying by 374.36 percent from paired differences of sales of different fiscal years. Since there is very much higher degree of variation, this mean value is not representing properly about the series. The tabulated value of 't' at 5% level of significance for 7 d.f. is 2.37 . Since the calculated value of 't' is less than the tabulated value, the null hypothesis is accepted and the result is not significant. It means, there is no significant difference between budgeted and actual quantity of sales of different fiscal year. The value of r<sup>2</sup> reveals the fact that only0.9 percent of variation in actual quantity of sales is due to budgeted quantity of sales and rest 99.1 percent of variation in actual quantity of sales is due to other factors or vice versa. The value of r is 0.096 which shows that there is lower degree of positive correlation between budgeted and actual quantity of sales of different fiscal years and it is not significant at 10% level of significance.

The average paired difference of budgeted and actual total operating income is Rs.60.09lakh. Since this mean value is varying by 117.79% from the paired

differences of different fiscal years, it is not representing properly about the series of paired differences of total operating income .The tabulated value of  $t_{0.05}$  is 2.37 for 7 d.f. Since calculated value of 't' is 2.401 which is more than the tabulated value, the null hypothesis about total operating income is rejected and the result is significant .It means that there is a significant difference between budgeted and actual amount of total operating income. The value of  $R^2$  shows that approximately 21percent of variation in actual total operating income is due to budgeted amount of operating income and rest 79 percent of variation in actual operating income is due to other factors or vice-versa.

The mean paired difference of budgeted and actual operating expenditure is Rs.28.54lakh. The c.v. value shows that this mean value is varying by 256 percent from the paired differences of different fiscal years. Since there is higher degree of variation shown by c.v., we conclude that this mean value is not representing properly about the series. The calculated value of  $t_{0.05}$  for 7 d.f. is less than the tabulated value .So that the null hypothesis about total operating expenditure is accepted and the result is not significant .It means there is no significant differences between budgeted and actual value of different fiscal years.

**Table No.-5.5**

**Financial Ratios of Agro-lime industry Limited**

F.Y.	ROS (%)	RONC E (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs lakh)	OP (Rs. lakh)	NP (Rs. lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-9.50	-13.33	2.70	1.61	70.22	.19	108.00	5.72	1.12	-10.91	-10.91
2050	1.20	1.99	3.27	1.72	37.26	.16	98.00	6.24	1.29	1.66	1.66
2051	-32.85	-51.00	3.36	2.46	30.37	.13	132.85	5.92	1.21	-42.33	-41.86
2052	-54.64	-95.42	3.24	.82	79.74	.14	154.00	4.23	.76	-70.16	-10.16
2053	-2.20	-5.88	4.64	1.14	54.70	.42	102.21	7.24	1.06	-4.00	-4.00
2054	-8.49	-43.33	4.14	.89	64.05	1.31	108.50	11.07	1.61	-13.00	-13.00
2055	-57.14	-12.39	.38	1.41	153.25	3.57	157.14	8.76	.82	-44.00	-65.00
2056	-6.57	-60.00	7.13	.23	46.49	.40	106.58	9.13	2.43	-15.00	-13.00
2057	-25.57	-82.35	7.30	.20	53.42	.20	125.57	8.24	2.33	-56.00	-43.00
Mean	-21.75	-40.19	4.02	1.16	65.5	0.72	121.43	7.394	1.4	-28.19	-22.14
C.V(%)	101.98	87.06	53.7	62.9	55.5	156.08	18.35	28.54	43.57	90.13	100.9
Multi. Regre.	(a)= 59.53	(b)= 0.41	(b)= 1.01	(b)= 3.72	(b)= 0.15	(b)= 17.1	Beta in 'a'	(b)= 5.84	(b)= 8.07	Beta in 'a'	(b)= 0.28
Predi- ctors model	$X_1 = -59.53 + b.X_{11} + b.X_9 + b.X_2 + b.X_8 + b.X_4 + b.X_5 + b.X_6 + b.X_3$										

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.5 shows that the average return on sales is –21.75 percent during nine years. This negative return on sales reveals the fact that the institution is running on operating loss in an average during 9 years of magnitude. Only in the fiscal year 2050-51, the firm has earned operating profit. It is firm's inability to purchase at favourable terms and minimizing other overhead costs. The c.v. value shows that this mean value is varying by 43% from other items of the series.

The mean return on net capital employed is –40.19%. The negative return on net capital employed reveals the fact that the management of the institution is not efficient in utilization of their capital properly during 9 years and therefore, incurred operating loss. The standard deviation of the series is 34.99. So, the mean value is varying by –520% from other items of the series.

The average assets turnover ratio is 4.02, which seems to be satisfactory. It reveals the fact that the management is trying to utilize their existing plant capacity. But the organization should increase their ATR so that it can increase their production volume and reduce the cost of production. The standard deviation of ATR is 2.16. The mean ATR value is varying by 53.73% from other items of the series.

The average quick ratio of agro-lime industry is 1.16. It shows better liquidity position of the organization. This mean value is varying by 62.93% from the other items of the series.

The mean AOR is 65.5%. The general principal about this is that it should not exceed 6%. Here the administrative overhead is 11 times more than the general principal, which is bad signal for the organization. The c.v. value shows that this mean AOR is varying by 55.53% from AOR of different fiscal years.

The average debt-equity ratio of the organization is 0.72, which seems to be satisfactory. It reveals the fact that the institution is financially sound to pay their long-term debt. This mean DER is varying by 156.08% from the other values of different fiscal years.

The average operating cost of agro-lime industry is 121.43%, which is approximately 22% more than sales revenue. It reveals the fact that the organization is incurring operating loss of 22% of sales revenue, which is bad signal for the existence of the organization. This mean value is varying by 18.35% from operating cost percentage of different fiscal years. So, this mean value is representing properly about the series.

The average stock turnover ratio of agro-lime industry is 7.39, which seems to be satisfactory. The c.v. value shows the lower degree of variation so the mean value of STR is representing properly about the series.

The mean employee productivity ratio is 1.4lakh rupees per year during 9 years, which is not satisfactory. The institution has to increase their productivity ratio, which makes it financially strong. The c.v. Value shows moderate degree of variation so we conclude that the mean value is representing moderately about the series of EPR of different fiscal year.

This institution has mostly incurred operating losses. Among 9 years of magnitude, only in the fiscal year 2050-51, the firm has earned operating profit of 1.66lakh and rest in 8 years the firm has incurred operating loss up to 70lakh rupees.

The average operating loss incurred by the institution is Rs.28.19lakh per year. The standard deviation is 25.41lakh, which shows higher degree of variation. So, mean value is not representing properly about the series.

The average net loss of the organization is Rs.22.14lakh during 9 years of magnitude, which is bad signal for the existence of the institution. The standard deviation of mean is 22.34, which shows that mean value is not representing properly about the series.

The multiple regression model Y on X is shown in the table above. Here Y is ROS and rest other variables are X i.e. multiple independent variables. The value of constant 'a' is -59.53 and beta values are mentioned under respective head of variables. Beta values represent the rate of change of Y with respect to X with value of constant. Here, if there is one unit change in RONCE, the value of ROS will change by 0.41 with value of constant.

The predictor's model shows the formula for estimating the value of ROS for particular fiscal year by substituting the values of independent variables with their respective beta values.

### Factor Analysis

Table No: -5.6.1

#### Communalities

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.995
VAR00002	1.000	.941
VAR00003	1.000	.964
VAR00004	1.000	.736
VAR00005	1.000	.866
VAR00006	1.000	.989
VAR00007	1.000	.994
VAR00008	1.000	.905
VAR00009	1.000	.896
VAR00010	1.000	.988

VAR00011	1.000	.695
----------	-------	------

**Extraction Method: Principal Component Analysis.**

Table 5.6.1 shows the initial and extracted communalities of different variables. As we know that the proportion of variance accounted for by the common factors or the communality of variable is 1 for all the variables as shown in the table. The extraction communality is the value, which is sum of the squares of the loading assigned to the different components for each variable shown in the table no.5.5.

**Table No 5.6.2**

**Total Variance Explained**

Component	Initial			Extraction			Rotation		
	Eigenvalues	% of Variance	Cumulative %	Sums of Squared Loadings	% of Variance	Cumulative %	Sums of Squared Loadings	% of Variance	Cumulative %
1	4.816	43.785	43.785	4.816	43.785	43.785	3.674	33.397	33.397
2	3.008	27.347	71.132	3.008	27.347	71.132	3.182	28.930	62.327
3	2.145	19.504	90.636	2.145	19.504	90.636	3.114	28.310	90.636
4	.699	6.355	96.991						
5	.225	2.048	99.039						
6	6.211E-02	.565	99.604						
7	3.187E-02	.290	99.894						
8	1.171E-02	.106	100.000						
9	1.539E-16	1.399E-15	100.000						
10	-6.310E-17	-5.736E-16	100.000						
11	-5.032E-16	-4.575E-15	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.6.2 shows the final statistics for each factor. The total variance explained by each factor is listed in the column labeled as total initial eigen values. The next column contains the percentage of the total variance attributable to each factor. The last column, the cumulative percentage indicates the percentage of variance attributable to that factor and those that precede it in the table.

As table no.5.6.2 shows almost 91 percent of the total variance is attributable to the first three factors. The remaining 8 factors together account only 9% of the variance. Thus a model with three factors may be adequate to represent the data of financial ratios of agro-lime industry. The fourth factor is not taken into consideration because their variance is less than one which is no better than single variable. Since each variable has a variance of one. Therefore total variance of more than one should be taken into consideration.

**Table No. 5.6.3**  
**Rotated Component Matrix**

	<b>Component</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
VAR00001	.881	.257	-.391
VAR00002	.772	-.508	.294
VAR00003	6.388E-02	.864	-.461
VAR00004	.148	-.844	-5.038E-02
VAR00005	-.303	-.243	.846
VAR00006	-5.827E-02	-.131	.984
VAR00007	-.881	-.244	.398
VAR00008	.370	.638	.601
VAR00009	.148	.924	-.143
VAR00010	.990	-5.237E-02	-7.005E-02
VAR00011	.514	-2.723E-02	-.656

**Extraction Method: Principal Component Analysis. Rotation Method: Varimax  
with Kaiser Normalization.**

**Rotation converged in 8 iterations.**

Table 5.6.3 shows rotated component matrix, which reveals that the component first is positively correlated with ROS, RONCE, OP, and NP and negatively correlated with OCP. Thus component 1<sup>st</sup> might be interpreted as 'OPERATING LOSS'. The second component or factor is positively correlated with ATR, STR and EPR and negatively correlated with RONCE and QR, so this 2<sup>nd</sup> factor is described as 'PRODUCTIVITY'. The third factor is positively associated with AOR, DER and STR and negatively associated with NP. So this factor can be named

as 'OVERHEAD'. Thus the financial ratios of Agro-lime industry can be fairly well characterized by three factors Profit, Productivity, and Overhead.

### 5.1.2 Birganj Sugar Factory Limited

Table No: - 5.7

#### Budgeted and Actual Production of BSFL during fiscal year 2049- 2058 B.S

F. Y.	Sugar		Sprit Liquor	
	Budgeted (m. ton)	Actual (m. ton)	Budgeted (000 liters)	Actual (000 liters)
$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
2049- 50	N.A.	12161.00	N.A.	2526.00
2050- 51	12090.00	N.A.	2690.00	N.A.
2051- 52	10800.00	N.A.	1406.00	N.A.
2052-53	16200.00	15317.00	907.00	759.00
2053- 54	19800.00	15053.00	856.00	345.00
2054- 55	13500.00	7948.00	652.00	175.00
2055- 56	11040.00	9388.00	440.00	283.00
2056- 57	16030.00	13482.00	700.00	283.00
2057- 58	16200.00	8244.00	1096.00	266.00
2058- 59	13500.00		900.00	
Mean	14351.11	11656.14	1071.89	662.43
C.V.(%)	20.54	26.92	62.13	127.28
Trend line equation	$X_2 = -421782$ $+212.33(X_1)$	$X_3 = 1056551$ $-508.78(X_1)$	$X_4 = 306433.2$ $-148.67(X_1)$	$X_5 = 545491.2$ $-265.29(X_1)$

(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).

Table 5.7 exhibits the production budget of Birganj sugar factory limited. It reveals that the average budgeted quantity of production of sugar is 14351.11m.ton per year during 10 years. This mean value is varying by 20.54% from budgeted quantity of production of different fiscal years. The trend line equation shows the increment of 212.33m.ton per fiscal year with the value of constant.

The average actual quantity of production of sugar is 11656.14m.ton per year. This mean quantity is varying by 26.92% from the actual quantity of production of

sugar of different fiscal years. Since there is lower degree of variation shown by c.v. value, we conclude that both budgeted and actual mean value are representing properly about the series of production of sugar. The trend line equation of actual production quantity shows the negative growth rate of 508.78m.ton per fiscal year in average. It means the actual production quantity is decreasing by 508.78m.ton per fiscal year in average.

The above analysis reveals the fact that there is no co-ordination between budgeted and actual quantity of production. The budgeted quantity is increasing in average whereas actual quantity is decreasing by double amount in average, which shows that budgeting system is not, seems to be proper.

The average budgeted quantity of production of sprit and liquor is 1071.89 thousand liters. The c.v. value shows that this mean quantity of production is varying by 62.13% which reveals the fact that this mean value is not representing properly about the series. The trend line equation of budgeted production of sprit and liquor shows the negative growth rate of 148.67 thousand liters per year with the value of constant. .

The average actual quantity of production of sprit and liquor is 662.43 thousand litres. This mean value is varying by 127.28% from the actual production liquor of different fiscal years. So, this mean value is not representing properly about the series. The trend line equation shows the negative growth rate of 265.29 thousand litre per year with the value of constant.

The above analysis about the production of sprit and liquor show that budgeted quantity of production is very much higher than the actual quantity. It means that the management is not serious to meet their targeted quantity of production.

**Table No: - 5.8**

**Paired sample test budgeted and actual of production of BSFL**

Pair	Paired differences			T	d.f.	Sig.	Resul t at 5% S.I.	r <sup>2</sup>	r	Sig.	Result at10% S.I.
	Mean	c.v.%	S.E.								
X <sub>2</sub> -X <sub>3</sub>	3889.67	68.87	1093.6	3.6	5	0.016	Sig.	0.432	0.657	0.156	N.S.

X <sub>4</sub> -X <sub>5</sub>	423.33	60.01	103.7	4.08	5	0.010	Sig.	0.103	0.321	0.536	N.S.
--------------------------------	--------	-------	-------	------	---	-------	------	-------	-------	-------	------

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual production volume of sugar and sprit liquor.]**

Table 5.8 shows that the mean paired differences of budgeted and actual quantity of production of sugar is 3889.37 per year the c.v. value is 68.87%. It shows higher degree of variation. So, we conclude that this mean value is not representing properly about the series of paired differences of different fiscal years. The tabulated value of  $t_{0.05}$  for 5 d.f. is 2.57. Since the calculated value of  $t$  is more than the tabulated value, the null hypothesis is rejected and the result is significant. It reveals the fact that there are significant differences between budgeted and actual quantity of production of sugar. The value of  $r^2$  shows that 43.16% of variation in actual quantity of sugar is due to budgeted quantity of sugar and rest approximately 47% of variation is due to other factors or vice-versa. The value of  $R$  shows moderate degree of positive correlation between budgeted and actual quantities of production of sugar, which is not significant at 10% significance level.

The average paired difference between budgeted and actual quantities of production of sprit and liquor is 423.33 thousand liters per year. The mean value is varying by 60.01% from paired differences of different fiscal year. So that this mean value is not representing properly about the series. The tabulated value of  $t_{0.05}$  for 5 d.f. is 2.57 which is less than the calculated value of  $t$  so, the result is significant and null hypothesis is rejected. It means there is a significant difference between budgeted and actual quantities of production of sprit and liquor. The value of  $R^2$  shows only 10.3% of variation in actual quantities is due to budgeted quantities of production of sprit and liquor and rest 89.7% of variation is due to other factors. The value of  $r$  shows lower degree of positive correlation, which is not significant at 10% level of significance.

**Table No: - 5.9**  
**Budgeted and Actual sales of Birgunj sugar factory limited.**

F.Y.	SUGAR		SPRIT & LIQUORS	
	Budgeted (m.ton)	Actual (m.ton)	Budgeted (000 liters)	Actual (000 liters)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049/50	N.A.	25214.00	N.A.	2638.00
2050/51	12090.00	N.A.	2173.00	N.A.
2051/52	10800.00	N.A.	1305.00	N.A.
2052/53	21079.00	14194.00	687.00	726.00
2053/54	18900.00	8116.00	754.00	207.00
2054/55	16610.00	9460.00	652.00	177.00
2055/56	11500.00	12727.00	330.00	295.00
2056/57	16030.00	7579.00	650.00	289.00
2057/58	15500.00	13038.00	1026.00	176.00
2058/59	14000.00	.	300.00	.
Mean	15167.67	12904.00	875.22	644.00
C.V.(%)	22.74	46.54	66.01	139.73
Trend line equation	$X_2 = -130050 + 70.7(X_1)$	$X_3 = 3312149 - 1606.48(X_1)$	$X_4 = 303052.9 - 147.12(X_1)$	$X_5 = 575684 - 280.0(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

The table 5.9 shows that the average budgeted quantity of sales of sugar is 15167.67 m. ton per year. This mean value is varying by 22.74 % from budgeted sales of different fiscal years. The trend line equation shows increment in sales of 70.7 m. ton per year with value of constant.

The mean actual quantity of sales of sugar is 12904 m ton. This mean value is varying by 46.54% from the other items of the series. The trend line equation shows the negative growth rate of 1606.48 m .ton per year with value of constant.

The above analysis shows that the budgeted quantity is increasing by 70.7 m .ton per year where as actual quantity is decreasing by 1606.48 m. ton per year which

reveals the fact that there is no co-ordination between budgeted and actual quantity which arise question to the management about budgeting system.

The average budgeted quantity of sales of sprit and liquor is 875.22thousand liters. This mean value is varying by 66%from other items of the series .The trend line equation shows negative growth rate of 147.12 thousand liters per year with a constant value.

The average actual quantity of sales of sprit and liquor is 644.0 thousand liters .The c.v. value is 139.73 percent .It means there is higher degree of variation so that this mean value is not representing properly about the series .The trend line equation shows the negative growth rate of 280 thousand liters per year with value of constant.

The above analysis related to the sales of sprit and liquor shows that the management is not serious about the target of sales. Mostly we find that targeted quantity is double than the actual quantity, which arise question to budgeting department of the organization.

**Table No: - 5.10**

**Paired sample test of Budgeted and Actual of Sales of BSFL**

Pair	Paired differences			t	d.f.	Sig.	Result at 5% S.I.	r <sup>2</sup>	r	Sig.	Result at10% S.I.
	Mean	c.v.%	S.E.								
X <sub>2</sub> -X <sub>3</sub>	5750.83	75.94	1783.0	3.23	5	0.023	Sig.	0.0001	-0.031	0.953	N.S.
X <sub>3</sub> -X <sub>4</sub>	371.5	89.46	135.69	2.74	5	0.041	Sig.	0.031	-0.177	0.737	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual sales volume of sugar and sprit liquor.]**

Table 5.10 shows that the average paired difference of budgeted and actual quantity of sales of sugar is 5750.83m.ton. It means budgeted quantity of sales exceed actual quantity by 5750.83 metric ton in average which shows that management is not serious to achieve their targeted sales. Since this mean value is varying by approximately 76% from paired differences of different fiscal years. It reveals the fact that this mean value is not representing properly about the series. The tabulated value of t<sub>0.05</sub> for 5 d.f. is 2.57 which is less than the calculated value of ‘t’ and the result is significant. It means there is significant difference between and actual quantity of

sales of sugar and the null hypothesis is rejected. The value of  $r^2$  shows that only 0.09% of variation in actual quantity of sales of sugar is due to budgeted quantity of sales of sugar and rest 99.91% of variation in actual quantity of sales of sugar is due to other factors or vice-versa. The value of  $r$  shows the lower degree of negative correlation between budgeted and actual quantity of sales of sugar, which is not significant at 10% level of significance.

The mean paired difference of budgeted and actual unit of sales of sprit & liquor is 371.5 thousand liters. The c.v. Value shows the higher degree of variation i.e. 89.46%. It means that this mean value is not representing properly about the series of paired differences of budgeted and actual volumes of sales of sprit & liquor. The tabulated value of  $t_{0.05}$  for 5 d.f. is 2.57 which is less than calculated value of 't' which reveals the fact that there is significant differences between budgeted and actual volumes of sales of sprit & liquors of different fiscal years. Therefore, the null hypothesis is rejected and the result is significant. The value of  $r^2$  shows that only approximately 13% of variation in actual volumes of sales of sprit and liquors is due to their budgeted volumes of sprit & liquor and rest 87% of variation in actual volumes of sales is due to other factors or vice-versa. The value of  $r$  shows the lower degree of correlation between budgeted and actual volume of sales of sprit & liquor, which is not significant at 10% significance level.

**Table No. 5.11****Budgeted and Actual Total Operating Income and Expenditure of BSFL**

F.Y.	Total operating income		Total operating expenditure	
	Budgeted (Rs.lakh)	Actual (Rs.lakh)	Budgeted (Rs.lakh)	Actual (Rs.lakh)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049/50	.	4259.31	.	4350.92
2050/51	2238.37	1466.93	2236.94	1752.81
2051/52	3149.28	2666.86	2928.56	2714.71
2052/53	4740.34	3616.00	4491.29	3821.00
2053/54	4782.00	2074.00	4476.00	2189.00
2054/55	3672.00	2247.00	3947.00	2794.00
2055/56	3151.00	3256.00	3203.00	3920.00
2056/57	4248.00	2049.00	4201.00	2736.00
2057/58	3925.00	3105.00	4109.00	3228.00
2058/59	3385.00	.	4544.00	.
Mean	3698.99	2748.9	3792.98	3056.27
C.V. (%)	22.3	32.19	21.51	27.8
Trend line equation	$X_2 = -143436 + 71.63(X_1)$	$X_3 = 107511.8 - 51.03(X_1)$	$X_4 = -369897 + 181.93(X_1)$	$X_5 = 8480.64 - 2.64(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.11 reveals that the average budgeted total operating income of the Birganj sugar factory limited is Rs.3698.99lakh per year during 10 years of time. The mean value is varying by 22.3% from the budgeted total operating income of different fiscal years. Since there is lower degree of variation shown by c.v., so this mean value is representing properly about the series of budgeted operating income. The trend line equation shows the increment of total budgeted operating income by 71.63lakh rupees per fiscal year with a constant value.

The average actual operating income of BSFL is Rs.2748.9lakh. This mean value is varying by 32.19% from actual operating income of different fiscal years.

The trend line equation shows the negative growth rate of 51.03% per year with value of constant.

The above analysis related to budgeted and actual total operating income shows that there is a great difference between budgeted and actual figures of operating income. It means the budgeting system seems to be ambitious or the management is not serious to achieve their target.

The average budgeted total operating expenditure of BSFL is Rs.3792.98lakh. This mean value is varying by 21.51% from the budgeted operating expenditure of different fiscal years. Since there is lower degree of variation shown by the c.v. Value this mean value is representing properly about the series. The trend line equation shows that the budgeted total operating expenditure is increasing by Rs.181.93lakh per year with the value of constant.

The mean actual total operating expenditure is Rs.3056.27lakh during 10 years of time. Since, the c.v. Value of 27.8% shows lower degree of variation so that this mean value is representing properly about the series. The trend line equation shows the negative growth rate of Rs.2.64lakh per year with the value of constant.

The above analysis related to total operating expenditure reveals the fact that the actual operating expenditure is decreasing but this ratio is very much low in comparison of actual operating income. In other words, actual operating income is decreasing by 51.03% whereas actual operating expenditure is decreasing only by 2.64%, which is not favourable sign for the organization.

**Table No: - 5.12**

**Paired sample test of Budgeted and Actual of Total operating income & expenditure of BSFL**

Pair	Paired differences			t	d.f.	Sig.	Result at 5% S.I.	r <sup>2</sup>	r	Sig.	Result at 10% S.I.
	Mean	c.v.%	S.E.								
X <sub>2</sub> -X <sub>3</sub>	1178.15	77.73	323.78	3.64	7	0.008	Sig.	0.127	0.356	0.387	N.S.
X <sub>3</sub> -X <sub>4</sub>	804.66	110.61	314.7	2.56	7	0.038	Sig.	0.127	0.355	0.388	N.S.

[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual total operating income & expenditure of BSFS.]

Table 5.12 shows that the mean paired difference of budgeted and actual total operating income is Rs.1178.15lakh, which shows that management seems not to be successful in achieving their targeted operating income. The c.v. value shows higher degree of variation. So, this mean value is not representing properly about the series of paired differences of operating income of different fiscal year. The tabulated value of  $t_{0.05}$  for 7 d.f. is 2.37 which is less than the calculated value of 't' and the result is significant. Therefore, the null hypothesis is rejected. It means there is significant differences between budgeted and actual amount of total operating income of Birgunj sugar factory limited. The value of  $r^2$  shows that only 12.67% of variation in actual amount of total operating income is due to budgeted amount of operating income and rest 87.33% of variation is due to other factors or vice versa. The value of r reveals lower degree of positive correlation between budgeted and actual operating income, which is not significant at 10% significance level.

The average paired difference of budgeted and actual amount of total operating expenditure is Rs.804.66lakh. It means that the management is not successful in achieving their target. The c.v. value shows 110.61% variation which reveals the fact that this mean value is not representing properly about the series of paired differences. The tabulated value of  $t_{0.05}$  for 7 d.f. is 2.37 which is less than the calculated value of t. Therefore, the result is significant and null hypothesis is rejected. It means that there are significant differences between budgeted and actual amount of total operating expenditure of different fiscal years. The value of r shows lower degree of positive correlation between budgeted and actual amount of total operating expenditure of different fiscal year. This value of R is not significant at 10% significance level. The value of  $r^2$  shows that only 12.67% of variation in actual amount of total operating expenditure is due to budgeted amount of total operating expenditure and rest 87.33% of variation is due to other factors.

**Table No. 5.13**

**Financial Ratios of Birgunj sugar factory ltd.**

F.Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)	
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>	
2049	-2.15	-7.93	4.83	.95	N.A.	N.A.	104.43	4.60	10.12	-91.61	-64.12	
2050	-19.48	-34.66	1.70	.51	25.76	N.A.	119.49	4.20	3.18	-285.89	-251.24	
2051	1.80	4.36	3.41	2.36	17.76	.46	101.80	4.00	5.78	-47.87	-23.35	
2052	-5.66	-24.09	4.36	.48	11.81	1.01	105.66	4.81	3.20	-205.89	-174.56	
2053	-5.49	-4.39	2.75	1.19	21.89	2.69	105.51	1.26	2.73	-114.00	-87.00	
2054	-24.34	-28.29	3.29	.84	13.84	6.88	124.34	1.64	3.73	-547.00	-491.00	
2055	-20.39	-61.42	4.84	.81	13.79	4.54	120.39	5.43	5.87	-664.00	-624.00	
2056	-33.52	-38.96	3.12	.50	17.86	3.13	133.53	1.16	5.59	-687.00	-663.00	
2057	-3.96	-7.70	5.27	1.10	15.23	1.98	103.96	3.53	8.44	-123.00	-68.00	
Mean	-13.08	-22.93	3.86	1.04	16.03	2.96	113.6	3.12	5.05	-338.27	-304.42	
C.V. (%)	99.46	98.9	24.87	61.54	21.15	74.32	10.91	56.41	39.21	81.59	91.40	
Multi. Regre.	(a)= 19.43	-	Beta in 'a'	Beta in 'a'	(b)= 0.71	(b)= 0.57	(b)= 0.51	Beta in 'a'	(b)= 3.04	(b)= -0.34	Beta in 'a'	(b)= 0.8
Predi-ctors model	$X_1 = -19.43 + b.X_{11} + b.X_9 + b.X_5 + b.X_4 + b.X_6 + b.X_8$											

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.13 shows that the average return on sale is  $-13.08\%$ . It reveals the fact that this organization is running on operating loss during 9 years of magnitude. Only in the 2051 the organization has positive ROS of  $1.8\%$ . It is firm's inability to purchase at favourable terms and minimizing other overhead costs. The standard deviation of mean is  $13.01\%$ .

The average return on net capital employed is  $-22.93$  percent. This negative RONCE reveals the fact that the management is not efficient in utilization of their capital and therefore, incurred operating loss. The standard deviation of mean is  $22.68\%$ .

The mean asset turnover ratio is  $3.87$ , which is not satisfactory. It reveals the fact that management is not utilizing properly their existing plant capacity, which results in reduction of production volume and increase in cost of production. The mean ATR is varying by  $24.87\%$  from other ATR values of different fiscal year.

The average quick ratio of BSFL is  $1.04$  which reveals the fact that the organization is able to pay current liabilities immediately. The c.v. value  $61.54\%$  which shows moderate degree of variation. So, mean value of QR is moderately representing about the series.

The mean administrative overhead ratio of this institution is  $16.03\%$ . Since this value is more than  $6\%$  which is not favourable for the organization. So that firm should reduce their administrative overhead ratio. This mean value is varying by  $21.15\%$  from the other AOH ratio of different fiscal year.

The average Debt –equity ratio of BSF is  $2.96$ . It reveals the fact that the debt of the organization is three times more than their equity. It means this organization is not financially sound to repay their long term Debt. This mean value of DER is varying by  $74.32\%$  from other items of the series. So that this mean DER is not representing properly about the series.

The mean operating cost percentage is  $113.16\%$ . It reveals the fact that operating cost is more than sales revenue by  $13.16\%$  therefore the firm incurred losses, so that the firm can decrease their operating cost immediately. The c.v. value shows that there is lower degree of variation. So, the mean operating cost percentage is representing properly about the series.

The average stock turn over ratio is  $3.12$ , which seems to be proper or satisfactory. But excessive stock is not beneficial for the organization. This mean

value is varying by 56.4% from STR of different fiscal years. So, this mean value is moderately representing about the series.

The mean value of employee productivity ratio is 5.05 which does not seem to be satisfactory. So, the organization should have to increase this ratio to maximum extent. The mean EPR is varying by 39.21% from the EPR of different fiscal years.

The average operating loss of BSF is Rs.338.27lakh per year. The standard deviation of mean is 276.1lakh, which shows higher degree of variation. So, the mean value is not representing properly about the series.

The mean net loss of the organization is Rs.304.42lakh. The standard deviation of mean is 278.25lakh.

The multiple regression model Y on X is shown in the table. The dependent variables Y is ROS and rest other variable are independent variables X. The values of constant is shown as the value of 'a' and beta values are mentioned as 'b' separately under different independent variables. We can find the value of ROS when we substitute the value of constant and beta values with values different independent variables.

### Factor Analysis

**Table No: - 5.14.1**

#### Communalities

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.985
VAR00002	1.000	.908
VAR00003	1.000	.927
VAR00004	1.000	.684
VAR00005	1.000	.826
VAR00006	1.000	.616
VAR00007	1.000	.975
VAR00008	1.000	.849
VAR00009	1.000	.972
VAR00010	1.000	.982
VAR00011	1.000	.967

**Extraction Method: Principal Component Analysis.**

Table 5.14.1 shows the initial and extracted communalities of financial ratios of BSFL. Since, the proportion of variance of each variable is 1, known as initial communality. There are 11 variables. So, the total variance is 11 in the solution.

**Table No. 5.14.2**  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.799	52.716	52.716	5.799	52.716	52.716	5.750	52.274	52.274
2	2.829	25.723	78.439	2.829	25.723	78.439	2.656	24.146	76.420
3	1.063	9.665	88.104	1.063	9.665	88.104	1.285	11.684	88.104
4	.554	5.039	93.143						
5	.498	4.529	97.672						
6	.256	2.328	100.000						
7	7.954E-16	7.231E-15	100.000						
8	1.599E-16	1.454E-15	100.000						
9	4.581E-17	4.165E-16	100.000						
10	-2.524E-16	-2.294E-15	100.000						
11	-5.137E-16	-4.670E-15	100.000						

**Extraction Method: Principal Component Analysis**

Table 5.14.2 contains the final statistics which shows that almost 88% of total variance is attributed to first three variables or factors. The remaining 8 factors together account only 12% of variance. Thus a model with three factors may be adequate to represent the whole data of financial ratios of BSFL.

**Table No. 5.14.3**  
**Rotated Component Matrix**

	<b>Component</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
VAR00001	.979	.162	9.467E-03
VAR00002	.861	-.408	3.517E-02
VAR00003	6.003E-02	.864	.421
VAR00004	.675	-.308	.366
VAR00005	.258	-.866	.101
VAR00006	-.763	-.102	-.154
VAR00007	-.968	-.193	2.268E-02
VAR00008	.247	.876	.146
VAR00009	1.577E-02	.237	.957
VAR00010	.989	-4.555E-02	-2.294E-02
VAR00011	.982	-4.178E-02	-1.753E-02

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 5 iterations.**

Table 5.14.3 reveals the facts that component first is positively correlated with ROS, RONCE, QR, OP, NP and negatively associated with DER and OCP therefore, this component is named as 'OPERATING LOSS'. The second component is positively associated with ATR and STR but negatively associated with AOR so that it can be described as 'ASSETS UTILIZATION'. The third factor is positively correlated with EPR. Therefore; this factor might be interpreted as 'EMPLOYEE PRODUCTIVITY'. Thus the financial ratios of BSFL can be fairly characterized by three factors profit, assets and productivity.

### 5.1.3 Dairy Development Corporation

**Table No. 5.15**

**Budgeted and Actual Production of DDC During F.Y. 2049 to 2058 B.S.**

F.Y.	Milk		Butter, Ghee, Cheese, Skim milk power	
	Budgeted (000 liters)	Actual (000 liters)	Budgeted (M.ton)	Actual (M.ton)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049- 50	N.A.	52062.00	N.A	0.00
2050- 51	72367.00	56973.00	0.00	1682.00
2051- 52	79117.00	63134.00	3085.00	2017.00
2052-53	67896.00	68852.00	2954.00	2092.00
2053- 54	73340.00	72433.00	2452.00	2286.00
2054- 55	76282.00	71536.00	2490.00	2976.00
2055- 56	79969.00	67834.00	3148.00	2832.00
2056- 57	83493.00	70874.00	2986.00	2434.00
2057- 58	74132.00	68522.00	2842.00	2896.00
2058- 59	74172.00	.	2687.00	.
Mean	75640.89	65802.22	2830.5	2401.88
C.V.(%)	6.15	10.71	9.3	19.5
Trend line equation	X <sub>2</sub> = -954372 + 501(X <sub>1</sub> )	X <sub>3</sub> = - 4027435 +1993.8(X <sub>1</sub> )	X <sub>4</sub> = 29392.25 -12.93(X <sub>1</sub> )	X <sub>5</sub> = -327454 + 160.63(X <sub>1</sub> )

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.15 shows that the average budgeted quantity of production of milk is 75640.89 thousand lines. The c.v. value reveals that the mean budgeted production of milk is varying by 6.15% from the budgeted production quantity of different fiscal year. Since there is lower degree of variation, this mean value is representing properly about the series. The trend line equation shows increment of production of 501.47 thousand liter per year with the value of constant.

The average actual quantity of production of milk is 65802.22 thousand liters. The c.v. value shows lower degree variation. So we conclude that this mean value is representing properly about the series of actual quantity of production of milk of different fiscal year. The trend line equation reveals the fact that there is increment of actual production of milk by 1993.78 thousand liter per year.

The above analysis is evident that the actual quantity of production is increasing by 4 times the growth rate of budgeted production, which is favourable symptom for the organization. But it also shows that the management is not successful in achieving their target.

The mean budgeted quantity of production of Butter, ghee, cheese and skim powder milk is 2830.5 m. ton. This mean value is varying 9.3% from the budgeted production of different fiscal years. The trend line equation shows negative growth rate of 12.93 m. ton per fiscal year with value of constant.

The average actual quantity of production of butter, cheese, etc. is 2401.88 m. ton per fiscal year. This mean value is varying by 19.5% from the actual quantity of production of different fiscal years. The trend line equation shows positive growth rate of 160.63 m. ton per year with value of constant.

The above analysis related to budgeted and actual quantity of production of butter, ghee, cheese, skim milk powder reveals the fact that the management is not successful in achieving their targeted production. But the actual quantity of production of butter, cheese, etc. is increasing per year, which shows favourable symptom for the organization.

**Table No. 5.16****Paired sample test of Budgeted and Actual of production of DDC.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	r	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	8304.75	79.21	6578.2	3.57	7	0.009	Sig.	0.022	0.149	0.725	N.S
X <sub>4</sub> -X <sub>5</sub>	346.27	154.41	202.1	1.71	6	0.137	N.S.	0.055	-0.235	0.611	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual production volume of milk and butter, ghee, etc.]**

Table 5.16 reveals the fact that the mean paired difference of budgeted and actual quantity of production of sugar is 8304.7 thousand liters. This mean value is varying by 79.2% from paired differences of different fiscal year. Since there is higher degree of variation shown by c.v. value, this mean is not representing properly about the series. The tabulated value of  $t_{0.05}$  for 7 d.f. is 2.37 which is less than the calculated value of  $t$ . So, the result is significant and null hypothesis is rejected. It means that there is a significant difference between budgeted and actual quantity of production of sugar. The value of  $r^2$  reveals the fact that only 2.2% of variation in actual quantity of production sugar is due to budgeted quantity of production sugar and rest 97.8% of variation in actual quantity is due to other factors. The value of  $r$  shows higher degree of positive correlation between budgeted and actual quantity of production of sugar which is not significant at 10% level of significance.

The average paired difference of budgeted and actual quantity of production of butter, ghee, cheese, skim milk powder is 346.29 M. ton. The c. v. value of 154.41% shows very much higher degree of variation. So, we conclude that this mean paired difference is not representing properly about the series of paired differences of different fiscal years. The tabulated value of  $t_{0.05}$  for 6 d. f. is 2.45, which is more than the calculated value of  $t$ . So, the result is not significant and null hypothesis is accepted. It means that there are not significant differences between budgeted and actual quantity of production of butter, ghee, cheese and skim milk powder. The value of  $r^2$  shows that only 5.5% of variation in actual quantity of production of butter, cheese, etc. is due to budgeted quantity of production and rest 94.5% of variation is due to other factors or vice versa. The value of  $r$  reveals the fact that there is lower degree of negative

correlation between budgeted and actual quantity production of butter, cheese, etc. which is not significant at 10% level of significance.

**Table No. 5.17**  
**Budgeted and Actual Sales of DDC during 2049 to 2058 B.S**

F.Y.	Milk		Butter, Ghee, Cheese, Skim milk power	
	Budgeted (000 liters)	Actual (000 liters)	Budgeted (000 liters)	Actual (000 liters)
$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
2049- 50	N.A.	31956.00	N.A.	N.A.
2050- 51	50299.00	44419.00	N.A	958.00
2051- 52	50161.00	50269.00	1478.00	447.00
2052-53	52340.00	53218.00	1442.00	838.00
2053- 54	57622.00	56978.00	1416.00	1370.00
2054- 55	61452.00	55106.00	1416.00	1282.00
2055- 56	59282.00	54853.00	1470.00	1410.00
2056- 57	59880.00	56785.00	1363.00	927.00
2057- 58	60012.00	56476.00	1227.00	1135.00
2058- 59	62043.00	.	1309.00	.
Mean	57010.11	51117.78	1390.13	1045.88
C.V.(%)	8.36	16.11	6.2	30.77
Trend line equation	$X_2 = -3135899 + 1554.48(X_1)$	$X_3 = -4952522 + 2437.23(X_1)$	$X_4 = 59185.17 - 28.13(X_1)$	$X_5 = -127713 + 62.7(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.17 exhibits that the mean budgeted quantity of sales of milk is 57010.11 thousand liters. This mean value is varying by 8.36% from budgeted sales quantity of different fiscal year, which shows that this mean value is representing properly about the series. The Trend line equation shows positive growth rate of 1554.48 thousand liter per year with value of constant.

The average sales quantity of milk of DDC is 51117.78 thousand liters during 10 years of time. The c.v. value is 16.11% which shows lower degree of variation of

mean value from actual sales quantity of different fiscal years. The trend line equation shows positive growth rate of 2437.23 thousand liters of milk with value of constant.

The above analysis related to budgeted and actual quantity of sales reveals the fact that the management is not successful to achieve their targeted sales in average but the actual growth rate of sales of milk is higher than the budgeted one, which is favourable point for the organization.

The mean budgeted quantity of sales of butter, ghee, cheese and skim powder milk is 1390.13 M. ton during 10 years of magnitude. The c.v. value of 6.2% shows lower degree of variation. So, this mean value is representing properly about the series of budgeted sales of butter, cheese, etc. the trend line equation of budget sales of butter, cheese, etc. reveals the fact that the budgeted sales is decreasing by 28.13 M. ton per year with value of constant.

The average actual quantity of sales of butter, ghee, etc. is 1045.88 M. ton which is varying by 30.77% from the actual sales quantity of different fiscal year. Since there is lower degree of variation, this mean value is representing properly about the series. The trend line equation shows increment of 62.70 M. ton per year with value of constant.

The above analysis of budgeted and actual quantity of sales of butter, ghee, cheese, skim milk powder reveals the fact that the management is not successful to achieve their targeted sales in an average during 10 years of time. But actual quantity of sales is increasing where as budgeted quantity is decreasing, which shows that budgeting system of DDC, is proper. It means that budgeted quantity should be determined on the basis of actual quantity but they should always increase the actual quantity.

**Table No: - 5.18**

**Paired sample test of Budgeted and Actual sales of DDC.**

Pair	Paired differences			T	d.f.	Sig.	Result at5% s.l	r <sup>2</sup>	r	Sig.	Result at10% s.l
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	2868.0	94.98	963.05	2.98	7	0.021	Sig.	0.671	0.819	0.013	Sig.
X <sub>4</sub> -X <sub>5</sub>	343.29	108.02	140.16	2.45	6	0.050	Sig.	0.032	-0.18	0.699	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual sales volume of milk and butter, ghee, etc.]**

Table 5.18 shows that the average paired difference of budgeted and actual quantity of sales of milk is 2868 thousand liters. The C.V. value shows 94.98 % of variation. Since there is higher degree of variation, this mean value is not representing properly about the series of paired differences of budgeted and actual quantity of sales of milk. The tabulated value ' $t'_{0.05}$  for 7d.f is 2.37. Since the calculated value of  $t$  is greater than the tabulated value so that the result is significant and null hypothesis is rejected. It means that there are significant differences between budgeted and actual quantity of sales of milk of different fiscal years.

The value of  $r^2$  is evident of the fact that 67.1 % of variation in actual quantity of sales of milk is due to budgeted quantity of sales of milk and rest 33% variation in actual sales of milk is due to other factors or vice-versa. The value  $r$  depicts higher degree of positive correlation between budgeted and actual quantity of sales of milk, which is significant at 10% level of significance.

The mean paired difference of budgeted and actual quantity of sales of butter, ghee, cheese, skim milk powder is 343.29 m. ton. The mean value is varying 108.02% from the paired differences of different fiscal years. Therefore, this mean value is representing properly about the series of paired differences. The tabulated value of ' $t'_{0.05}$  for 6 d.f. is 2.45 which is lesser than the calculated value of  $t$  so that the result is significant and null hypothesis is rejected. It means that there are significant differences between budgeted and actual quantity of sales of butter, cheese, etc.

The value of  $r^2$  reveals the fact that only 3.2% of variation of in actual quantity of sales of butter, cheese etc. is due to budgeted quantity of sales and rest 96.8% of variation in actual sales is due to other factors. The value of  $r$  depicts lower degree of negative correlation between budgeted and actual quantities of sales of butter, cheese, etc. which is not significant at 10% level of significance.

**Table No. 5.19**  
**Budgeted and Actual Total Operating Income & Expenditure of DDC during 2049**  
**to 2058 B.S**

F.Y.	Total operating income		Total operating expenditure	
	Budgeted (Rs. Lakh)	Actual (Rs. Lakh)	Budgeted (Rs. Lakh)	Actual (Rs. Lakh)
$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
2049- 50	N.A.	6824.00	N.A.	6873.00
2050- 51	9092.00	8452.00	9033.00	8388.00
2051- 52	10035.00	8804.00	10498.00	8815.00
2052-53	10068.00	10538.00	10328.00	10736.00
2053- 54	12869.00	12741.00	12804.00	13183.00
2054- 55	13856.00	12782.00	14123.00	12714.00
2055- 56	14919.00	13874.00	14960.00	14128.00
2056- 57	15094.00	13484.00	15014.00	13743.00
2057- 58	15031.00	14848.00	15078.00	15350.00
2058- 59	16330.00	.	16909.00	.
Mean	13032.67	11371.89	13194.11	11547.78
C.V.(%)	20.42	24.71	20.34	25.6
Trend line equation	$X_2 = -1905472 + 934.03(X_1)$	$X_3 = -2027120 + 992.93(X_1)$	$X_4 = -1930301 + 946.2(X_1)$	$X_5 = -2129629 + 1042.95(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.19 reveals the facts that the average budgeted total operating income of Dairy Development Corporation is Rs.13032.67lakh. This mean value is varying by 20.24% from operating income of different fiscal years. The trend line equation shows positive growth rate of Rs.934.03lakh per year with value of constant.

The mean actual total operating income of DDC is Rs.11371.89 per year during 10 years of magnitude. This mean value is varying by 24.71%. Since there is lower degree variation shown by C.V. value, we conclude that the mean actual operating income is representing properly about the series. The trend line equation shows

increment of Rs.992.93lakh in actual operating income of DDC in average with value of constant.

The above analysis about budgeted and actual total operating income is evident that management is not successful in achieving their target operating income in average. But the positive growth rate is favourable for the benefit of the organization.

The average budgeted total operating expenditure of DDC is Rs.13194.11lakh during 10 years of magnitude. This mean value is varying by 20.34% from operating expenditure of different fiscal years .The trend line equation shows positive growth rate of Rs.946.2lakh per year with value of constant.

The mean actual operating expenditure of DDC is Rs.11547.78lakh. This mean value is varying by 25.6% from other actual operating expenditure of different fiscal years. The trend line equation reveals the fact that actual operating expenditure is increasing by Rs.1042.95lakh per year.

The above analysis related to total operating expenditure of DDC is evident that actual operating expenditure is increasing by higher amount than the budgeted one, which is not favourable symptom for the organization.

**Table No. 5.20**

**Paired sample test of Budgeted and Actual Total Operating Income & Expenditure budget of DDC.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	r	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	680.13	101.45	243.95	2.79	7	0.027	Sig.	0.925	0.962	0.00	Sig.
X <sub>4</sub> -X <sub>5</sub>	597.63	142.38	300.84	1.99	7	0.087	N.S.	0.889	0.943	0.00	Sig.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual amount of total operating income & expenditure.]**

Table 5.20 exhibits that the mean paired difference of budgeted and actual amount of total operating income is Rs.680.13lakh during 10 years of magnitude. The c.v. value shows that this mean value is varying by 101.40% from the paired differences of different fiscal years. So, it is not representing properly about the series of paired differences. The tabulated value of t<sub>0.05</sub> for 7 d. f. is 2.37 which less than the calculated value of 't' so the result is significant and the null hypothesis rejected. It means that there are significant differences between budgeted and actual amount of total operating income

of different fiscal years. The value of  $r^2$  reveals the fact that 92.5% of variation in actual amount of total operating income is due to budgeted operating income and rest 7.5% of variation is due to other factors or vice versa. The value  $r$  shows higher degree of positive correlation between budgeted and actual amount of total operating income, which is significant at 10% level of significance.

The average paired difference of budgeted and actual amount of total operating expenditure of 10 years of magnitude is Rs.597.63lakh. This mean value is varying by 142.38% from paired difference of different fiscal years. Since there is very much higher degree of variation, this mean value is not representing properly about the series of paired differences. The tabulated value of  $t_{0.05}$  for 7df is 2.37 which is greater than the calculated value of  $t$ . So, the result is not significant and the null hypothesis is accepted. It means that there not significant difference between budgeted and actual amount of total operating expenditure. The value of  $r^2$  reveals the fact that 88.9% of variation in actual amount of operating expenditure is due to budgeted amount of operating expenditure and rest 11.1% of variation in actual amount of operating expenditure is due to other factors. The value of  $r$  shows higher degree of positive correlation between budgeted and actual amount of operating expenditure, which is significant at 10% level of significance.

**Table No. 5.21**  
**Financial Ratios of Dairy Development Corporation**

F.Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-0.71	-1.58	2.44	.73	3.28	.23	100.00	13.15	5.49	-49.00	240.00
2050	.75	1.95	3.12	.73	2.76	.27	99.00	8.59	6.38	64.00	387.00
2051	-0.12	-0.17	2.06	1.67	2.70	.35	100.12	51.13	6.65	-11.00	107.00
2052	-1.87	-3.53	2.38	.91	3.53	.31	101.00	14.82	9.58	-198.00	169.00
2053	-3.46	-7.57	3.13	1.18	3.69	.43	103.47	9.07	10.90	-442.00	-318.00
2054	-0.53	-1.18	3.35	1.00	5.10	.39	99.47	6.72	11.04	68.00	-2.00
2055	-1.83	-4.58	3.81	.98	3.70	.40	101.83	7.44	11.98	254.00	-140.00
2056	-1.92	-4.86	3.93	.98	3.89	.42	101.92	7.15	5.82	-259.00	-217.00
2057	-3.38	-12.03	4.70	.70	4.47	.60	103.38	6.78	12.82	-502.00	-1060.00
Mean	-1.45	-3.73	3.21	0.99	3.68	0.38	101.13	13.87	8.96	-119.44	-92.67
C.V(%)	98.48	112.86	26.5	30.3	20.7	2.6	1.6	102.9	32.2	209.52	461.23
Multi. Regre.	(a)= 106.73	Beta in 'a'	(b)= 0.15	(b)= 1.38	(b)= - 0.68	Beta in 'a'	(b)= - 1.06	(b)= - 0.028	(b)= - 0.038	(b)= 0.00044	(b)= - 0.0013
Predi-ctors model						$X_1 = 106.73 + b.X_{11} + b.X_4 + b.X_5 + b.X_{10} + b.X_9 + b.X_8 + b.X_7 + b.X_3$					

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.21 reveals the fact that the average return on sales of DDC is  $-1.45\%$  per year. This negative return on sales shows that the organization is running on operating loss. Only in the year 2050 the ROS of this organization is positive, rest in 9 years it has incurred operating loss. It means the management of DDC is not able to purchase at favourable terms and minimizing other overhead costs. The standard deviation of mean is 1.43 percent. This mean value is varying by  $-2.2\%$  from other values of ROS.

The mean return on net capital employed is  $-3.73\%$  during 10 years of time. The negative RONCE reveals the fact that management is not efficient in utilization of their capital properly therefore incurred operating loss. The c.v. Value shows that this mean value is varying by % from RONCE of different fiscal years.

The average asset turnover ratio is 3.21 which does not seem to be satisfactory. It means the organization is not utilizing their existing plant capacity which results higher cost of production. This mean ATR is varying by 26.48 % from ATR of different fiscal years.

The mean quick ratio is 0.99, which is less than the ideal quick ratio. It reveals the fact that the organization can hardly pay their current liability immediately. It should be 1.1. The c.v. Value shows that the mean Q. R. is varying by 30.3% from Q. R. of different fiscal years.

The average administrative overhead ratio of DDC is 3.68 %. Since this mean AOR is less than the standard AOR of 6 % which is a good sign for the betterment of the organization. This mean AOR is varying by 20.65 % from AOR of different fiscal years.

The mean Debt-equity ratio is 0.38. It means the organization is financially very sound to pay their long term Debt. This mean value of DER is varying by 2.63% from DER of different fiscal years.

The average operating cost percentage of DDC is 101.13, which is 1.13 % more than the sales revenue. It means the cost of production is high, which is bad signal for the existence of the organization. This mean value of OCP is varying by 1.61% from OCP of different fiscal years.

The average stock turn over ratio of DDC is 13.87, which seems to be satisfactory. This mean STR is varying by 102.88% for STR of different fiscal years.

The mean employee turn over ratio is 8.96, which seems to be satisfactory. This mean value is varying by 32.14% from EPR of different fiscal years.

The average operating profit of DDC is –119.44. It means this organization is running on operating loss of Rs.119.44lakh per year during 9 years of time. It arise question to the existence of an institution. This mean OP is varying by % from OP of different fiscal years.

The average net loss of DDC is 92.67lakh during 9 years of magnitude, which also arise question for survival of the institution. This mean value of NP is varying by % from the NP of different fiscal year.

### Factor Analysis

**Table No. 5.22.1**  
**Communalities**

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.902
VAR00002	1.000	.978
VAR00003	1.000	.798
VAR00004	1.000	.927
VAR00005	1.000	.763
VAR00006	1.000	.923
VAR00007	1.000	.921
VAR00008	1.000	.923
VAR00009	1.000	.779
VAR00010	1.000	.838
VAR00011	1.000	.927

Extraction Method: Principal Component Analysis.

Table 5.22.1 shows initial communalities and extracted communalities about financial ratios of DDC. We know that the proportion of variance for each variable is one, which is shown by the column initial communalities. The extracted communalities are the sum of squares of the loadings assigned for different variables shown in the table of rotated component matrix.



**Table No. 5.22.2**  
**Total Variance Explained**

<b>Component</b>	<b>Initial Eigenvalues</b>			<b>Extraction Sums of Squared Loadings</b>			<b>Rotation Sums of Squared Loadings</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
1	6.654	60.491	60.491	6.654	60.491	60.491	4.379	39.807	39.807
2	1.973	17.939	78.430	1.973	17.939	78.430	3.167	28.788	68.595
3	1.053	9.569	87.998	1.053	9.569	87.998	2.134	19.404	87.998
4	.536	4.873	92.872						
5	.435	3.953	96.824						
6	.239	2.177	99.001						
7	.103	.932	99.933						
8	7.325E-03	6.659E-02	100.000						
9	4.356E-16	3.960E-15	100.000						
10	1.169E-16	1.062E-15	100.000						
11	-5.540E-17	-5.036E-16	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.22.2 contains the final statistics for each factor. The total variance explained by each factor is listed in the column total eigen values or SS loadings. Next column shows percentage of total variance attributed to each factor. The cumulative percent of variance column reveals the fact that almost 88% of the total variance is attributed to the first three factors. The remaining 8 factors together account only 12% of total variance. Thus a model with three factors may be adequate to represent the financial ratios of DDC.

**Table No. 5.22.3**  
**Rotated Component Matrix**

	<b>Component</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
VAR00001	.871	-.362	.111
VAR00002	.863	-.455	.158
VAR00003	-.381	.650	-.480
VAR00004	2.411E-02	-1.504E-02	.962
VAR00005	-.112	.803	-.324
VAR00006	-.645	.712	2.856E-02
VAR00007	-.904	.320	-2.367E-02
VAR00008	.111	-.306	.904
VAR00009	-.284	.834	-4.935E-02
VAR00010	.910	4.361E-02	9.134E-02
VAR00011	.750	-.600	7.706E-02

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 5 iterations.**

Table 5.22.3 depicts that the component first is positively correlated with ROS, RONCE, OP, and NP and negatively correlated with DER and OCP, so this factor might be interpreted as 'OPERATING LOSS'. The second factor is positively correlated with ATR, AOR, DER and EPR and negatively correlated with NP. Therefore, this factor should be named as 'PRODUCTIVITY'. The last factor is positively associated with QR and STR. So, this factor is described as 'LIQUIDITY'.

Thus the financial ratio of DDC can be fairly well characterized by three factors Profit, Productivity and current assets.

#### 5.1.4 Hetauda Cement Factory Limited

**Table No. 5.23**

Budgeted and Actual Production of HCFL during 2049 to 2058 B. S

F.Y.	Cement	
	Bud. (M. Ton)	Act. (M. Ton)
$X_1$	$X_2$	$X_3$
2049- 50	N.A	97432.00
2050- 51	169000.0	118039.0
2051- 52	182000.0	124794.2
2052-53	182000.0	124985.0
2053- 54	182000.0	125899.0
2054- 55	182000.0	136989.0
2055- 56	607000.0	128836.0
2056- 57	182000.0	118666.0
2057- 58	156000.0	86901.00
2058- 59	156000.0	.
Mean	220000.00	120638.6
C.V.(%)	65.82	13.48
Trend line equation	$X_2 = -9876833 + 4916.68(X_1)$	$X_3 = 807708 - 335.92(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.23 shows that the average budgeted quantity of production of cement is 220000.00 m. ton whereas actual quantity of production of cement is 120638.6 m. ton. There is greater difference between budgeted and actual average quantity of production of cement which reveals the fact that the budgeted quantity of production does not seem to be determined on actual performance basis.

The c.v. of budgeted quantity of production is 65.82%. It reveals that the mean quantity of budgeted production is varying by 66% from the budgeted quantity

of production of different fiscal years. So, this mean value is not representing properly about the series of budgeted production of cement. Similarly, the c.v. of actual quantity of production of cement is 13.48%. Since there is lower degree of variation so, the mean value of actual production of cement the representing properly about the series of data of actual quantity of production of cement of different fiscal years.

The Trend line equation shows the straight-line trend for budgeted production of cement. It reveals that the budgeted production of cement will increase by 4916.68 M. ton with value of constant (i.e., 'a') per fiscal year. Similarly the actual quantity of production of cement will decrease by 335.92 M. ton per fiscal year with value of constant. It shows the negative growth rate of actual production of cement, which is bad signal for the existence of the institution.

**Table No. 5.24**

**Paired sample test of Budgeted and Actual production of HCFL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	r	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	109611.4	136.0	52712.7	2.08	7	0.076	N.S.	0.078	0.277	0.507	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantities of production of cement.]**

Table 5.24 shows that the average paired difference between budgeted and actual quantity of production of cement is 109611.4 m. ton. It means the budgeted quantity of production of cement is highly estimated by 109611 m. ton in average from actual quantity. It shows that the management is ambitious in preparing their budget but performance is very much poor.

The c.v. of paired differences is 136% which reveals that there is higher degree of variation. So, the mean value of paired differences is not representing properly about the series. This statement is also proved by the value of S.E. of paired differences.

The tabulated value of 't' at 5% level of significance for 7 d.f. is 2.37. Since the calculated value of 't' is less than the tabulated value. So, the result is not significant. It means the null hypothesis is accepted. It reveals the fact that there are not significant differences between budgeted and actual quantities of production of cement.

The value of  $r^2$  is 0.078, which shows that only approximately 8% of variation in actual quantities of production of cement is due to budgeted quantity of production of cement and rest 92% of variation in actual quantity of production is due to other factors or vice versa.

The value of  $r$  shows correlation between budgeted and actual quantities of production of cement of different fiscal year. The value of  $R$  is 0.277. Since there is lower degree of positive correlation between budgeted and actual quantities of production of cement. This value of  $r$  is not significant at 10% level of significance. The value of  $r$  will be significant at 51% significance level.

**Table No. 5.25**  
**Budgeted and Actual Sales, Total Operating Income & Expenditure of HCFL**  
**during 2049 to 2058 B.S.**

F. Y.	Sales (M. Ton)		Total operating income (Rs.in lakh )		Total operating expenditure (Rs.in lakh)	
	Bud.	Act.	Bud.	Act.	Bud.	Act.
$X_1$	$X_2$	$X_3$	$X_4$	$X_5$	$X_6$	$X_7$
2049- 50	.	103777.0	.	3278.00	.	3731.00
2050- 51	169000.0	123557.0	5509.00	4149.00	4559.00	4194.00
2051- 52	182000.0	128522.5	6125.00	13864.00	4940.00	3892.00
2052-53	182000.0	126267.0	6600.00	5155.00	5490.00	5057.00
2053- 54	182000.0	124385.0	7887.00	5399.00	6130.00	5352.00
2054- 55	182000.0	18050.00	7757.00	6001.00	6535.00	6012.00
2055- 56	227000.0	131326.0	8200.00	5860.00	6446.00	5671.00
2056- 57	15840.00	119023.0	8209.00	5422.00	6611.00	5701.00
2057- 58	158000.0	87329.00	7044.00	4276.00	6675.00	4670.00
2058- 59	156000.0	.	7722.00	.	6821.00	.
Mean	161537.8	106915.2	7228.11	5933.78	6023.0	4920.0
C.V.(%)	36.15	32.82	13.36	52.3	13.72	17.05
Trend line equation	$X_2= 1.4E+07 -$ $6855.33 (X_1)$	$X_3= 6334483$ $-3033.4(X_1)$	$X_4= -$ $511065$ $+252.33$ $(X_1)$	$X_5=$ $257460.5 -$ $122.52 (X_1)$	$X_6= -$ $569474$ $+280.18$ $(X_1)$	$X_7= -432711$ $+213.17 (X_1)$

**Source: Ministry of Finance, Performance of public Enterprises of Nepal, His Majesty's Government Nepal.**

Table 5.25 shows that the average budgeted sales of HCFL are 106915.2 m. ton. It reveals the fact that either there is ambitious budget or the performance is not good. The c.v. of budgeted sales is 36.15% and actual sales is 33.82%. Since there is lower degree of variation in budgeted and actual sales so, the mean value of both budgeted and actual sales is representing properly about the series of budgeted and actual date of different fiscal year respectively. The trend line equation of budgeted sales data shows negative growth rate by -68.55.33 per fiscal year with the value of constant. Similarly the actual sales show negative growth rate at the rate of 3033.399 m. ton per fiscal year with their value of constant.

The average budgeted operating income of Hetauda cement limited is Rs.7228.11lakh and actual operating income is Rs.5933.78lakh. It means that the management is not serious in achieving their target in average. It shows the poor performance of the institution. The C.V. of budgeted and actual operating income is 13.36 % and 52.3% respectively. Since there is lower degree of variation in budgeted operating income, the mean value of budgeted operating income is more representative about their series. But the moderate degree of C.V. of actual operating income shows that the mean value is moderately representing about the series of data of actual operating income. The trend line equation of budgeted operating income shows positive growth rate with value of constant whereas the actual operating income has negative growth rate with their value of constant.

Similarly the average budgeted and actual operating expenditure are Rs.6023lakh and Rs.4920lakh respectively, which also show inefficiency of the management in meeting their target. The c.v. of budgeted and actual operating expenditure are 13.72% and 17.05% respectively. Since both have lower degree of variation, the mean value of both series is representing properly about the operating expenditures of different fiscal years.

The trend line equation of budgeted operating expenditure is showing positive growth rate of Rs.280.18lakh per fiscal year with value of constant. Similarly the actual operating expenditure is also increasing by Rs.213.17lakh per fiscal year with value of their constant.

**Table No. 5.26**  
**Paired sample test of Budgeted and Actual of Sales, Total operating income & expenditure of HCFL.**

Pair	Paired differences			t	d.f.	Sig.	Result at 5% s.l.	r <sup>2</sup>	r	Sig.	Result at 10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	54922.57	135.72	26353.72	2.08	7	0.076	N.S.	0.012	-0.035	0.934	N.S.
X <sub>4</sub> -X <sub>5</sub>	900.63	392.61	1250.14	0.72	7	0.495	N.S.	0.064	-0.252	0.548	N.S.
X <sub>6</sub> -X <sub>7</sub>	854.63	61.02	184.37	4.64	7	0.022	Sig.	0.62	0.786	0.021	Sig.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual volume of Sales, amount of Total operating income & expenditure.]**

Table 5.26 reveals that the average paired differences of budgeted and actual quantities of sales is 54922.57m.ton .It shows that budgeted quantities of sales is leading by approximately 55thousand m. ton which is a sign of inefficient budgeting system. The coefficient of variation of this pair is 135.72% which reveals very much higher degree of variation. So the mean value of paired differences of sales is not representing properly about the series of paired differences of sales.

The mean paired differences of budgeted and actual operating income series is Rs.900.63lakh, where as operating expenditure series has mean value of Rs.854.63lakh. Both mean values show that budgeted figures are leading the actual figures by approximately Rs.901lakh and 855lakhs respectively. These data reveal the fact that budgeting system of the organization is not based on actual performance basis. The coefficient of variation of operating income pair is 392.6percent, which is very much higher. It shows that the mean value is not representative of this series, which is also supported by the value of standard error of mean of this pair .The c.v. of paired differences series of operating expenditures is 61.02%. Since this figures shows moderate degree of variation, the mean paired differences is moderating representing about the series of data. The value of S.E. of mean also support this fact which is only 184.367lakh rupees.

The tabulated value of t<sub>0.05</sub> for 7degree of freedom is 2.37. Since the calculated value of t of sales and operating income pairs are 2.084 and 0.72 respectively, which are less than the tabulated value so we conclude that there are not

significant differences between budgeted and actual value of sales and operating income. So, the results are not significant and null hypothesis of both pairs are accepted. But the calculated value of t of operating expenditure series is 4.635 which are more than the tabulated value of t. So, we conclude that there are significant differences between budgeted and actual value of operating expenditure series and the result is significant. It means that the null hypothesis of this pair is rejected.

The value of  $r^2$  of sales, operating income and operating expenditures are 0.012, 0.064 and 0.62 respectively. It reveals the fact that only 1.2%, 6.4% and 62% of variation in actual value of sales, operating incomes and operating expenditures respectively are due to their budgeted values and rest 98.8, 93.6 and 38% of variation in actual value of sales, operating income and operating expenditures respectively are due to other factors or vice versa.

The correlation between budgeted and actual quantities of sales is (-0.035) i.e. 3.5%, which shows that there is very much lower degree of negative correlation. It means if budgeted value of sales increases, the actual value of sales will decrease by approximately 4%. The value of r is not significant at 10% level of significance. It will be significant at 93.4% significance level. Similarly the correlation between budgeted and actual value of operating income and operating expenditures are -0.252 and 0.786 respectively. It shows that the budgeted and actual value of operating income is negatively correlated whereas the value of operating expenditures are positively correlated. The value of r of operating income is not significant at 10% level of significance whereas the value of r of operating expenditure is significant at 10% level of significance so that the result can be shown as significant.

Table No. 5.27

**Financial Ratios of Hetauda cement factory limited**

F. Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-13.82	-4.77	.39	.55	21.00	40.60	114.00	.00	3.17	-453.00	-418.00
2050	-1.08	-.53	.56	.23	16.00	38.62	101.00	.00	4.12	-45.00	26.00
2051	-.72	-.33	.58	.18	18.14	.49	100.72	1.91	3.84	-28.00	21.00
2052	1.90	1.94	.84	.26	8.14	.53	98.10	2.37	5.27	98.00	123.00
2053	.87	.88	.88	.24	16.00	1.92	99.13	2.28	5.00	47.00	107.00
2054	-.18	-.24	1.16	.20	7.93	1.53	100.18	2.60	6.23	-11.00	2.00
2055	2.95	5.00	1.24	.24	2.20	1.01	96.77	2.44	6.33	189.00	173.00
2056	-5.00	-10.00	1.25	.22	9.18	.67	105.15	2.07	6.02	-279.00	-271.00
2057	-9.00	-40.00	1.08	.19	15.06	1.05	109.21	1.44	4.84	-394.00	-352.00
Mean	-2.68	-5.34	0.89	0.26	12.63	9.6	102.7	1.68	4.98	-97.33	-65.44
C.V(%)	207.46	256.18	38.2	42.3	47.82	177.4	5.53	66.1	22.28	230.73	337.88
Multi. Regre.	(a)= -6.68	(b)= 0.073	(b)=-10.9	(b)= -4.38	(b)= 0.13	(b)=-0.29	Beta in 'a'	(b)= -4.9	(b)= 5.17	Beta in 'a'	(b)= 0.018
Predi-ctors model						X <sub>1</sub> = -6.68 + b. X <sub>11</sub> + b. X <sub>3</sub> + b. X <sub>4</sub> + b. X <sub>6</sub> + b. X <sub>2</sub> + b. X <sub>5</sub> + b. X <sub>8</sub> + b. X <sub>9</sub>					

(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).

Table 5.27 exhibits that the average return on sales is  $-2.68$  percent. This negative value of ROS shows that the firm is running on operating loss. It is firm's inability to purchase at favourable terms and minimizing other overhead costs. The c.v. of  $288\%$  shows that the mean value is not properly representing the value of ROS of different fiscal years.

The average value of return on not capital employed is  $-5.34\%$ . This negative mean value of RONCE shows that the management is not efficient in utilization of their capital, therefore incurred operating losses. The c.v. value of  $834\%$  shows that the mean value of RONCE is varying by  $834\%$  from the value of RONCE of different fiscal years. It reveals that this mean value not representing about the series of data.

The mean value of ATR is  $0.89$  which is very much poor. It reveals that the firm is unable to utilize their existing plant capacity, which results in reduction of production volume and increase in cost of production. The c.v. value of ATR is  $38.2\%$ . It shows that the mean value of ATR is moderately representing about the series of data of ATR.

The average quick ratio of HCL is  $0.26$  whereas the standard Q.R should be  $1:1$  which shows that this organization has very much poor liquidity position. It reveals the fact that the HCL is not able to pay their current liabilities immediately. The C.V. value of QR shows that the mean value of QR is varying by approximately by  $42\%$  from the other QR value of different fiscal years.

The mean administrative overhead ratio is  $12.63$ , which is double from the general principle, which tells us that it should not exceed  $6\%$ . So the HCL should have to reduce their administrative overhead. The average of AOR is varying by approximately  $48\%$  from the value of AOR of different fiscal year.

The average debt-equity ratio of HCL is 9.6. In the fiscal year 2049 and 2050 it was very much high but in succeeding year the DER is satisfactory. These figures show that, the financial position of the institution is satisfactory .It means that the HCL is able to pay their debt but it should increase their equity level. The c. v. value reveals that the mean value of DER is varying by 177.4%, which is not representing properly about the series of data of DER.

The average operating cost is 102.7% .It reveals the fact that the operating cost exceeds sales revenue by approximately 3%, which is bad signal for the existence of the institution. The c.v. Value shows that this mean value is varying by 5.5% from the value of different fiscal years. So the mean value is representing properly about the series of data.

The average value of stock turnover ratio is 1.68 which seems to be satisfactory .In the fiscal year 2049 and 2050 there were no closing stocks but in succeeding year the closing stocks are maintained in satisfactory manner. The mean value of STR is varying by 66.1% So that the mean value is moderately representing about the series of data.

The mean employee productivity ratio of HCL is 4.98lakh. This value of mean is varying by 22.28%. So, it represents properly about the series of data of different fiscal year.

The average operating loss of HCL is 97.33lakh. In fiscal year 2049-2050 it was Rs.453lakh .In the fiscal year 2057-2058 also the loss was Rs.394lakh. Only three fiscal years HCL earn operating profit and rest 6 years this institution incurred operating loss arises question to the existence of this institution. The c. v. value of O.P. shows that the mean value is not representing about the series.

Similarly the average net loss of HCL is Rs.65.44lakh .The c. v. value of the series shows that this mean value is also not representing properly about the series of data of NP of different fiscal year.

The row multiple regressions show the value of constant 'a' and beta values of different multiple independent variables. Here multiple regression model is fitted as y and x. Here dependent variable y is taken as ROS and rest are independent multiple variables x. Here the value of constant 'a' is -6.68 .The beta values for different independent multiple variables are mentioned under different variables, which shows the increment or decrement in the value of dependent variable with value of constant. The beta value of RONCE is 7.269E-02 i.e. 0.07269.It means if there is one unit change in RONCE then the value of ROS will change by 0.07269 with value of constant. The negative beta value will decrease the value of dependent variable with value of constant. The predictor's model is shown in the table-14, which provides the value of ROS if we substitute the beta values of constant.

## Factor Analysis

**Table No. 5.28.1**

### Communalities

	<b>Initial</b>	<b>Extraction</b>
ROS	1.000	.977
RNC	1.000	.776
ATR	1.000	.923
QR	1.000	.564
AOR	1.000	.724
DER	1.000	.789
OCP	1.000	.979
STR	1.000	.832
EPR	1.000	.860
OP	1.000	.983
NP	1.000	.972

**Extraction Method: Principal Component Analysis.**

Table 5.28.1 shows the initial and extracted communalities of different variables. The proportion of variance accounted for by the common factors or the communalities of variable is 1 for all the variables as shown in the table. Extracted communalities are the sum of squares of loadings of different components mentioned for different variables as shown in the table of rotated component matrix.



**Table No: - 5.28.2**  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	61.777	61.777	61.777	6.795	61.777	61.777	4.904	44.577	44.577
2	23.482	23.482	85.259	2.583	23.482	85.259	4.475	40.682	85.259
3	8.424	8.424	93.683						
4	4.410	4.410	98.093						
5	1.215	1.215	99.308						
6	.520	.520	99.829						
7	.117	.117	99.946						
8	5.448E-02	5.448E-02	100.000						
9	6.005E-15	6.005E-15	100.000						
10	9.101E-16	9.101E-16	100.000						
11	-9.951E-16	-9.951E-16	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.28.2 shows the final statistics for each factor. The total variance explained by each factor is listed in the in the column labeled as total initial eigen value or sum of squared loadings. The next column contains the percentage of the total variance attributed to each factor. The last column shows the cumulative percent, which indicates the percentage of variance attributed to that factor and those that precedes it.

Table 5.28.2 shows that 85.26% of the total variance is attributed to the first two factors and remaining 9 factors together account only 14.74% of total variance. Note that total initial eigenvalue or factor variance greater than 1 should be taken as component only. Since component 3 has variance less than 1, is no better than a single variable because each variable has a variance of 1. Thus, a model with two factors may be adequate to represent the data.

**Table No: - 5.28.3**

**Rotated Component Matrix**

	<b>Component</b>	
	<b>1</b>	<b>2</b>
ROS	.442	.884
RNC	-.210	.856
ATR	.957	-7.818E-02
QR	-.698	-.276
AOR	-.775	-.351
DER	-.880	-.123
OCP	-.437	-.888
STR	.847	.337
EPR	.905	.203
OP	.314	.940
NP	.244	.955

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 3 iterations.**



Table 5.28.3 reveals the fact that the component first is positively correlated with ATR, STR and EPR and negatively associated with QR, AOR and DER. Thus, it might be interpreted as ‘PRODUCTIVITY’. The second factor is positively correlated with ROS, RONCE, OP and NP and negatively correlated with OCP. So, this factor is described as ‘OPERATING LOSS’. Therefore, the financial ratios of Hetauda cement factory limited can be fairly well characterized by two factors Productivity and Profit.

### 5.1.5 Herbs Production & Processing Company Limited

**Table No. 5.29**

**Budgeted and Actual Production of HPPCL During 2049 to 2058 B.S**

F.Y.	Raw herbs, essence oil, processing sars		Herbal care products	
	Budgeted (M. ton)	Actual (M. ton)	Budgeted (Bottles)	Actual (Bottles)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049- 50		137.29		
2050- 51	285.00	144.00		
2051- 52	292.00	209.00		
2052-53	255.00	304.00	.	35000.00
2053- 54	310.99	386.40	95000.00	44451.00
2054- 55	374.00	916.00	95000.00	53.00
2055- 56	371.00	664.00	47000.00	.
2056- 57	764.00	393.00	1350.00	1063.00
2057- 58	2326.00	412.00	1350.00	1500.00
2058- 59	2534.00	.		
Mean	834.67	396.19	47940.0	16413
C.V.(%)	110.06	64.13	97.68	131.28

Trend line equation	$X_2 = -552924 + 269.6(X_1)$	$X_3 = -114840 + 56.13(X_1)$	$X_4 = 5.8E+07 - 28095.0(X_1)$	$X_5 = 1.7E+07 - 8177.43(X_1)$
---------------------	------------------------------	------------------------------	--------------------------------	--------------------------------

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.29 is evident that the average budgeted quantity of production of raw herbs, essence oil, and processing Sars is 834.67 ton per year during 10 years of magnitude. This mean value is varying by 110.06% from budgeted quantity of production of different fiscal years. Since there is higher degree of variation shown by c.v. value so that this mean value is not representing properly about the series. The trend line equation shows positive growth rate i.e. increment in the production by 269.6 ton per year with value of constant.

The mean actual quantity of production of raw herbs, essence oil etc. is 396.19ton per year during 10 years of time. This mean value is varying by 64.13 % from the actual quantity of production of different fiscal years. Since there is moderate degree of variation, this mean value is moderately representing about the series of actual quantity of production of different fiscal years. The trend line equation shows increment in actual quantity of production of raw herbs, essence oil etc. by 56.13 ton per year with value of constant.

The above analysis related to budgeted and actual quantity of production of raw herbs, essence oil etc. reveals the fact that average budgeted quantity is double to the average actual quantity of production. It means that production budget is not based on actual basis or there might be ambitious budgeting which does not seem to be proper. This fact is also proved by the growth rate of budgeted and actual quantity of production.

The average budgeted quantity of production of Herbal care product is 47940 bottles. This value of mean is varying by 97.68%. Since there is higher degree of variation, this mean value is not representing properly about the series of budgeted quantity of production of different fiscal years. The trend line equation shows negative growth rate of 28095 bottles with value of constant.

The mean actual quantity of production of herbal care product is 16413.4 bottles per year during 5 years of magnitude. This mean value is varying 131.28% from actual production quantity of different fiscal year, which is not representing properly about the series. The trend line equation shows negative growth rate of 8177.43 bottles per year with the value of constant.

The above analysis related to the budgeted and actual quantity of production of herbal care product reveals the fact that there is a vast difference between average budgeted and actual quantity of production of herbal care product .It means that either there is ambitious budgeting or management is not serious to achieve the targeted production .The growth rate of budgeted and actual quantity of production of herbal care product also shows that there is no coordination between budgeted and actual quantity of production.

**Table No. 5.30**

**Paired sample test of Budgeted and Actual of Production of HPPCL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	r	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	193.7	386.11	264.42	0.73	7	0.488	N.S.	0.001	0.011	0.979	N.S.
X <sub>4</sub> -X <sub>5</sub>	36408.3	125.55	22854.6	1.59	3	0.209	N.S.	0.308	0.555	0.445	N.S.

**[Null hypothesis ( $H_0$ ), there is no significant difference between budgeted and actual volume of production of raw herbs, essence oil etc. and herbal care product.]**

Table 5.30 exhibits that the mean paired difference between budgeted and actual volume of raw herbs essence oil etc. is 193.7 m. ton per fiscal year during 10 years of time. The mean value is varying by 386.11%. Since there is very much higher degree of variation shown by c.v. value, this mean value is not representing properly about the series of paired differences of different fiscal year. The tabulated value of  $t_{0.05}$  for 7 d.f. is 2.37 which is more than the calculated value of  $t$ , so, the result is not significant and the null hypothesis is accepted. It means that there is no significant difference between budgeted and actual quantity of production of raw herbs, essence oil etc. The value of  $r^2$  shows that only 0.12% of variation in actual quantity of production of raw herbs, essence oil is due to the budgeted quantity of production and rest 99.88% of variation in actual quantity is due to other factors or vice versa. The value of  $r$  shows very much lower degree of positive correlation between budgeted and actual quantity of production of row herbs, essence oil etc. which is not significant at 10% level of significance.

The average paired difference of budgeted and actual quantity of production of herbal care product is 36408.25 bottles. This mean value is varying by 125.55% so that it is not representing properly about the paired differences of different fiscal year. The tabulated value of  $t_{0.05}$  for 3 d.f. is 3.18 which is more than the calculated value of  $t$  so, the result is not significant and null hypothesis is accepted. It means that there is not significant difference between budgeted and actual quantity of production of herbal care product of different fiscal years. The value of  $r^2$  reveals the fact that only 30.8% of variation in actual quantity of production of

herbal care product is due to budgeted quantity of production and rest 69.2% of variation in actual quantity is due to other factors or vice versa. The value of r shows moderate degree of positive correlation between budgeted and actual quantity of production of herbal care product, which is not significant at 10% level of significance.

**Table No. 5.31**

**Budgeted and Actual Sales of HPPCL During 2049 to 2058 B.S**

F.Y.	Raw herbs, essence oil, processing Sars		Herbal care products	
	Budgeted (M. ton)	Actual (M. ton)	Budgeted (Bottles)	Actual (Bottles)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049- 50	N.A	174.60		
2050- 51	309.00	165.00		
2051- 52	394.30	270.96		
2052-53	293.00	358.60	.	13037.00
2053- 54	310.99	294.00	95000.00	10589.00
2054- 55	338.00	180.00	95000.00	.
2055- 56	311.00	170.00	36000.00	.
2056- 57	350.00	342.00	.	584.00
2057- 58	385.00	277.00	.	1043.00
2058- 59	128.00	.	2500.00	.
Mean	313.25	248.02	57125.0	6313.25
C.V.(%)	24.84	31.08	81.22	101.86
Trend line equation	X <sub>2</sub> = 22150.35- 10.63(X <sub>1</sub> )	X <sub>3</sub> = -18916.1 + 9.34(X <sub>1</sub> )	X <sub>4</sub> = 4.1E+07 – 19821.4(X <sub>1</sub> )	X <sub>5</sub> = 5443789- 2646.62(X <sub>1</sub> )

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.31 shows that the average budgeted quantity of sales of raw herbs, essence oil, and processing Sars is 313.25ton per year in 10

year of time. The mean value is varying by 24.84% from budgeted quantity of production of different fiscal years. This lower degree of variation shows that mean value is representing properly about the series. The trend line equation shows negative growth rate of 10.63 ton per year with value of constant.

The mean actual quantity of sales of raw herbs, essence oil, etc is 248.02ton per year during 10 year of magnitude. The c.v. value of 31.08% shows lower degree of variation so that this mean value is representing properly about the series of actual quantity of sales of different fiscal years. The trend line equation reveals positive growth rate IC increment of 9.34ton per year in actual production of raw herbs etc. during 10 years of time.

The above analysis related to budgeted and actual quantity of sales of raw herbs, essence oils etc. reveals the fact that management is not successful in achieving their targeted sales.

The mean budgeted quantity of sales of Herbal care product is 57125 bottles per year. This mean value is varying by 81.22% from budgeted quantity of sales of different years. Since there is higher degree of variation shown by c.v., this mean value is not representing properly about the series. The trend line equation shows negative growth rate of 19821.4 bottles per year with value of constant.

The average actual quantity of sales of herbal care product is 6313.25 bottles. Since there is higher degree of variation shown by the c.v. value, we conclude that this mean value is not representing properly about the series of actual quantity of sales of different fiscal years. The trend line equation shows negative growth rate of 2646.62 bottles per year with value of constant.

The above analysis related to budgeted and actual quantity of herbal product reveals the fact that there is a vast difference between average budgeted and actual quantity of sales, which is evident that there is no coordination between budgeted and actual quantity sales, which shows inefficiency of the management.

**Table No. 5.32**

**Paired sample test of Budgeted and Actual of Sales of HPPCL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5%s.l.	r <sup>2</sup>	r	Sig.	Result at10%s.l
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	73.22	111.8	28.94	2.74	7	0.029	Sig.	0.012	0.109	0.798	N.S.
X <sub>4</sub> -X <sub>5</sub>	Cannot be produced.										

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual volume of Sales of raw herbs, essence oil etc. and herbal care product.]**

Table 5.32 shows that the mean paired difference between budgeted and actual quantity of sales of raw herbs, essence oil and processing Sars is 73.22 ton. Since the mean value is varying by 111.8%, this value of mean is not representing properly about the series of paired differences of different fiscal years. The tabulated value of 't'<sub>0.05</sub> for 7 d. f. is 2.37 which is less than calculated value of t so the result is significant and the null hypothesis is rejected. It means that there is a significant difference between budgeted and actual quantity of sales of raw herbs, essence oil and processing Sars. The value of r<sup>2</sup> depicts the only 1.2% of variation in actual quantity of production of raw herbs etc. is due to budgeted quantity of production and rest 88.8% of variation in actual quantity of sales is due to other factor or vice versa. The value of r shows lower degree of positive correlation between budgeted and actual quantity of raw herbs, essence oils and processing Sars of different fiscal years which is not significant at 10% level of significance.

The paired sample test about budgeted and actual quantity of sales of herbal care product is not possible due to lower number of pairs available for our study.

**Table No. 5.33**

**Budgeted and Actual Total operating Income & Expenditure of HPPCL during  
2049 to 2058 B.S**

F.Y.	Total operating income		Total operating expenditure	
	Budgeted (Rs. lakh)	Actual (Rs. lakh)	Budgeted (Rs. Lakh)	Actual (Rs. lakh)
$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
2049- 50	N.A	158.63	N.A	159.96
2050- 51	214.88	120.73	225.51	151.15
2051- 52	363.16	184.13	364.01	221.55
2052-53	400.87	249.40	412.25	280.52
2053- 54	412.64	217.00	418.97	255.00
2054- 55	313.00	161.00	319.00	230.00
2055- 56	389.00	186.00	390.00	281.00
2056- 57	499.00	351.00	469.00	438.00
2057- 58	520.00	393.00	520.00	435.00
2058- 59	424.00	.	493.00	.
Mean	392.95	224.54	401.3	272.46
C.V.(%)	23.43	40.85	22.76	38.06
Trend line equation	$X_2 = -$ $50259.4 +$ $24.66(X_1)$	$X_3 = -52593.3$ $+25.73(X_1)$	$X_4 = -55140.9$ $+27.04(X_1)$	$X_5 = -69156.2$ $+33.82(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of  
Nepal, Government of Nepal).**

Table 5.33 shows that the average budgeted total operating income of HPPCL is Rs.392.95lakh. The c.v. value shows that there is lower degree of variation IC 23.43%. It means that the mean value is representing properly about the series of total operating income of different fiscal years. The trend line equation reveals the fact that the total operating income is increasing by Rs.24.66lakh per year with value of constant.

The mean actual total operating income is Rs.224.54lakh. Since this mean value is varying approximately by 41% from actual operating income of different fiscal year, it is moderately representing about series of actual operating income. The trend line equation shows increment of actual operating income by 25.73lakh per year with the value of constant.

The above analysis related to budget and actual amount of total operating income reveals the fact that average budgeted operating income is approximately double to the average actual operating income. It means that there is no coordination between target and achievement. So, management is not successful or not serious to achieve their targeted amount of operating income.

The mean budgeted total operating income expenditure of HPPCL is Rs.401.3lakh. Since there is lower degree of variation shows that c.v. value i.e. 22.76, we conclude that this mean value is representing properly about the series of budgeted operating income. The trend line equation shows positive growth rate of Rs.27.04lakh per year with the value of constant.

The average actual total operating expenditure of this organization is 272.46lakh per year during 10year of constant. The c.v. value is 98.06% which shows lower degree of variation. So, this mean value is representing properly about the series of actual operating income of different fiscal years. The trend line equation shows increment of total operating expenditure by Rs.33.82lakh per year with value of constant.

The above analysis related to total operating expenditure reveals the fact that total actual operating income is increasing by higher amount than the budgeted one which is not favorable symptom for the organization.

#### **Table No. 5.34**

**Paired sample test of Budgeted and Actual Total Operating Income &  
Expenditure budget of HPPCL**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	r	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	156.29	23.04	12.73	12.28	7	0.000	Sig.	0.865	0.930	0.001	Sig.
X <sub>4</sub> -X <sub>5</sub>	103.32	41.16	15.53	6.87	7	0.000	Sig.	0.825	0.908	0.002	Sig.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual amount of Total operating income & expenditure.]**

Table 5.34 shows that the mean paired difference of budgeted and actual amount of total operating income of different fiscal years, which is Rs.156.29lakh. This mean value is varying by 23.04%. Since there is lower degree of variation shown by c.v. value, we conclude that mean value is representing properly about the series of paired differences, the tabulated value of  $t_{0.05}$  for 7 d. f. is 2.37 which is less than the calculated value of t. Therefore, the result is significant and null hypothesis is rejected. It means that there are significant differences between budgeted and actual amount of total operating income of during 10 years of time. The value of  $r^2$  reveals the fact that 86.49% of variation in actual amount of total operating income is due to budgeted amount of total operating income and rest 13.51% of variation in actual amount of total operating income is due to other factors or vice versa. The value r shows there is higher degree of positive correlation between budgeted and actual amount of total operating income, which is significant at 10% level of significance.

The average paired difference between budgeted and actual amount of total operating expenditure is Rs.103.22lakh per year during 10 years of magnitude. The c.v. value of 41.16% reveals the fact that this mean value is moderately representing about the series of paired differences.

The tabulated value of  $t_{0.05}$  for 7 d .f. is 2.37, which is less than the calculated value of  $t$  so that the result is significant and null hypothesis is rejected. It means there are significant differences between budgeted and actual amount of total operating expenditure of different fiscal years. The value of  $r^2$  reveals the fact that 82.45% of variation in actual amount of total operating expenditure is due budgeted amount operating expenditure and rest 17.55% of variation in actual amount of total operating expenditure is due to other factor or vice versa. The value of  $r$  shows higher degree of positive correlation between budgeted and actual amount of total operating expenditure, which is significant at 10% level of significance.

**Table No. 5.35**  
**Financial Ratios of HPPCL**

F. Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-0.84	-0.22	0.61	5.29	0.24	1.09	101.84	0.8	1.08	-1.34	-1.34
2050	-25.32	-4.16	0.47	6.10	0.54	1.45	126.0	0.54	0.82	-30.42	-30.42
2051	-20.32	-3.96	0.68	4.03	15.92	1.97	120.32	0.86	1.5	-37.42	-37.42
2052	-8.52	-3.61	0.94	1.6	30.21	2.35	112.0	1.18	3.14	-21.25	-59.02
2053	-17.51	-7.05	0.90	1.3	27.2	2.27	117.5	0.9	1.6	-38.0	-37.0
2054	-42.86	-17.69	0.7	0.5	56.5	2.32	142.9	0.6	1.0	-69.0	-93.0
2055	-51.08	-35.58	0.9	0.1	26.3	1.76	151.1	0.6	1.2	-95.0	-115.0
2056	-24.8	-32.22	1.87	0.5	19.9	1.79	124.8	1.3	3.3	-87.0	-87.0
2057	-10.69	-32.31	2.26	0.2	22.9	2.35	110.7	1.2	3.8	-42.0	-160.0
Mean	-22.42	-15.2	1.04	2.18	22.19	1.93	123.02	0.89	1.94	-46.83	-68.91
C.V. (%)	71.9	95.26	58.65	106.88	76.07	23.31	12.71	31.46	58.76	65.85	71.62
Multi. Regre.	(a)=- 19.716	Beta in 'a'	(b)= 8.56	(b)= - 0.65	(b)= - 0.04	(b)= -3.44	Beta in 'a'	(b)= 32.89	(b)= - 4.47	(b)= 0.45	(b)= 0.0298
Predi-ctors model						$X_1 = -6.68 + b.X_{11} + b.X_8 + b.X_5 + b.X_{10} + b.X_6 + b.X_4 + b.X_3 + b.X_9$					

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.35 depicts that the average return on sales of HPPCL is – 22.42 percent. This negative value of ROS shows that this organization is running on operating loss. This firm has never earned operating profit during 9 years of magnitude. It means that this organization has higher cost of goods sold due to firm's inability to purchase at favourable terms and minimizing other overhead costs. The c.v value of 71.9% shows that this mean value is not representing properly about the series of ROS of different fiscal years.

The mean return on Net capital employed is – 15.2%, which reveals the fact that management of the organization is not efficient in utilization of their capital employed properly therefore, incurred operating loss. The c.v. value of 95.26% shows the this mean value is not representing properly about the RONCE of different fiscal years.

The average asset turn over ratio is 1.04, which is not satisfactory. It means that the organization is not utilizing their fixed assets properly, which will result in higher cost of production due to lower production volume. The mean ATR is varying by 58.65%, which show moderate degree of variation. So that this mean value is moderately representing about the series of ATR of different fiscal years.

The mean quick ratio of HPPCL is 2.18, which shows better liquidity of the institution. It means that this organization is able to pay their current liabilities immediately. The c.v. value of 106.88% reveals the fact that this mean value is not representing properly about the series of QR of different fiscal years.

The average administrative overhead ratio of this institution is 22.19, which is varying much higher than the ideal AOR of 6%. It is not favourable for the institution so that it should be reduced immediately. There is moderate degree of variation shown by c.v. value of 76.07%. So,

this mean value is moderately representing about the series of AOR of different fiscal years.

The mean debt-equity ratio is 1.93, which seems to be high; it reveals the fact that the institution is not financially sound to pay their long- term debt. The mean DER is varying by 23.31% from DER of different fiscal year. The average operating cost percentage of HPPCL is 123.02%. It reveals the fact that operating cost is high by 23% then the sales revenue therefore incurred operating loss. It is bad signal for the existence of the organization. This mean value of DER is varying by 12.71%, which shows that this mean value is representing properly about DER of different fiscal years.

The mean stock turn over ratio is 0.89 which shows excessive inventory so that it should be reduced and minimize the inventory cost. The mean value is varying by 31.46%. Since there is lower degree of variation so that mean value is representing properly about the series of STR.

The average EPR of HPPCL is 1.94, which does not seem to be satisfactory. Since this mean value is varying by 58.76% so that it is moderately representing about the series of EPR of different fiscal year.

The average operating loss and net loss are Rs.46.83lakh and Rs.68.91lakh respectively. Both values raise question for the survival and existence of the institution. The c.v. value of both variable shows higher degree of variation so that both mean value are not representing properly about the series of OP and NP.

The Multiple Regression Model shows value of constant and different beta values or growth rate for different variable. Here dependent variable is ROS and rest other variable are independent variables.

### **Factor Analysis**

**Table No. 5.36.1**

**Communalities**

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.986
VAR00002	1.000	.986
VAR00003	1.000	.967
VAR00004	1.000	.925
VAR00005	1.000	.943
VAR00006	1.000	.934
VAR00007	1.000	.978
VAR00008	1.000	.903
VAR00009	1.000	.959
VAR00010	1.000	.923
VAR00011	1.000	.854

**Extraction Method: Principal Component Analysis.**

Table 5.36.1 exhibits the initial communalities and extracted communalities of 11 variables. Since the proportion of variance accounted for by the common factor or communality of variable is 1 for all the variables as shown by the column initial communalities. The extraction values are sum of the squares of loading assigned for different components shown in the table shown as rotated component matrix.

**Table No. 5.36.2**  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.421	49.279	49.279	5.421	49.279	49.279	4.085	37.141	37.141
2	3.612	32.833	82.112	3.612	32.833	82.112	3.903	35.478	72.619
3	1.327	12.062	94.174	1.327	12.062	94.174	2.371	21.555	94.174
4	.342	3.110	97.284						
5	.169	1.538	98.822						
6	6.896E-02	.627	99.448						
7	5.538E-02	.503	99.952						
8	5.295E-03	4.813E-02	100.000						
9	9.420E-17	8.564E-16	100.000						
10	-2.185E-16	-1.986E-15	100.000						
11	-4.180E-16	-3.800E-15	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.36.2 contains the final statistics for each factor. The total variance explained by each factor is shown in the column total initial eigenvalues. The next column contains the percent of the total variance attributed to each factor. Cumulative percent of variance indicates the percent of variance attributed to that factor and those that precede it in the table. The above table reveals the fact that 94.17% of total variance 11 is attributed to the first three factors. The remaining 8 factors together account only 5.83% of the variance. Thus, a model with 3 factors may be adequate to represent the financial ratios of HPPCL.

**Table No. 5.36.3**

**Rotated Component Matrix**

	<b>Component</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
VAR00001	.888	.392	-.210
VAR00002	.836	-.533	-5.511E-02
VAR00003	-.230	.954	7.129E-02
VAR00004	.545	-.484	-.628
VAR00005	-.352	-4.059E-02	.904
VAR00006	-3.613E-02	.302	.917
VAR00007	-.874	-.403	.227
VAR00008	.271	.900	.143
VAR00009	8.905E-02	.953	.210
VAR00010	.937	-.119	-.177
VAR00011	.633	-.578	-.344

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 5 iterations.**

Table 5.36.3 depicts that the component first is positively correlated with ROS, RONCE, QR, OP and NP and negatively correlated with OCP so that the first component might be interpreted as

”OPERATING LOSS’. The second factor is positively associated with EPR, ATR, and STR and negatively associated with RONCE and NP so that this second component is described as ‘PRODUCTIVITY’. The last factor is positively correlated with AOR and DER and negatively associated with QR so that it can be named as ‘OVERHEAD’. Thus, the financial ratio of HPPCL can be fairly well characterized by three factors Operating Loss, Productivity and Overhead.

### 5.1.6 Janakpur Cigarette factory limited

**Table No. 5.37**

**Budgeted and Actual production of JCF during 2049 to 2058 B.S**

F.Y.	Cigarette	
	Bud. (Lakh M.)	Act. (Lakh M.)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>
2049- 50	N.A.	22.17
2050- 51	41.10	27.34
2051- 52	39.00	24.62
2052-53	39.00	19.39
2053- 54	31.10	17.00
2054- 55	27.00	21.00
2055- 56	27.00	22.00
2056- 57	23.00	23.00
2057- 58	26.00	23.00
2058- 59	23.00	.
Mean	30.69	22.17
C.V.(%)	23.46	13.35
Trend line equation	$X_2= 5080.11- 2.46(X_1)$	$X_3= 478.28 - 0.22(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.37 exhibits that the average budgeted quantity of production of cigarette is 30.69lakh million pieces. This mean value is

varying by 23.46% from budgeted production quantity of different fiscal year. Since there is lower degree of variation shown by c.v. value so, this mean value is representing properly about the series of budgeted quantity production. The trend line equation shows negative growth rate of 2.46. It reveals the fact that the budgeted quantity of production of cigarette is decreasing by 2.46lakh million pieces with value of constant.

The mean actual quantity of production of cigarette is 22.17lakh million pieces per year during 10 years of time. This mean value is varying by 13.35% from actual quantity of production of different fiscal year. Since there is lower degree of variation so we conclude that this mean value is representing properly about the series of actual quantity of production of cigarette. The trend line equation of actual production shows that the actual quantity of production of cigarette is decreasing by 0.22lakh million pieces per year with value of constant.

The above analysis related to budgeted and actual quantity of production of cigarette reveals the fact that the management of JCF is not successful in achieving their targeted production volume.

**Table No. 5.38**

**Paired sample test of Budgeted and actual Production of JCF.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% <i>s.l.</i>	r <sup>2</sup>	r	Sig.	Result at10% <i>s.l.</i>
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	9.48	72.46	2.43	3.91	7	0.006	Sig.	0.078	0.28	0.502	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantities of production of cigarette.]**

Table 5.38 depicts that the mean paired difference between budgeted and actual quantity of production of cigarette is 9.48lakh million pieces. The c.v. value of 72.46% shows moderate degree of

variation. So, we conclude that this mean value is moderately representing about the series of paired differences of different fiscal years. The tabulated value of 't'<sub>0.05</sub> for 7 d. f. is 2.37 which is less than the calculated value of t. Therefore, the result is significant and the null hypothesis is rejected. It means that there is a significant difference between budgeted and actual quantity of production of cigarette of different fiscal years. The value of R<sup>2</sup> shows that only approximately 8% of variation in actual quantity of production of cigarette is due to budgeted quantity of production of cigarette and rest 92% of variation in actual quantity of production is due to other factors or vice versa. The value R depicts lower degree of positive correlation between budgeted and actual quantity of production of cigarettes, which is not significant at 10% level of significance.

**Table No: - 5.39**

**Budgeted and actual Sales, total operating income & expenditure of JCF during 2049 to 2058 B.S.**

F. Y.	Sales (lakh M. )		Total operating income (Rs.in lakh )		Total operating expenditure (Rs.in lakh)	
	Bud.	Act.	Bud.	Act.	Bud.	Act.
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
2049- 50	N.A.	21.84	N.A.	5729.00	N.A.	6024.00
2050- 51	41.10	27.15	6917.00	9420.00	6857.00	9924.00
2051- 52	39.00	24.55	7410.00	8739.66	7353.00	8691.50
2052-53	39.00	19.39	15626.00	6831.00	15426.00	7340.00
2053- 54	31.10	17.00	11840.00	6837.00	11719.00	7883.00
2054- 55	27.00	20.00	13376.00	9114.00	13173.00	9656.00
2055- 56	27.00	21.00	15223.00	10554.00	14750.00	10685.00
2056- 57	23.00	22.00	11732.00	11211.00	11303.00	11090.00

2057- 58	26.00	23.00	13118.00	11921.00	12925.00	11505.00
2058- 59	23.00	.	12405.00	.	12210.00	.
Mean	30.69	21.77	11960.78	8928.52	11746.22	9199.83
C.V.(%)	23.44	13.64	25.39	23.8	25.11	20.1
Trend line equation	$X_2 =$ 5080.11- 2.46( $X_1$ )	$X_3 =$ 613.72- 0.29( $X_1$ )	$X_4 = -$ 1174943+ 577.85( $X_1$ )	$X_5 = -$ 1224674+ 600.88( $X_1$ )	$X_6 = -$ 1114975+ 548.55( $X_1$ )	$X_7 = -$ 1076324+ 528.75( $X_1$ )

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.39 shows that the average budgeted quantity of sales of cigarette is 30.69 lakh M. piece. The c.v. value of 23.44% depicts the lower degree of variation so, this mean value is representing properly about the series of budgeted sales. The trend line equation reveals the fact that the budgeted sale is decreasing by 2.46lakh million pieces per year with the value of constant.

The mean actual quantity of sales of cigarette of JCF is 21.77lakh million pieces per year during 10years of time. The c.v. value shows lower degree of variation so, this mean value is representing properly about the series of actual quantity of sales. The trend line equation shows that the actual quantity of sales is decreasing by 0.29lakh million piece of cigarette per year with the value of constant.

The above analysis related to budgeted and actual quantity of sales reveals the fact that the management of JCF is not successful in achieving the targeted sales.

The mean budgeted amount of total operating income of JCF is Rs.11960.18lakh. The c.v. of 25.39% reveals the fact that this mean value is representing properly about the series of total operating income of different fiscal years. The trend line equation shows increment of Rs.577.85lakh per year with value of constant.

The average actual amount of total operating expenditure is Rs.8928.52lakh per year 10years of time. The c.v. value of 23.8% shows lower degree of variation. So, this mean value is representing properly about the series of actual total operating income. The trend-line equation of actual operating income reveals the fact that actual total operating income is increasing by Rs.600.88lakh per year with value of constant.

The above analysis related to budgeted and actual amount of total operating income shows that there is a vast difference between budgeted and actual mean value which is evident that management is not serious about the achievement of target. But the actual growth rate is more than the budgeted one, which is favourable symptom for the betterment of the organization.

The average budgeted total operating expenditure of JCF is Rs.11746.22lakh per year during 10years of time. This mean value is varying by 25.11% from other budgeted amount of different fiscal year. Since there is lower degree of variation so, this mean value is representing about the series. The trend line equation reveals the fact that the budgeted operating expenditure is increasing by Rs.580.55lakh per year with value of constant.

The mean actual total operating expenditure of this institution is Rs.9193.83lakh. The c.v. value of 20.1% shows lower degree of variation. So, this mean value is representing properly about the series. The trend line equation shows increment is actual amount of total operating expenditure by Rs.528.75lakh per year with value of constant.

The above analysis related to budgeted and actual amount of total operating expenditure of JCF reveals the fact that the actual total operating expenditure is increasing by lower amount than budgeted one which is favourable symbol for the betterment of the organization.

**Table No. 5.40**

**Paired sample test of Budgeted and actual Sales, total operating income & expenditure of JCF.**

Pair	Paired differences			t	d.f.	Sig.	Result at5%s.l.	r <sup>2</sup>	r	Sig.	Result at10%s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	9.89	6.54	2.31	4.28	7	0.004	Sig.	0.144	0.379	0.355	N.S.
X <sub>4</sub> -X <sub>5</sub>	2576.79	145.92	1329.4	1.94	7	0.094	N.S.	0.001	-0.009	0.984	N.S.
X <sub>6</sub> -X <sub>7</sub>	2091.44	168.81	1248.3	1.68	7	0.138	N.S.	0.008	-0.028	0.947	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual volume of Sales, amount of Total operating income & expenditure.]**

Table 5.40 reveals the fact that the mean paired difference of budgeted and actual quantity of sales is 9.89lakh million pieces. Since this mean value is varying by 66.13%, this mean value is moderately representing about the series of paired differences. The tabulated value of  $t_{0.05}$  for 7 d.f. is 2.37, which is less than the calculated value of t which shows the result is significant and null hypothesis related to the sales is rejected. It means that there are significant differences between budgeted and actual quantity of sales of different fiscal years. The value of  $r^2$  depicts that only 14.36% of variation in actual quantity of sales is due to budgeted quantity of sales and rest 85.64% of variation in actual quantity of sales is due to other factors. The value of r shows lower degree of positive correlation between budgeted and actual quantity of sales, which is not significant at 10% level of significance.

The average paired difference between budgeted and actual amount of total operating income is Rs.2576.79lakh per year during 10years of time. The c.v. value shows 145.92% of variation. So, we conclude that this mean value is not representing properly about the series of paired differences of total operating income of JCF. The tabulated value of  $t_{0.05}$

for 7 d. f. is 2.37, which is more than the calculated value of t. So the result is not significant and the null hypothesis about total operating income is accepted. It means that there are not significant differences between budgeted and actual amount of operating incomes of different fiscal years. The value of  $r^2$  reveals that only 0.08% of variation in actual amount of operating income is due to budgeted amount and rest 99.92% of variation is due to other factors or vice versa. The value of r shows lower degree of negative correlation between budgeted and actual amount of total operating income, which are not significant at 10% level of significance.

The mean paired differences of budgeted and actual amount of total operating expenditure is Rs.2091.4lakh which is varying by 168.81% from other pair differences of different fiscal years. Since there is very much higher degree of variation shown by c.v., this mean value is not representing properly about the series. The tabulated value of  $t_{0.05}$  for 7 d. f. is 2.37, which is more than the calculated value of t. So, the result is not significant and the null hypothesis is accepted. It means that there is not significant difference between budgeted and actual amount of expenditure of different fiscal year. The value of  $r^2$  depicts that only 0.78% of variation in actual amount of total operating expenditure is due to budgeted amount and rest 99.22% of variation in actual amount of total operating expenditure is due to other factors or vice versa. The value of r shows lower degree of negative correlation between budgeted and actual amount of total operating expenditure of different fiscal years, which is not significant at 10% level of significance.



**Table No. 5.41**  
**Financial Ratios of JCF**

F.Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-4.00	-8.00	8.14	1.59	20.87	1.04	105.15	6.89	2.46	-259.00	-245.00
2050	-5.35	-19.09	12.76	1.12	13.20	1.21	105.00	5.52	3.97	-504.00	-454.00
2051	.55	1.82	11.84	1.60	11.06	2.74	99.44	5.47	3.68	48.16	109.00
2052	-6.40	-36.91	8.44	1.97	12.23	3.39	107.00	5.72	5.69	-509.00	-437.00
2053	-15.00	-43.57	8.55	1.15	14.49	.92	115.30	5.25	3.39	-1046.00	-713.00
2054	-6.00	-26.00	12.33	1.02	10.00	1.88	105.95	7.22	19.31	-542.00	-337.00
2055	-1.00	-7.00	14.68	.91	9.00	1.15	101.24	8.14	5.53	-131.00	-28.00
2056	1.00	6.00	16.88	.86	12.18	1.05	98.92	7.10	6.08	121.00	195.00
2057	3.00	20.04	18.80	1.08	9.76	.	96.51	9.34	6.60	416.00	597.00
Mean	-4.53	-16.59	11.7	1.28	12.88	1.67	104.75	6.41	6.26	-352.73	-238.75
C.V. (%)	113.46	108.08	27.09	30.98	28.49	55.09	5.0	16.54	86.58	107.65	129.94
Multi. Regre.	(a)= 90.03	Beta in 'a'	(b)= - 0.05	Beta in 'a'	(b)= 0.08	(b)= 0.29	(b)= - 0.93	(b)= 0.39	(b)= - 0.03	Beta in 'a'	(b)= 0.00071
Predi-ctors model						$X_1 = 90.03 + b.X_{11} + b.X_9 + b.X_6 + b.X_5 + b.X_8 + b.X_7 + b.X_3$					

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.41 exhibits that the mean return on sales of JCF during 10 years of magnitude is  $-4.53\%$ . This negative mean value shows that in most of years this organization is running on operating loss. This loss may be occurred because of higher cost of goods sold due to unfavourable terms of purchase of raw materials and higher administrative overhead expenditures. So, it is not favourable for the health of the organization. This mean value is varying by  $113.46\%$  from ROS of different fiscal years. So that it is not representing properly about the series of ROS of different fiscal years. The average return on net capital employed is  $-16.59\%$ . The negative RONCE reveals the fact that the management of JCF is not success in utilizing their capital employed properly. So, operating loss occurred in the organization. This mean RONCE is varying by  $108\%$  from RONCE of different fiscal year. It means that it is not representing properly about the series of RONCE.

The mean Asset turnover ratio of JCF is  $11.70$ , which seems to be satisfactory. It means this organization has been trying to utilize their production capacity up to  $90\%$ , which is favourable symptom for the organization. This mean value is varying by  $27.09\%$ , which shows lower degree of variation. So, it is representing properly about the series of ATR of different fiscal year.

The average quick ratio of JCF is  $1.278$ , which is more than the ideal quick ratio. So this organization is able to pay their current liabilities immediately. Since there is lower degree of variation shown by c.v. i.e.  $30.98\%$ , it reveals the fact that this mean value is representing properly about the series of quick ratio of different fiscal years.

The mean administrative overhead ratio of this organization is  $12.98$ . Since this mean value is double to the ideal AOR i.e.  $6\%$ , it is not favourable for the organization and it should be reduced immediately.

The mean AOR is varying by 28.49 so it is representing properly about the series of AOR.

The average debt-equity ratio of JCF is 1.67, which is not satisfactory. It means that this organization is not in a position to pay their long-term debt by their equity level, which shows that the organization is not financially sound. Since there is lower degree of variation i.e.55.09, which reveals the fact that, this mean value is varying moderately representing about the series of DER of different fiscal years.

The mean operating cost percentage of this organization is 104.75 percent. It reveals the fact that the operating cost of JCF is more than the sales revenue by approximately 5% during 10 years of time, which is not favourable for the existence of the organization. Since there is lower degree of variation shown by c.v. i.e.5% it shows that this mean value is representing properly about the series of OCP.

The average stock turnover ratio of JCF is 6.41, which seems to be satisfactory. It shows that there is no ideal stock, which is favorable sign for the betterment of the organization. Since there is lower degree of variation shown by c.v. value i.e.16.54% it shows that this mean value is representing properly about the series of STR.

The mean employee productivity ratio of JCF is 6.26, which seems to be satisfactory. Since this mean value is varying by 86.58%, it shows higher degree of variation so, it is not representing properly about the series of EPR of different fiscal years. The average operating loss during 10 years is 352.73lakh. This is bad signal for the existence of the organization. Since there is very much higher degree of variation shown by c.v. value, this mean value is not representing about the series of OP of different fiscal year.

The mean net loss during 10 years of magnitude is 238.75lakh, which raises question for the survival of the organization. Since, the C.V. value shows very much higher degree of variation so that this mean value is not representing properly about the series of NP of different fiscal years.

The multiple regression rows show the value of constant and beta values i.e. coefficient of independent variables under different heads.

The predictor's model shows multiple regression equation of Y on X. Here dependent variable Y is ROS and rest 10 variables are independent variables X. The beta values show the rate of change in dependent variable by one unit change in independent variable.

## Factor Analysis

**Table No. 5.42.1**  
**Communalities**

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.985
VAR00002	1.000	.971
VAR00003	1.000	.882
VAR00004	1.000	.954
VAR00005	1.000	.804
VAR00006	1.000	.997
VAR00007	1.000	.983
VAR00008	1.000	.581
VAR00009	1.000	.718
VAR00010	1.000	.996
VAR00011	1.000	.959

**Extraction Method: Principal Component Analysis.**

Table 5.42.1 shows the initial and extracted communalities of different variables. The initial communalities show the proportion of variance accounted for by the common factors i.e. for all the variables. The extracted communalities show the values i.e. the sum of squares of loadings assigned for different component for different variables shown in the table of Rotated component matrix.

**Table No. 5.42.2**  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.836	53.059	53.059	5.836	53.059	53.059	5.436	49.422	49.422
2	2.300	20.907	73.966	2.300	20.907	73.966	2.385	21.685	71.107
3	1.695	15.409	89.375	1.695	15.409	89.375	2.009	18.267	89.375
4	.763	6.936	96.311						
5	.287	2.613	98.923						
6	7.923E-02	.720	99.644						
7	3.921E-02	.356	100.000						
8	3.293E-17	2.994E-16	100.000						
9	-1.282E-16	-1.166E-15	100.000						
10	-1.904E-16	-1.731E-15	100.000						
11	-7.491E-16	-6.810E-15	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.42.2 contains final statistics for each factor. It shows the total initial eigenvalues i.e. the total variance explained by each factor. The next column contains the percentage of the total variance attributed to each factor. The last column, cumulative percent indicates the percentage of variance attributed to that factor and those that precede it. It reveals the fact that 89% of the total variance is attributed to first three factors. Remaining 8 factors are together account for only 11% of variance. Thus, a model with three factors may be adequate to represent the financial ratios of JCF.

**Table No. 5.42.3**  
**Rotated Component Matrix**

	<b>Component</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
VAR00001	.988	2.120E-03	9.830E-02
VAR00002	.947	-.231	-.145
VAR00003	.637	-.540	.431
VAR00004	-7.183E-02	.918	-.327
VAR00005	-.203	-5.708E-03	-.873
VAR00006	.104	.933	.340
VAR00007	-.981	1.985E-02	-.147
VAR00008	.430	-.550	.305
VAR00009	-.135	-.125	.827
VAR00010	.998	-4.544E-03	-7.474E-03
VAR00011	.970	-9.513E-02	9.249E-02

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 5 iterations.**

Table 5.42.3 depicts that the component first is positively correlated with ROS, RONCE, ATR, OP and NP negatively correlated with OCP so that this component might be named as 'OPERATING

LOSS'. The second component is positively correlated with QR and DER and negatively correlated with ATR and STR. So this component may be interpreted as 'SOLVANCY'. The last factor is positively associated with EPR and negatively correlated with AOR. So, this last factor is described as 'PRODUCTIVITY'. Thus, the financial ratio of JCF can be fairly well characterized by three factors Operating loss, Solvency and productivity.

### 5.1.7 Nepal Rosin & Turpentine Limited

**Table No. 5.43**

**Budgeted and Actual Production of NRTL during 2049 to 2058 B.S**

F. Y.	Rosin collection (M.ton)		Rosin production (M.ton)		Turpentine production (M.liter)	
	Bud.	Act.	Bud.	Act.	Bud.	Act.
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
2049- 50	.	2208.00	.	1647.25	.	386.80
2050- 51	3500.00	2670.00	2100.00	1232.65	560.00	287.24
2051- 52	3500.00	2518.00	2510.00	1981.66	650.00	482.29
2052-53	3500.00	2451.26	2555.00	2391.91	595.00	599.90
2053- 54	4000.00	3169.00	2800.00	961.00	790.00	268.00
2054- 55	4000.00	3948.00	2800.00	1835.00	600.00	501.00
2055- 56	4000.00	2624.00	2800.00	1518.00	600.00	341.00
2056- 57	4000.00	3211.00	2800.00	2130.00	600.00	443.00
2057- 58	4000.00	3928.00	2800.00	2959.00	600.00	609.00
2058- 59	5000.00	.	3500.00	.	750.00	.
Mean	3944.44	2969.7	2740.56	1850.72	638.33	435.36
C.V. (%)	11.76	21.42	13.48	32.76	12.32	28.71
Trend line equation	X <sub>2</sub> = - 287039+ 141.67(X <sub>1</sub> )	X <sub>3</sub> = - 346442+ 170.19(X <sub>1</sub> )	X <sub>4</sub> = - 235523+ 116.0(X <sub>1</sub> )	X <sub>5</sub> = - 219012+ 107.58(X <sub>1</sub> )	X <sub>6</sub> = - 14082+ 7.17(X <sub>1</sub> )	X <sub>7</sub> = - 32912.2+ 16.24(X <sub>1</sub> )

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.43 exhibits that the average budgeted quantity of rosin collection is 3944.44 M. ton. during 10 years of time. Since the C.V. value shows lower degree of variation, this mean value is representing properly about the series of budgeted quantity of rosin collection. The trend line equation reveals the fact that the budgeted quantity of rosin collection is increasing by 141.67 m. ton per year with the value of constant.

The mean actual quantity of Rosin collection of NRTL is 2969.7 m. ton. Since this mean value is varying by 21.42%, it is also representing properly about the actual quantity of Rosin collection of different fiscal years. The trend line equation shows positive growth rate of 170.2m.ton per year with value of constant.

The above analysis related to budgeted and actual quantity of Rosin collection reveals the fact that the management of this organization is not successful in achieving their targeted quantity of Rosin collection. The growth rate of actual quantity is more than the budgeted quantity of Rosin collection, which shows positive signal for the betterment of the organization.

The average budgeted quantity of production of Rosin is 2740.56 m. ton per year during 10 years of magnitude. The c.v. value of 13.48% shows lower degree of variation. So, this mean value is representing properly about the series of budgeted quantity of Rosin production. The trend line equation shows increment of production by 116 m. ton. per year with value of constant.

The mean actual quantity of production of Rosin is 1850.72 m. ton. Since the mean actual quantity is varying by 32.76% from actual quantity

of production of Rosin of different fiscal year, it is representing properly about the series of actual quantity of Rosin production. The trend line equation shows increment in actual quantity of production of Rosin by 107.58 m. ton with value of constant.

The above analysis related to budgeted and actual quantity of production of Rosin reveals the fact the management is not serious for the achievement of their targeted production. The growth rate of actual quantity of production is lower than the budgeted one, which is unfavourable for the organization.

The average budgeted quantity of production of turpentine is 638.33 million liter per year during 10 years of magnitude. The c.v. value shows lower degree of variation. So, this mean value is representing properly about the series of budgeted production of turpentine. The trend line equation shows increment of 7.17 m. liter per year in budgeted quantity of production of turpentine with value of constant.

The mean actual quantity of production of turpentine of NRTL is 435.36 m. liter. The c.v. value of 28.71% shows lower degree of variation. So, we conclude that this actual mean value is representing properly about the actual quantity of production of turpentine of different fiscal years. The trend line equation shows increment in actual quantity of production of turpentine by 16.24 m. liter per year with value of constant.

The above analysis related to budgeted and actual quantity of production of turpentine reveals the fact that the management is not successful in achieving their targeted quantity of production. The growth rate of actual quantity of production is more than the budgeted quantity of production, which is favourable symptom for the betterment of the organization.

#### **Table No. 5.44**

**Paired sample test of Budgeted and Actual Production of NRTL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5%s.l.	r <sup>2</sup>	r	Sig.	Result at10%s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	747.59	61.84	163.46	4.57	7	0.003	Sig.	0.499	0.707	0.05	Sig.
X <sub>4</sub> -X <sub>5</sub>	769.47	81.49	221.69	3.47	7	0.01	Sig.	0.067	0.259	0.536	N.S.
X <sub>6</sub> -X <sub>7</sub>	182.95	94.42	61.08	2.99	7	0.02	Sig.	0.151	-0.39	0.343	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual volume of production of Rosin collection, Rosin production and Turpentine production.]**

Table 5.44 reveals that, the mean paired difference of budgeted and actual quantity of collection of Rosin is 747.59m.ton. The c.v. of 61.84% shows that the mean value is moderately representing about the series of paired difference of different fiscal years. The tabulated value of  $t_{0.05}$  for 7 d. f. is 2.37, which is less than the calculated value of t. So, the result is significant and null hypothesis is rejected. It means that there are significant differences between budgeted and actual quantity of collection of Rosin of different fiscal years. The value of  $r^2$  depicts that only 50% of variation in actual quantity of collection of Rosin is due to budgeted quantity of Rosin collection and rest 50% of variation in actual quantity is due to other factors or vice versa. The value of r shows that there is higher degree of positive correlation between budgeted and actual quantity of Rosin collection, which is significant at 10% significance level.

The average paired difference between budgeted and actual quantities of production of Rosin during 10 years of magnitude is 769.47. Since the C.V. of 81.49% shows higher degree of variation. So, this mean value is not representing properly about the series of paired differences. The tabulated value of ' $t'_{0.05}$  for 7 d.f. is 2.37 which is less than the calculated value of 't'. So the result is significant and null

hypothesis is rejected. It means that there are significant differences between budgeted and actual quantities of production of rosin of different fiscal years. The value of  $r^2$  reveals the fact that only 6.71% of variation in actual quantity of production of rosin is due to budgeted quantity of production and rest 93.29% of variation in actual quantity is due to other factors or vice versa. The value of  $r$  shows lower degree of positive correlation, which is not significant at 10% level of significance.

The mean paired difference of budgeted and actual quantity of production of turpentine is 182.95 M. liter. This mean value is varying by 94.42%, which shows higher degree of variation. So, it is not representing properly about the series of paired differences of different fiscal years. The tabulated value of  $t_{0.05}$  for 7 d. f. is 2.37, which is also more than the calculated value of  $t$  so the result is significant and the null hypothesis related to production of turpentine is rejected. It means that there is a significant difference between budgeted and actual quantity of production of turpentine of different fiscal year. The value of  $r^2$  depicts that only 15.05% of variation in actual quantity of production of turpentine is due to budgeted quantity of production of turpentine and rest 84.95% of variation in actual quantity is due to other factors.

**Table No. 5.45**

**Budgeted and actual Sales of NRTL during 2049 to 2058 B.S**

F.Y.	Rosin		Turpentine	
	Budgeted (M. ton)	Actual (M. ton)	Budgeted (M. liter)	Actual (M. liter)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049- 50	N.A.	1363.93	N.A.	321.04
2050- 51	2100.00	1406.01	560.60	519.61
2051- 52	2450.00	2185.27	650.00	552.91
2052-53	2555.00	2443.39	595.00	503.55
2053- 54	2800.00	922.00	790.00	57.00
2054- 55	2800.00	1130.00	600.00	728.00
2055- 56	2000.00	2163.00	600.00	318.00
2056- 57	2800.00	2071.00	600.00	486.00
2057- 58	2800.00	2954.00	600.00	576.00
2058- 59	5000.00	.	3500.00	.
Mean	2811.67	1848.73	943.96	451.35
C.V.(%)	31.12	36.5	101.79	42.99
Trend line equation	$X_2 = -419628 + 205.67(X_1)$	$X_3 = -237576 + 116.62(X_1)$	$X_4 = -390261 + 190.46(X_1)$	$X_5 = -22598.4 + 11.23(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.45 is evident that the mean budgeted quantity of sales of rosin is 2811.67 M.ton during 10 years of magnitude. The C.V. of 31.12% shows the lower degree of variation. So, this mean value is representing properly about the series of budgeted quantity of sales of rosin. The trend line equation reveals increment of budgeted sales of rosin by 205.67m.ton per year with value of constant.

The average actual quantity of sales rosin is 1848.73 m. ton. Since this mean value is varying by 36.5% from actual quantity of sales of rosin of different fiscal year, this mean value is moderately representing about the series. The trend line equation shows positive growth rate of 116.62 M. ton per year with value of constant.

The above analysis related to budgeted and actual quantity of sales of rosin reveals the fact that the management is not successful in achieving their targeted quantity of sales in an average during 10years of time. The actual growth rate of sales of rosin is less than the budgeted quantity of sales which shows actual performance is deteriorating per year, which is not favourable symptom for the betterment of the organization.

The mean budgeted quantity of sales of turpentine is 943.96 million liters. Since there is higher degree of variation shown by c.v. value, this mean value is not representing properly about the series of budgeted sales. The trend line equation shows increment of budgeted sales quantity of turpentine by190.46m.liter per year with value of constant.

The mean actual quantity of sales of turpentine is 451.35 m. liter during 10 years of time. This mean value is varying by 42.99% from actual sales quantity of different fiscal year. The trend line equation shows positive growth rate of 11.23 m. liter during 10 years of magnitude.

The above analysis related to budgeted and actual quantity of sales of turpentine reveals the fact that the management is not successful in achieving their targeted sales of turpentine. The actual growth rate of sales is very much lower than the growth rate of budgeted sales. So, there

might be ambitious budgeting system, which is not based on actual performance.

**Table No. 5.46****Paired sample test of Budgeted and actual Sales of NRTL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	R	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	628.79	124.63	277.06	2.27	7	0.058	N.S.	0.002	-0.049	0.909	N.S.
X <sub>4</sub> -X <sub>5</sub>	156.82	165.14	91.56	1.71	7	0.131	N.S.	0.578	-0.76	0.029	Sig.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual amount of Rosin and turpentine.]**

Table 5.46 exhibits that the mean paired difference between budgeted and actual quantity of sales of rosin of different fiscal years is 628.79 m. ton. The c.v. of 124.63% shows higher degree of variation. So, this mean value is not representing properly about the series of paired differences. The tabulated value of 't'<sub>0.05</sub> for 7 d.f. is 2.37 which is more than the calculated value of t so the result is not significant and the null hypothesis accepted. It means that there is no significant difference between budgeted and actual quantity of sales of rosin during 10years of time. The value of r<sup>2</sup> depicts that only 0.24% of variation in actual quantity of rosin is due to budgeted quantity of sales and rest 99.76% of variation in actual quantity of sales is due to other factors or vice versa. The value of r shows lower degree of negative correlation between budgeted and actual quantity of sales of rosin, which is not significant at 10% level of significance.

The average paired difference between budgeted and actual quantity of sales of turpentine is 156.82 m. liters during 10 years of magnitude. The c.v. of 165.14% shows very much higher degree of variation. So, this mean value is not representing properly about the series of paired differences. The tabulated value of 't'<sub>0.05</sub> for 7 d.f. is 2.37 which is less than the calculated value of T. So, the result is not significant and

null hypothesis about the sales of turpentine is accepted. It means that there are not significant differences between budgeted and actual quantity of sales of different fiscal years. The value of  $r^2$  depicts that 57.8% of variation in actual quantity of sales of turpentine is due to budgeted quantity of sales of turpentine and rest 42.2% of variation in actual quantity of sales is due to other factors or vice versa. The value of  $r$  shows higher degree of negative correlation between budgeted and actual quantity of sales of turpentine which is significant at 10% level of significance.

**Table No. 5.47**

**Budgeted and Actual Total Operating Income & Expenditure of NRTL During  
2049 to 2058 B.S**

F.Y.	Total operating income		Total operating expenditure	
	Budgeted (Rs.lakh)	Actual (Rs.lakh)	Budgeted (Rs.lakh)	Actual (Rs.lakh)
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2049- 50	N.A.	716.69	N.A.	518.24
2050- 51	840.00	663.16	730.00	599.71
2051- 52	1081.80	824.19	1066.50	858.58
2052-53	1090.81	1189.01	1053.84	1075.95
2053- 54	1620.36	530.00	1346.67	580.00
2054- 55	1746.00	728.00	1359.00	761.00
2055- 56	1512.00	940.00	1492.00	1159.00
2056- 57	1403.00	1050.00	1372.00	1009.00
2057- 58	1312.00	1110.00	1264.00	1170.00
2058- 59	1684.00	.	1592.00	.
Mean	1365.55	861.23	1252.89	859.05
C.V.(%)	22.7	27.13	21.0	29.88
Trend line equation	$X_2 = -155513 + 76.38(X_1)$	$X_3 = -84830 + 41.74(X_1)$	$X_4 = -163825 + 80.37(X_1)$	$X_5 = -140141 + 68.68(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of  
Nepal, Government of Nepal).**

Table 5.47 reveals the fact that the mean budgeted amount of total operating income is Rs.1365.55lakh per year during 10 years of time. Since the C.V. value shows lower degree of variation i.e. 22.7%. So, this mean value is representing properly about the series of budgeted total operating means. The trend line equation shows increment of budgeted operating income by 76.38lakh per year with value of constant.

The average actual amount of total operating income is Rs.861.23lakh, which is varying by 27.13% from other actual operating income of different fiscal years. So, this mean value is representing properly about the series of actual total operating income. The trend line equation shows positive growth rate i.e. increment in actual amount of total operating income by Rs.41.74lakh per year with value of constant.

The above analysis related to budgeted and actual amount of total operating income reveals the fact that management is not serious to meet the targeted amount of total operating income. The growth rate also shows that the budgeted amount of total operating income is increasing by double amount per years to the increment in actual amount of operating income an average. So, it can be concluded that budgeting system is not based on actual performances.

The mean amount of budgeted total operating expenditure of NRTL is Rs.1252.89lakh per year during 10years of time. Since the C.V. value shows lower degree of variation (i.e.21%), this mean value is representing properly about the series of data. The trend line equation depicts positive growth rate of Rs.80.37lakh per year with value of constant.

The average actual total operating expenditure of NTRL is Rs.859.08lakh. The c.v. value of 29.88% displays lower degree of variation. So, this mean value is representing properly about the series of actual total operating expenditures of different fiscal years. The trend line equation shows increment of Rs.68.68lakh per year with value of constant during 10 years of time.

The above analysis related to budgeted and actual total operating expenditure reveals the fact that there is lack of co-ordination found between budgeted amount and actual performance. It may mean that

management is not serious to achieve their target. The growth rate of budgeted and actual operating expenditure also verifies that actual performance is decreasing which is not favourable for the organization.

**Table No. 5.48**

**Paired Sample Test of Budgeted and Actual Total Operating Income & Expenditure of NRTL**

Pair	Paired differences			t	d.f.	Sig.	Result at5% s.l.	r <sup>2</sup>	r	Sig.	Result at10% s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	446.45	99.91	148.24	3.01	7	0.020	Sig.	0.040	-0.20	0.634	N.S.
X <sub>4</sub> -X <sub>5</sub>	308.85	66.05	93.97	3.29	7	0.013	Sig.	0.158	0.398	0.329	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual amount of Total operating income & expenditure.]**

Table 5.48 shows that the mean paired difference budgeted and actual amount of total operating income is RS.446.45lakh. Since the C.V. value of 91.91% shows higher degree of variation, this mean value is not representing properly about the series of paired difference of different fiscal years. The tabulated value of 't'<sub>0.05</sub> for 7d.f. is 2.37 which is less than the calculated value of 't'. So, the result is significant and the null hypothesis is rejected. It means that there is a significant difference between budgeted and actual amount of total operating income of different fiscal years. The value of r<sup>2</sup> depicts that only 4% of variation in actual amount of total operating income is due to their budgeted amount of total operating income and rest 96% of variation in actual amount of total operating income is due to other factors or vice versa. The value of r shows lower degree of negative correlation between budgeted and actual amount of total operating income, which is not significant at 10% level of significance.

The average paired difference of budgeted and actual amount of total operating expenditure is Rs.308.85lakh. Since this mean value is varying by 85.05% from the paired differences of different fiscal year, it is not representing properly about the series. The tabulated value of  $t'_{0.05}$  for 7d.f. is 2.37 which is less than the calculated value of  $t'$  (i.e.3.287) so that the result is significant and the null hypothesis is rejected. It means that there is a significant difference between budgeted and actual amount total operating expenditures. The value of  $r^2$  displays that only 15.87% variation in actual amount of total operating expenditure is due to their budgeted amount and rest 84.13% of variation in actual amount is due to other factors. The value of  $r$  reveals that there is lower degree of positive correlation between budgeted and actual amount of total operating expenditure, which is not significant at 10% significance level.

**Table No. 5.49**  
**Financial Ratios of NRTL**

F.Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	27.69	36.74	1.32	.32	9.89	.82	72.00	1.81	2.06	198.45	198.45
2050	9.57	12.92	.94	.34	13.56	.82	94.00	1.36	1.54	63.45	63.45
2051	-4.17	-7.00	1.23	.19	13.37	.99	104.17	5.03	1.92	-34.39	-22.70
2052	10.00	8.95	1.88	1.66	11.21	.93	90.00	31.57	2.83	113.00	66.65
2053	-9.00	-4.19	.87	.44	21.40	.82	109.43	.65	1.26	-50.00	41.42
2054	-4.00	-2.18	1.26	.26	23.21	1.64	104.53	.53	.85	-33.00	25.00
2055	-23.00	-17.00	1.74	.18	8.40	2.45	123.30	.77	2.11	-219.00	-206.00
2056	3.00	3.00	2.05	.22	21.62	1.71	96.10	.95	2.32	41.00	41.00
2057	-5.41	-5.00	2.22	.22	26.58	1.64	105.41	.99	2.42	-60.00	-60.00
Mean	0.52	2.92	1.5	0.43	16.58	1.31	99.88	4.85	1.92	2.17	16.36
C.V. (%)	2751.9	529.79	32.67	109.3	40.05	43.51	14.31	208.45	31.77	5504.61	669.62
Multi. Regre.	(a)= 3.73	(b)= 0.53	Beta in 'a'	(b)= - 9.29	(b)= 0.15	(b)= - 1.27	Beta in 'a'	(b)= 0.42	(b)= - 1.59	(b)= 0.096	(b)= - 0.048
Predi-ctors model						$X_1 = 3.73 + b.X_{11} + b.X_5 + b.X_9 + b.X_4 + b.X_6 + b.X_2 + b.X_8 + b.X_{10}$					

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.49 above reveals the fact that the average return on sales is 0.52 percent. It means that the firm is running on marginal operating profit in average. When we see the ROS of different fiscal years mostly, we find that there is negative ROS, which shows that this organization has higher cost of goods sold due to inability to purchase at favourable terms and minimizing other overhead costs. The c.v. of 2751.92% shows very much higher degree of variation so, this mean value is not representing properly about the series of ROS.

The mean RONCE of NRTL is 2.92%. It also shows that the firm is not utilizing their capital employed properly. Since the C.V. value shows very much higher degree of variation. So, this mean value is not representing properly about the series of RONCE.

The average asset turn over ratio shown by the table above is 1.5, which is not satisfactory. It reveals the fact that the management of the organization is not utilizing properly their exiting plant capacity, which results in reduction of production volume and increase in the cost of production. The c.v. of 32.67% shows lower degree of variation. So, the mean value is representing properly about the series of ATR.

The mean quick ratio of NRTL is 0.43, which seems to be very low. It means that this organization is not able to pay their current liabilities immediately. The c.v. of 109.3% shows that this mean value is varying by 109.3% firm quick ratios of different fiscal years. So, it is not representing properly about the series.

The average administrative overhead is 16.58, which is very much higher than the ideal AOH (i.e. should not be more than 6%). So, the management has to reduce their AOH immediately. This mean AOH is varying by 40.05% from AOH of different fiscal years.

The mean debt- equity ratio is 1.31, which reveals the fact that the long- term debt of the institution is more than their equity. Therefore, the organization is not financially sound. The c.v. of 43.51% shows that the mean value is moderately representing about the series of DER.

The average operating cost percentage of NRTL is 99.88, which is almost 100%. The firm has to reduce their operating cost so that they can earn operating profit. The c.v value shows lower degree of variation. So, we conclude that the mean value is representing properly about the series of OCP.

The mean stock turn over ratio of NRTL during 10years of time is Rs.4.85lakh, which seems to be satisfactory. Since the C.V. value shows very much higher degree of variation, this mean value is not representing properly about the series of STR.

The average employee turn over ratio of Nepal Rosin and Turpentine limited is 1.92lakh, which does not seem to be satisfactory. The c.v. value shows lower degree of variation. So, this mean value of EPR is representing properly about their series.

The mean operating profit is shown to be 2.17lakh during 10 years of time, which is very much low. It raises question for the survival of the organization. Since the c.v value shows very much higher degree of variation, this mean value is not representing properly about the series of OP.

The average net profit during 10 years of time is Rs.16.36lakh. When we see the figures of net profit, we find that mostly this organization has occurred net loss, which is bad signal for the existence of the organization.

The multiple regression row shows the value of constant and coefficients for different independent variables separately under different

variable heads. The predictor's model provides formula to estimate the value of dependent variable by substituting the value s of constant and beta values.

## Factor Analysis

**Table No. 5.50.1**

### Communalities

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.985
VAR00002	1.000	.928
VAR00003	1.000	.993
VAR00004	1.000	.869
VAR00005	1.000	.379
VAR00006	1.000	.806
VAR00007	1.000	.989
VAR00008	1.000	.933
VAR00009	1.000	.876
VAR00010	1.000	.990
VAR00011	1.000	.955

**Extraction Method: Principal Component Analysis.**

Table 5.50.1 shows the initial and extracted communalities of different variables. The proportion of variance accounted for by the common factors or the communalities of variables is 1 for all the variables as shown in the initial communalities column. The extraction column shows the value, which is the sum of squares of factors loading allocated for different components shown in the table shown as rotated component matrix.

**Table No. 5.50.2**  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.752	52.294	52.294	5.752	52.294	52.294	5.266	47.876	47.876
2	2.623	23.842	76.137	2.623	23.842	76.137	2.375	21.595	69.471
3	1.327	12.064	88.201	1.327	12.064	88.201	2.060	18.730	88.201
4	.944	8.584	96.785						
5	.274	2.491	99.276						
6	4.607E-02	.419	99.695						
7	2.656E-02	.241	99.936						
8	6.994E-03	6.358E-02	100.000						
9	1.948E-16	1.771E-15	100.000						
10	3.204E-17	2.913E-16	100.000						
11	-1.505E-16	-1.369E-15	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.50.2 contains final statistics for each factor. This table shows that 88.2% of the total variance is attributed to the first three factors and the remaining 11.8% of variance is accounted together by 8 factors. Thus, a model with three factors may be adequate to represent the whole data.

**Table No. 5.50.3**  
**Rotated Component Matrix**

	<b>Component</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
VAR00001	.981	.142	3.513E-02
VAR00002	.959	7.924E-02	-3.475E-02
VAR00003	-.148	-2.123E-02	.985
VAR00004	.198	.890	.196
VAR00005	-8.226E-02	-.598	.122
VAR00006	-.688	-.341	.466
VAR00007	-.981	-.137	-8.390E-02
VAR00008	.140	.912	.287
VAR00009	.106	.425	.827
VAR00010	.970	.220	3.110E-02
VAR00011	.953	7.243E-02	-.206

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 5 iterations.**

Table 5.50.3 shows that the component first is positively correlated with ROS, RONCE, OP, and NP and negatively correlated with DER and OCP. So this component might be named as 'OPERATING LOSS'. The second component is positively correlated with QR, STR and negatively correlated with AOR. So it can be named as 'LIQUIDITY'. The third component is positively correlated with ATR, EPR. So this factor is described as 'PRODUCTIVITY'. Thus, the financial ratios of NRTL can be fairly well characterized by three factors Profits, Liquidity and Productivity.





### 5.1.8 Royal Drugs Limited

Table No: - 5.51

#### Budgeted and Actual Production of RDL During 2049 to 2058 B.S

F. Y.	Tablets, liquid ointments, capsules powder etc.		Jeevan-Jal (packets in 000)		I.V. ENT Bottles (bottles in 000)	
	Bud.	Act.	Bud.	Act.	Bud.	Act.
<b>X<sub>1</sub></b>	<b>X<sub>2</sub></b>	<b>X<sub>3</sub></b>	<b>X<sub>4</sub></b>	<b>X<sub>5</sub></b>	<b>X<sub>6</sub></b>	<b>X<sub>7</sub></b>
2049- 50	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
2050- 51	N.A.	171904.0	.00	.00	.00	.00
2051- 52	256220.0	190744.0	.00	.00	.00	.00
2052-53	180000.0	214757.0	.00	.00	.00	.00
2053- 54	182500.0	224348.0	.00	436.00	.00	.00
2054- 55	204453.0	199924.0	6300.00	5456.00	556.00	475.00
2055- 56	231700.0	203877.0	6000.00	.00	1300.00	.00
2056- 57	182790.0	229080.0	166.00	2040.00	5000.00	472.00
2057- 58	159050.0	134169.0	3000.00	4596.00	600.00	552.00
2058- 59	211716.0	139590.0	2000.00	5000.00	600.00	700.00
Mean	160890.0	.	6000.00	.	700.00	.
C.V. (%)	196591.0	189821.4	2346.6	1947.56	875.6	244.33
Trend line equation	16.5	18.24	118.55	123.27	172.54	121.57
	X <sub>2</sub> = 1.2E+07 – 5912.25(X <sub>1</sub> )	X <sub>3</sub> = 1.0E+07 – 4846.77(X <sub>1</sub> )	X <sub>4</sub> = - 1033090+ 504.23(X <sub>1</sub> )	X <sub>5</sub> = - 1278851 + 623.87(X <sub>1</sub> )	X <sub>6</sub> = - 363079 + 117.24(X <sub>1</sub> )	X <sub>7</sub> = - 184526 + 90.0(X <sub>1</sub> )

(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).

Table 5.51 shows that the average budgeted and actual quantity of production of tablets, liquid ointments etc. are 196591000 pieces and 189821400 pieces respectively. The average budgeted quantity of

production of Jeevan-Jal is 23466000 packets and actual average quantity is 1947560 packets. Similarly the average budgeted quantity of production of I.V. and ENT bottles is 875600 pieces where as actual average quantity of production is 244330 pieces. All these analyses reveal the fact that the production budgets are not prepared on actual basis. It means that either the production budget is ambitious or the actual performance is not satisfactory.

The c.v. (Coefficient of variation) of Tablets, Liquid Ointments, Capsules and Powders are 16.5% and 18.24% respectively which show that the average budgeted and actual quantity of production of tablets etc, are varying by 16.06 and 18.24% respectively from other items of the series (i.e. budgeted and actual quantity of production of different fiscal years). It means that the mean or average value of budgeted and actual quantity is representing more about the series because of lower degree of variation, the c.v. of budgeted and actual quantity of production of Jeevan-Jal are 118.55% and 123.27% respectively. Since the C.V. values are very much high, it is evident that the mean values or average amount of production of Jeevan-Jal is not representing properly about the budgeted and actual quantity of production of different fiscal years. Similarly, the C.V. of I.V. & ENT for budgeted and actual quantity of production is very much high i.e.172.59% and 121.57% respectively. It also viewed that the mean value of budgeted quantity of production of I.V.& ENT bottles is varying by 172.59% from budgeted quantity of production of different fiscal years, whereas the actual quantity of production of I.V.& ENT of different fiscal years is varying by 121.57% from the average quantity of actual production of I.V.& ENT bottles. The c.v values of Jeevan-Jal and I.V.& ENT are showing high, because in

early 4 years, the production quantities of these products are zero and the mean and c.v. is calculated on the basis of 9 or 10 years.

The Trend line equations give us the formula to predict or estimate the budgeted and actual quantity of production in the given fiscal year. The trend line equation  $X_2$  shows that the budgeted quantity of production of tablets, liquid ointments etc. is by 5912.25 thousand piece per year with value of constant.

The trend line equation of actual quantity of production of tablets, liquid ointments etc. shows that it is decreasing by 4846.76 thousand piece per year with value of constant.

The trend line equation of production of Jeevan-Jal shows that the budgeted quantity of production is increasing by 504.23 thousand packets per year whereas the actual quantity of production is increasing 623.87 thousand packets per year with value of constant. It reveals the fact that actual performance is better than budgeted quantity. It also shows that the budgeted quantity of production of Jeevan-Jal is fixed haphazardly or without taking consent of the people working there.

Similarly the trend line equation of I.V. and ENT bottles shows positive growth rate with the value of constant. Here we find that the growth rate of budgeted production is higher than the actual production i.e. 117.24 and 90.0 thousand bottles respectively. It reveals the fact that the budgeted quantities are not fixed on actual basis. It may mean that the performance is not satisfactory.

**Table No. 5.52**

**Paired sample test of Budgeted and actual Production of RDL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% <i>s.l.</i>	r <sup>2</sup>	r	Sig.	Result at10% <i>s.l.</i>
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	8992.5	520.88	16560.55	0.54	7	0.604	N.S.	0.003	0.054	0.899	N.S.

X <sub>4</sub> -X <sub>5</sub>	-6.89	36995.0	849.52	-0.01	8	0.994	N.S.	0.034	0.487	0.184	N.S.
X <sub>6</sub> -X <sub>7</sub>	650.78	233.04	505.53	1.29	8	0.234	N.S.	0.107	0.370	0.327	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantity of production of tablets, liquid ointments etc., Jeevan-Jal, I.V. ENT bottles.]**

Table 5.52 shows mean, c.v., S.E. of mean of paired differences between budgeted and actual production quantities of different products of royal drugs ltd. The average difference between budgeted and actual quantity of production of tablets etc. is 8992.5 thousand pieces. It means that budgeted amount of production is high by 9000 thousand pieces in average where as the negative average value of paired difference shows that actual amount of production of Jeevan-Jal exceeds the budgeted quantity of production by 7 thousand packets in average. Similarly, the average difference between budgeted and actual quantity of production of I.V. and ENT bottles is 650.7778 thousand bottles. Here budgeted quantity also exceeds the actual quantity of production. It reveals the fact that budgeted quantity is not determined on actual basis. It is an inefficiency of the management.

The coefficient of variation of paired difference between budgeted and actual quantities of production of tablets and liquid ointments, etc, Jeevan-Jal, and I.V. & ENT bottles are 520.88, 36995.0 and 233.04 percent respectively. All these values show that there is higher degree of variation with their mean value. It means that the mean value is not representing truly about the difference of pairs of different fiscal year.

Standard error of mean shows the dispersion of observations about the mean of the distribution. In the table above S.E. of mean is showing very high. So, the mean value is not representing properly about the observation of paired differences of different fiscal years.

The tabulated value of ( $t_{0.05}$ ) for 7 d.f. is 2.37 and 8 d.f. is 2.31. Since the calculated values of 't' are less than the tabulated value, the result is not significant. It means that the null hypotheses are accepted. It reveals the fact that there is not a significant difference between budgeted and actual quantities of production of tablets etc, Jeevan–Jal, I.V. & ENT bottles at 5% level of significance.

The value of  $r^2$  shows the coefficient of determination of budgeted and actual quantities of production of different products of royal drugs ltd. In the table above the values of  $r^2$  are 0.003, 0.034 and 0.107 respectively. It means only 0.3%, 3.4% and 10.7% of variation in actual quantities of production of tablets etc., Jeevan–Jal and I.V. and ENT bottles respectively are due to budgeted quantities of productions of different products and rest 99.7%, 96.6% and 89.3% of variation in actual quantities of production of tablets etc., Jeevan–Jal and I.V. and ENT bottles respectively are due to other factors.

The value of  $r$  shows the correlation between budgeted and actual quantities production of different products of different fiscal years. The correlation between budgeted and actual volume of production of tablets, liquid ointments etc is very low i.e. 0.054. This value of  $r$  is not significant at 10% significance level. The values of  $r$  of Jeevan –Jal and I.V.& ENT bottles are moderate. It shows that there is moderate degree of correlation between budgeted and actual quantities of production of Jeevan–Jal and I.V. and ENT bottles. But these values of  $R$  are also not significant at 10% level of significance. These values of  $R$  are significant at 19 and 33% level of significance respectively.

**Table No. 5.53**

**Budgeted and actual Sales, total operating income & expenditure of RDL during  
2049 to 2058 B.S.**

F. Y.	Sales (000,piece)		Total operating income (Rs.lakh)		Total operating expenditure (Rs.lakh)	
	Budgeted	Actual	Budgeted	Actual	Budgeted	Actual
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
2049- 50	N.A.	163630.0	N.A.	802.50	N.A.	856.00
2050- 51	256220.0	138358.0	1520.00	1520.00	1456.00	1456.00
2051- 52	180000.0	169039.0	1567.00	893.27	1447.00	928.99
2052-53	182500.0	206664.0	1615.00	1248.60	1490.00	1180.00
2053- 54	211309.0	202223.0	1620.00	1200.00	1477.50	1085.00
2054- 55	240000.0	127389.0	1700.00	1224.00	1388.00	1246.00
2055- 56	187956.0	231531.0	1200.00	1220.00	1081.00	1195.00
2056- 57	180000.0	139317.0	1620.00	867.00	1575.00	958.00
2057- 58	180000.0	130000.0	1620.00	1037.00	1575.00	1154.00
2058- 59	180000.0	.	1300.00	.	1380.00	.
Mean	199776.1	167572.3	1529.11	1114.49	1429.94	1117.79
C.V.(%)	14.74	22.64	10.94	20.45	10.34	16.51
Trend line equation	X <sub>2</sub> = 1.2E+07 - 5553.88(X <sub>1</sub> )	X <sub>3</sub> = 3107947 - 1432.23(X <sub>1</sub> )	X <sub>4</sub> = 2547.01 -18.85(X <sub>1</sub> )	X <sub>5</sub> = 1524.48 - 7.74(X <sub>1</sub> )	X <sub>6</sub> = 1561.79 - 2.44(X <sub>1</sub> )	X <sub>7</sub> = 859.14 + 4.87(X <sub>1</sub> )

**(Source: Ministry of Finance, Performance of public Enterprises of  
Nepal, Government of Nepal).**

Table 5.53 shows that the average budgeted quantity of sales is 199776100piece whereas the actual quantity of sales is 167572300piece. It reveals the fact that the budgeted quantities of sales are not determined on actual basis or the performance is not good. It may mean that the management is not sincere to meet the targeted sales. The coefficient of variation of budgeted sales is 14.74% which shows that the mean budgeted sales is varying by approximately 15% from the budgeted sales

of different years whereas the average actual sales is varying by approximately 23% from actual sales of different years. Since there is lower degree of variation, these mean values are representing properly about the series.

The average budgeted operating income is Rs.1529.11lakh whereas the actual average operating income is Rs.1114.49lakh. These average values reveal that the targets are not properly set or determined. It may mean that the performance is not better. These figures also arise question to the management. The average budgeted income of the series is varying by approximately 11% from the budgeted income of different fiscal year. Similarly the actual average operating income is varying by 20.45% from the actual operating income of different fiscal year. Since there is lower degree of variation so these average values are representing properly about the series.

The average budgeted operating expenditure is Rs.1429.944lakh whereas the actual average operating expenditure is Rs.1117.7867lakh. These figures also arise question to the existence of management. If price of raw materials etc.is not decreased, it means that either budget preparation mechanism is not good or performance is not better to meet the target. The coefficient of variation of budgeted operating expenditure is 10.34% and actual operating expenditure is 16.51%. Since there is lower degree of variation, the average values of budgeted and actual operating expenditure are representing properly about the series of data.

As we know the trend line equations show the growth rate of series of data per fiscal year, we find in above table that the budgeted sales are decreasing by 5553.23 thousand piece per fiscal year with the value of constant whereas actual sales are decreasing by 1432.23 thousand piece with the value of constant per fiscal year, similarly the

budgeted operating incomes are decreasing by 18.85lakh whereas actual operating incomes are decreasing by 7.736lakh with the value of constant per fiscal year. The budgeted operating expenditure is decreasing by Rs.2.442lakh whereas the actual operating expenditures are increasing by Rs.4.874lakh with value of constant per fiscal year

**Table No. 5.54**

**Paired sample test of Budgeted and actual Sales, total operating income & expenditure budget of RDL.**

Pair	Paired differences			T	d.f.	Sig.	Result at5%s.l.	r <sup>2</sup>	r	Sig.	Result at10%s.l.
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	34183.0	171.53	20730.13	1.62	7	0.143	N.S.	0.123	-0.35	0.394	N.S.
X <sub>4</sub> -X <sub>5</sub>	406.52	70.59	101.45	4.01	7	0.005	Sig.	0.042	-0.21	0.628	N.S.
X <sub>6</sub> -X <sub>7</sub>	285.82	89.31	90.25	3.17	7	0.016	Sig.	0.058	-0.24	0.567	N.S.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantities of Sales, amounts of total operating income & expenditure.]**

Table 5.54 shows that the average paired difference between budgeted and actual quantities of sales is 34183.0 thousand pieces. It reveals the fact that the budgeted quantities of sales are leading by 34183 thousand pieces in average, which is the sign of inefficient budgeting system. The coefficient of variation of this pair is 171.53%, which shows the very much high degree of variation. So, this mean value is not representing the paired difference figure of budgeted and actual quantity of sales of different years. Standard error of mean is 20730.13, which also shows that this mean value is not representing the series. It may be due to non-availability of some data.

The average paired differences of operating income and operating expenditures are 406.52 and 285.82lakh rupees respectively. These figures also show that budgeted amounts are leading the actual amount by Rs.406.52 and 285.82lakh in an average. The c.v. of operating income and operating expenditure are 70.59 and 89.31% respectively. Since there is high degree of variation so the mean value of these two pairs are not representing properly about the series of paired differences of different fiscal years of operating income and operating expenditures. Standard

error of mean of operating income and operating expenditures are 101.45 and 90.2442 respectively. These figures are also showing high degree of standard error. So, the mean value of these paired differences are not representing properly about the series.

The tabulated value of ' $t_{0.05}$ ' for 7 d.f. is 2.37. Since the calculated value of  $t$  of budgeted and actual sales pair is 1.619, it is less than the tabulated value. So, the null hypothesis is accepted and the result is not significant. It means that there is no significant difference between budgeted and actual quantities of sales. But the calculated value of ' $t$ ' of two pairs, operating income and operating expenditures are 4.007 and 3.167 respectively. Since the calculated values of  $t$  of these two pairs are greater than the tabulated value of  $t$ , the null hypothesis is rejected and the result is significant. It means that there are significant differences between budgeted and actual amount of operating income and operating expenditure of different fiscal years.

The  $R^2$  column shows the coefficient of determination of pairs. In the table above we find, the values of  $r^2$  are 0.123, 0.042 and 0.058 respectively. These figures reveal that only 12.3%, of variation in actual quantities of sales are due to budgeted quantities of sales and rest 87.7% of variation in actual quantities of sales is due to other factors. Similarly only 4.2% and 5.8% of variation in actual amount of operating income and operating expenditure respectively are due to budgeted amount of operating income and operating expenditure and rest 95.8% and 94.2% of variation in actual amount of operating income and operating expenditures respectively are due to other factors.

The values of  $r$  show the correlation between budgeted and actual figures. The correlation between budgeted and actual quantities of sales is  $-0.351$ , which shows that there is moderate degree of negative

correlation. It means if budgeted value of sales increase, actual value of sales will decrease or vice versa. This value of  $r$  is not significant at 10% significance level. It will be significant at 40% significance level. Similarly the values of  $r$  of operating income and operating expenditure are- 0.204 and  $- 0.240$  respectively which show that there are lower degree of negative correlation between budgeted and actual amount of operating income and operating expenditure of different fiscal years. These values of  $r$  are also not significant at 10% significance level. These values of  $r$  will be significant at 63% and 57% significance level respectively.

**Table No. 5.55**

**Financial Ratios of RDL**

F.Y.	ROS (%)	RONCE (%)	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR (Rs.lakh)	OP (Rs.lakh)	NP (Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-6.67	-5.67	2.12	.99	6.38	.10	106.00	1.40	4.77	-54.32	-57.31
2050	4.00	6.09	3.41	.84	10.00	1.22	95.00	2.30	9.04	64.00	67.65
2051	-4.00	-3.40	2.45	.95	14.02	.00	104.00	1.46	.53	-35.72	-17.62
2052	5.00	6.56	3.46	.91	14.14	.00	94.00	1.72	2.58	68.35	16.73
2053	9.00	10.34	3.20	.81	18.75	.00	90.00	1.41	2.50	115.00	61.00
2054	-1.00	-2.00	3.32	1.04	18.06	.00	101.00	2.04	2.08	-22.00	13.00
2055	2.70	2.00	3.20	2.09	20.41	.00	97.00	.00	2.23	25.00	33.00
2056	-9.57	-9.66	2.38	.83	22.49	.00	110.50	1.29	1.49	-91.00	-83.00
2057	-7.25	-7.47	3.20	2.29	25.00	.00	106.33	.00	1.79	-117.00	-107.00
Mean	-0.87	-0.36	2.97	1.19	16.58	0.15	100.43	1.29	3.00	-5.29	-8.17
C.V(%)	739.94	1933.47	17.1	47.9	36.1	275.3	6.79	62.15	84.4	1477.64	763.77
Multi. Regre.	(a)= -4.51	(b)= 0.76	(b)=0.02	(b)= 1.19	(b)= 0.09	(b)= -2.64	Beta in 'a'	(b)= 0.64	(b)= 0.23	Beta in 'a'	(b)= 0.024
Predictors Model				$X_1 = -4.51 + b.X_{11} + b.X_5 + b.X_6 + b.X_4 + b.X_3 + b.X_2 + b.X_9 + b.X_8$							

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.55 shows that the average return on sales is  $-0.8656\%$ . This negative return on sales of the institution reveals the fact that the institution is running on operating loss due to higher cost of goods sold. It is firm's inability to purchase at favourable terms and minimizing other overhead costs. The c.v. of ROS shows that the mean value of ROS is varying by  $739.94\%$  from the ROS of different fiscal year. Since there is higher degree of variation, this mean value is not representing properly about the series of ROS.

The average return on net capital employed is  $-0.3567\%$ . This negative mean value reveals the fact that the management is not utilizing their capital employed efficiently. The c.v. of  $1933.47\%$  shows very much higher degree of variation. So, this mean value is not representing properly about the series of RONCE.

The mean asset turnover ratio of RDL is  $2.97$  which does not seem to be satisfactory. It reveals the fact that the management is not able to utilize their existing plant capacity, which results in reduction of production volume and increase in the cost of production. The c.v. of  $17.06\%$  shows lower degree of variation. So, we conclude that the mean value is representing properly about the series of ATR.

The average quick ratio is  $1.194$ , which shows better liquidity position of the institution. The value of C.V. reveals the fact that the mean QR is varying by  $47.86\%$  from other items of the series.

The average administrative overhead ratio is  $16.58\%$ . The general principle tells us that it should not be more than  $6\%$ . According to this principal the institution should reduce their administrative overhead cost. The c.v. value shows that the mean AOR is varying by  $36.13\%$  from AOR of different fiscal years.

The debt – equity ratio shows the relationship between long- term debts and owner’s equity. It is popular measure of the long- term financial solvency of a firm. The average DER of the institution is 0.1467. This low DER reveals the fact that the institution is financially sound. The c.v. shows that the mean DER is varying by 275.32% for DER of different fiscal years. So, this mean value is not representing properly about the series of DER.

The average operating cost percent is 100.43. It means that the cost of production exceeds the sales revenue, which is bad signal for the existence of the institution. The c.v. value of OCP is 6.79% which shows that this mean value is representing properly about the OCP of different fiscal years.

The average stock turnover ratio is 1.29, which seems to be satisfactory but the c.v. value of STR is 62.15% which shows that this mean value is not representing properly about the series of STR. From the descriptive analysis of STR data, we find that in the year 2055 and 2057 had no closing stock. It means, whatever they produced were sold within the year. Therefore, the institution has to increase their production volume so that the institution can maintain their closing stock or inventory level.

The average employee productivity ratio is 3.001lakh, which does not seem to be satisfactory. The c.v. of 84.40% shows that this mean value is not representing about the series of EPR. The higher EPR will make the institution financially strong.

The average operating profit and net profit are negative. These mean values are also not representing properly about the series because of very much higher degree of c.v. These negative mean values arises question to the existence of the institution.

The multiple regression model is fitted as  $y$  on  $x$ , Here ROS is  $y$  i.e. dependent variable and rest other variables are  $x$  i.e. independent multiple variables. In the table above, the predictor's model shows the value of constant i.e. 'a' and the beta values i.e. 'b' for different independent variables. The beta values represent the increment in the value of dependent variable  $y$  for a unit change in the value of the independent variable  $x$ . In other words, it represents the rate of change of  $y$  in respect to  $x$  with value of constant. Here the beta value of RONCE is 0.761. It means if there is one unit change in RONCE, the value of ROS will change by 0.761 with the value of constant.

## Factor Analysis

**Table No. 5.56.1**

### Communalities

	Initial	Extraction
VAR00001	1.000	.994
VAR00002	1.000	.979
VAR00003	1.000	.785
VAR00004	1.000	.925
VAR00005	1.000	.728
VAR00006	1.000	.936
VAR00007	1.000	.984
VAR00008	1.000	.834
VAR00009	1.000	.962
VAR00010	1.000	.973
VAR00011	1.000	.909

**Extraction Method: Principal Component Analysis.**

Table 5.56.1 shows the initial and extracted communality of different variables. The proportion of variance accounted for by the common factors or the communality of variables is 1 for all the variables as shown in initial communalities column. The extraction column shows the value which is sum of squares of factors loading allocated for different component shown in the table of rotated component matrix.

**Table No. 5.56.2**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.076	55.239	55.239	6.076	55.239	55.239	5.265	47.859	47.859
2	2.618	23.801	79.039	2.618	23.801	79.039	2.546	23.143	71.002
3	1.315	11.955	90.994	1.315	11.955	90.994	2.199	19.992	90.994
4	.592	5.382	96.377						
5	.225	2.046	98.423						
6	.126	1.143	99.565						
7	3.979E-02	.362	99.927						
8	8.005E-03	7.277E-02	100.000						
9	2.402E-16	2.184E-15	100.000						
10	-1.497E-17	-1.361E-16	100.000						
11	-3.827E-16	-3.479E-15	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.56.2 contains the final statistics for each factor. The total variance explained by each factor is listed in the column labeled total eigen value or SS loading. The next column contains the percentage of the total variance attributed to each factor. The last column, the cumulative percentage indicates the percentage of variance attributed to that factor and those that precede it.

The table above shows that almost 91% of the total variance is attributed to the first three factors and remaining 8 factors together accounts for only 9% of the variance. Thus, a model with three factors may be adequate to represent the data.

**Table No. 5.56.3**

**Rotated Component Matrix**

	Component		
	1	2	3
VAR00001	.990	-8.998E-02	7.593E-02
VAR00002	.966	-.162	.138
VAR00003	.762	.402	.207
VAR00004	-.125	.953	-1.607E-02
VAR00005	-3.697E-02	.710	-.472
VAR00006	.183	-.168	.935
VAR00007	-.984	7.003E-02	-.109
VAR00008	.199	-.842	.290
VAR00009	.193	-.222	.936
VAR00010	.940	-.280	.106
VAR00011	.890	-.257	.226

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 5 iterations.**

Table 5.56.3 shows rotated component matrix, depicts that the component first is positively correlated with ROS, RONCE, ATR, OP

and NP. It also shows that strong negative correlation with OCP. Thus, component first might be interpreted as measuring something like ‘OPERATING LOSS’. The second factor is positively correlated with QR and AOR and negatively correlated with STR. So, this factor is described as ‘LIQUIDITY AND OVERHEAD’ of the organization. The last factor is strongly associated with DER and EPR. So, it can be named as ‘PRODUCTIVITY AND SOLVANCY’. Thus, the financial ratios of royal drugs ltd. can be fairly well characterized by three factors Operating loss, Liquidity and Overheads and Productivity and Solvency.

### 5.1.9 Udaypur Cement Industry limited

**Table No. 5.57**

Budgeted and Actual Production of UCFL During 2049 to 2058 B. S

F.Y.	Cement	
	Bud. (M. ton)	Act. (M. ton)
$X_1$	$X_2$	$X_3$
2049- 50	.	69348.50
2050- 51	194040.0	128781.7
2051- 52	194040.0	146266.0
2052-53	207900.0	130981.0
2053- 54	221760.0	92106.00
2054- 55	207900.0	131689.0
2055- 56	207900.0	99660.00
2056- 57	207900.0	110497.0
2057- 58	207900.0	105920.0
2058- 59	138600.0	.
Mean	198660.0	112805.5
C.V.(%)	12.08	21.27
Trend line equation	$X_2= 6841296- 3234.0 (X_1)$	$X_3= 149484.7- 17.87(X_1)$

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.57 exhibits that the average budgeted quantity of production of cement of Udaypur cement limited is 198660 m .ton. Since this mean value is varying by 12.08%, it shows lower degree of variation. Therefore, this mean value is representing properly about the series of budgeted production of cement. The trend line equation shows negative growth rate of 3234 m. ton per year with value of constant.

The mean actual quantity of production of cement of UCFL is 112805.5 m. ton during 10 years of magnitude. The c.v. of 21.27% shows lower degree of variation. So, we conclude that actual mean value is representing properly about the series of actual quantity of production of cement. The trend line equation reveals the fact that actual quantity of production is decreasing by 17.87 m. ton per year with value of constant.

The above analysis related to budgeted and actual quantity of production of cement reveals the fact that the management is not successful in achieving their targeted production during 10 years of magnitude. The negative growth rate shows that management is not serious about the production of cement, which is not good symptom for the betterment of the organization.

**Table No.5.58**

**Paired sample test of Budgeted and actual production budget of UCFL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% <i>s.l.</i>	r <sup>2</sup>	r	Sig.	Result at10% <i>s.l.</i>
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	87929.92	29.86	9282.9	9.47	7	0.00	Sig.	0.587	-0.77	0.027	Sig.

**[Null hypothesis (H<sub>0</sub>), there is no significant difference between budgeted and actual quantities of production of cement.]**

Table 5.58 displays that the average paired difference between budgeted and actual quantity of production of cement is 87929.92 m. ton. This mean value is

varying by 29.86% from paired differences of different fiscal year, which show lower degree of variation. So, it is representing properly about the series of paired differences of different fiscal years. The tabulated value of  $t_{0.05}$  for 7 d.f. is 2.37, which is less than the calculated value of 't' i.e. 9.472. So, the result is significant at 5% level of significance and the null hypothesis is rejected. It means that there is a significant difference between budgeted and actual quantity of production during 10 years of magnitude. The value of  $r^2$  depicts that 58.68% of variation in actual quantity of production of cement is due to budgeted quantity of production and rest 41.32% of variation in actual quantity of production is due to other factors or vice versa. The value of  $r$  shows higher degree of negative correlation between budgeted and actual quantity of production of cement, which is significant at 10% level of significance.

**Table No. 5.59**

**Budgeted and Actual Sales, Total Operating Income & Expenditure of UCFL  
During 2049 to 2058 B.S**

F. Y.	Sales (M. ton )		Total operating income (Rs.in lakh )		Total operating expenditure (Rs.in lakh)	
	Budgeted	Actual	Budgeted	Actual	Budgeted	Actual
X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
2049- 50	N.A.	69348.50	N.A.	2159.49	N.A.	2429.15
2050- 51	194040.0	128781.7	N.A.	4510.20	6958.00	4782.83
2051- 52	180457.0	146266.0	6191.85	5352.26	7157.17	7748.64
2052-53	207900.0	130981.0	7942.18	5024.01	6637.64	9725.66
2053- 54	221760.0	89855.00	9529.27	3864.00	13908.50	9113.00
2054- 55	207900.0	132564.0	8934.00	5740.00	11900.00	9770.00
2055- 56	207900.0	101876.0	9355.00	4607.00	12144.00	5776.00
2056- 57	207900.0	109460.0	9397.00	4952.00	10695.00	6191.00
2057- 58	207900.0	105920.0	9397.00	5195.00	7983.00	6474.00
2058- 59	138600.0	.	6930.00	.	7881.00	.
Mean	197150.8	112783.6	8459.54	4600.94	9473.81	6990.03
C.V.(%)	12.55	21.55	15.27	23.09	28.59	35.14
Trend line equation	X <sub>2</sub> = 5444813- 2554.85(X <sub>1</sub> )	X <sub>3</sub> = 74322.33+ 18.73(X <sub>1</sub> )	X <sub>4</sub> = - 296422+ 148.4(X <sub>1</sub> )	X <sub>5</sub> = - 429709+ 211.55(X <sub>1</sub> )	X <sub>6</sub> = - 419118+ 208.66(X <sub>1</sub> )	X <sub>7</sub> = - 557787 + 275.05(X <sub>1</sub> )

**(Source: Ministry of Finance, Performance of public Enterprises of  
Nepal, Government of Nepal).**

Table 5.59 reveals the fact that the mean budgeted quantity of sales of cement is 197150.8 m. ton per year during 10 years of magnitude. The c.v. value shows lower degree of variation. So, this mean value is representing properly about the series of budgeted sales. The trend line

equation shows negative growth rate of 2554.85 m. ton per fiscal year with value of constant.

The average actual quantity of sales of cement is 112783.6 m. ton. The c.v. value of 21.47% which shows lower degree of variation. So, that this mean value is representing properly about the series. The trend line equation shows positive growth rate of 18.73 m. ton per fiscal year with value of constant.

The above analysis related to budgeted and actual quantity of sales reveals the fact that management is not successful in achieving their targeted quantity of sales during 10 years of time. It may mean that there is ambitious budgeting. The positive growth rate of actual quantity of sales is a favourable sign for goodness of the organization.

The mean budgeted amount of total operating income of UCL is Rs.8459.54lakh per year during 10 years of magnitude. The c.v. value of 15.27% shows lower degree of variation of mean from total operating income of different fiscal years. The trend line equation shows increasing trend of budgeted amount of total operating income by Rs.148.4lakh per fiscal year with value of constant.

The average actual amount of total operating income of UCL is Rs.4600.94 per fiscal year. Since, there is lower degree of variation shown by c.v., this mean value is representing properly about the series of actual total operating income. The trend line equation shows positive growth rate i.e. increment in actual total operating income by Rs.211.55lakh per fiscal year with value of constant.

The above analysis related to budgeted and actual amount of total operating income reveals the fact that average budgeted amount of total operating income approximately double to the actual amount which shows lack of coordination while making budgeted and management is

not serious in making budget. The higher growth rate of actual amount of total operating income than the budgeted one shows positive signal towards their progress.

The mean amount of budgeted total operating expenditure is Rs.9473.81lakh per year during 10 years of time. The c.v. value of 28.59% shows lower degree of variation. So, this mean value is representing properly about the series. The trend line equation reveals to that the budgeted amount of total operating expenditure is increasing by Rs.208.66lakh per year with value of constant.

The average amount of actual total operating expenditure is Rs.6990.03 per year during 10 years. The c.v. of 35.14% depicts the moderate degree of variation. So, this mean value is moderately representing about the series of actual total operating expenditures. The trend line equation shows increment in actual total operating expenditure by Rs.275.05lakh per year with value of constant during 10 years of time period.

The above analysis related to budgeted and actual amount of total operating expenditure reveals the fact that management is not successful in achieving their target during 10 years of time.

**Table No. 5.60**

**Paired sample test of Budgeted and actual Sales, total operating income & expenditure of UCFL.**

Pair	Paired differences			t	d.f.	Sig.	Result at5% <i>s.l.</i>	r <sup>2</sup>	r	Sig.	Result at10% <i>s.l.</i>
	Mean	c.v. (%)	S.E.								
X <sub>2</sub> -X <sub>3</sub>	86256.67	34.58	10546.2	8.18	7	0.000	Sig.	0.64	-0.800	0.017	Sig.
X <sub>4</sub> -X <sub>5</sub>	3716.012	42.29	593.92	6.26	7	0.001	Sig.	0.173	-0.416	0.353	N.S.
X <sub>6</sub> -X <sub>7</sub>	2225.27	137.62	1082.7	2.06	7	0.079	N.S.	0.045	0.211	0.616	N.S.

**[Null hypothesis ( $H_0$ ), there is no significant difference between budgeted and actual volume of Sales, amount of Total operating income & expenditure]**

Table 5.60 depicts that the mean paired difference between budgeted and actual quantity of sales is 86256.67 m. ton. Since this mean value is varying by 34.58% from paired differences of different fiscal year and shows lower degree of variation, it is representing properly about the series. The tabulated value of  $t_{0.05}$  for 7 d. f. is 2.37, which is less than the calculated value of 't'. So, the result is significant and the null hypothesis is rejected. It means that there are significant differences between budgeted and actual quantities of sales of different fiscal years. The value of  $r^2$  shows that 64% of variation in actual quantity of sales is due to the budgeted quantity of sales and rest 36% of variation in actual quantity of sales is due to other factor or vice versa. The value of R shows higher degree of negative correlation between budgeted and actual quantities of sales of different fiscal year, which is significant at 10% level of significance.

The mean paired difference between budgeted and actual amount of total operating income is Rs.3716.004lakh per year during 10 years of magnitude. Since the mean value is varying by 42.29% from the paired differences of different fiscal year and shows moderate degree of variation, it is moderately representing about the series of paired difference. The tabulated value of  $t_{0.05}$  for 6 d. f. is 2.45, which is less than the calculated value. Therefore, the null hypothesis about total operating income is rejected and the result is significant. It means that there are significant differences between budgeted and actual amount total operating income of different fiscal years. The value of  $r^2$  reveals the fact that only 17.3% of variation in actual amount of total operating income is

due to their budgeted amount and rest 82.7% of variation in actual amount of total operating income is due to other factors. The value of R shows moderate degree of negative correlation between budgeted and actual amount of total operating income of different fiscal years, which is not significant at 10% significance level.

The average paired difference between budgeted and actual amount of total operating expenditure is Rs.2225.27lakh per year. This mean value is varying by 137.62% from the other items of the series of paired difference, which shows that mean value is not representing properly about the series. The tabulated value of  $t_{0.05}$  for 7 d. f. is 2.37 which is more than the calculated value of t. Therefore, the null hypothesis is accepted and the result is not significant. It means that there are no significant differences between budgeted and actual amount of total operating expenditure. The value of  $r^2$  reveals the fact that only 4.5% of variation in actual amount of total operating is due to their budgeted amount and rest 95.5% of variation in actual amount of total operating expenditures are due to other factors. The value of r shows lower degree of positive correlation between budgeted and actual amount of total operating expenditure, which is not significant at 10% level of significance.

**Table No. 5.61**

*Financial Ratios of UCIL*

F.Y.	ROS	RONCE	ATR	QR	AOR (%)	DER	OCP (%)	STR	EPR	OP	NP
	(%)	(%)							(Rs.lakh)	(Rs.lakh)	(Rs.lakh)
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>	X <sub>10</sub>	X <sub>11</sub>
2049	-0.11	N.A.	4.0	2.7	63.0	11.16	112.0	0.00	6.75	-269.66	-265.68
2050	-0.06	N.A.	8.0	2.73	58.0	11.58	106.0	0.00	12.09	-272.63	-204.71
2051	-44.77	-4.51	11.0	5.47	41.0	N.A.	144.77	0.00	14.35	-2396.38	N.A.
2052	-0.93	-8.85	9.0	7.0	29.84	N.A.	194.0	14.61	11.14	-4701.65	-4588.38
2053	-1.36	-14.0	8.0	0.16	6.0	12.29	236.0	11.01	8.44	-5249.0	-4981.0
2054	-0.7	-19.0	17.0	0.25	10.0	10.71	170.0	16.4	13.2	-4030.0	-3762.0
2055	-0.25	-2.0	25.0	3.52	16.0	0.7	125.0	0.0	10.19	-1169.0	-1039.0
2056	-0.25	-3.0	29.0	0.15	16.0	0.44	125.0	1.89	11.36	1239.0	-1151.0
2057	-0.25	-3.0	32.0	0.58	18.86	0.57	124.62	0.0	8.12	-1279.0	-1194.0
Mean	-0.56	-8.2	22.2	0.93	13.37	4.94	156.12	5.86	10.26	-2593.2	-2425.4
C.V(%)	86.62	95.0	43.83	156.35	38.89	121.66	31.22	127.13	20.56	73.94	75.41
Multi. Regre.	(a)= 0.168	(b)= - 0.039	Beta in 'a'	(b)= - 0.004	Beta in 'a'	Beta in 'a'	Beta in 'a'	Beta in 'a'	(b)= -0.0059	Beta in 'a'	(b)= 0.00041

Predi-ctors Model	$X_1 = 0.168 + b.X_{11} + b.X_9 + b.X_4 + b.X_2$
-------------------	--

**(Source: Ministry of Finance, Performance of public Enterprises of Nepal, Government of Nepal).**

Table 5.61 exhibits that the average return on sale of Udaypur cement industry limited is  $-0.562\%$  during 10 years of magnitude. This negative ROS reveals the fact that the organization is running on operating loss during 9 years. It is firm's inability to purchase at favourable terms and minimizing other overhead costs. The c.v. percent shows higher degree of variation. So, this mean value is not representing properly about the series.

The mean return on net capital employed is  $-8.2\%$ , which reveals the fact that the management does not seem to be efficient in utilizing their capital employed properly during 9 years of time and therefore, incurred Operating loss. The c.v. value shows higher degree of variation. So, the mean value is not representing about the series of RONCE.

The average asset turn over ration is  $22.2\%$  which does not seem to be satisfactory. It means that the management is not utilizing their plant capacity properly. Therefore, the organization should increase their ATR by increasing their production volume, which will help to reduce the cost of production. The c.v. value shows moderate degree of variation. So, the mean value is moderately representing about the series.

The average quick ratio of UCFL is  $0.932$ , which is not satisfactory. It is less than the standard quick ration. Since, the c.v. percent shows very much higher degree of variation. So, that this mean Q.R. is not representing properly about the series.

The mean administrative overhead ratio is  $13.37$ , which is 2 times more than the standard overhead ratio (i.e.  $6\%$  of S.R.) therefore; the organization has to reduce their AOR by  $50\%$ . The c.v. value shows moderate degree of variation. So, the mean AOR is moderately representing about the series.

The mean debt-equity ratio is 4.94, which seems to be very high. It means that the firm is not able to pay their long- term liabilities, which is 5 times more than their equity. The c.v. Value shows higher degree of variation. So, the mean DER is not representing properly about the series.

The average operating cost percentage is 156.12%, which shows that the operating cost exceeds their sales revenue 56% and incurred operating loss. It is bad signal for the survival of the organization. The c.v. Percent shows lower degree of variation. So, the mean OCP is representing properly about the series.

The mean stock turnover ratio is 5.86, which seems to be satisfactory. The c.v. Value shows very much higher degree of variation. So, we conclude that the mean STR is not representing properly about the series.

The average employee productivity ratio is 10.26lakh, which seems to be satisfactory. The c.v. value shows lower degree of variation. So, the mean EPR is representing properly about the series.

The average operating loss of UCFL is 2593.2lakh per year during 9 years of time. It raises question for the survival of the institution. The c.v. Value shows higher degree of variation. So, the mean OP is not representing properly about the series of OP.

The average net loss is 2425.4lakh. This organization has never earned operating profit and net profit during 9 year of time. It raises question for the existence of the organization. The C.V. value shows higher degree of variation. So, the mean value NP is not representing properly about the series.

The Multiple Regression Row shows the value of constant and beta values for independent variables. ROS is dependent variable and rest others are independent variable

The predictors' model provides equation to estimate the value of dependent variable (ROS).

### Factor Analysis

**Table No. 5.62.1**

#### Communalities

	<b>Initial</b>	<b>Extraction</b>
VAR00001	1.000	.995
VAR00002	1.000	.962
VAR00003	1.000	.929
VAR00004	1.000	.258
VAR00005	1.000	.955
VAR00006	1.000	.990
VAR00007	1.000	.995
VAR00008	1.000	.985
VAR00009	1.000	.931

VAR00010	1.000	.998
VAR00011	1.000	.999

**Extraction Method: Principal Component Analysis.**

Table 5.62.1 shows initial and extracted communalities of different variables. As we know the proportion of variance accounted for by the common factors or the communality of variable is 1 for all the variables. The extraction communality is the value, which is sum of the squares of loadings assigned to the different components for each variable shown in the table of rotated component matrix.



**Table No. 5.62.2**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.530	77.548	77.548	8.530	77.548	77.548	8.121	73.825	73.825
2	1.467	13.335	90.883	1.467	13.335	90.883	1.876	17.058	90.883
3	.852	7.749	98.631						
4	.151	1.369	100.000						
5	1.535E-15	1.396E-14	100.000						
6	6.666E-16	6.060E-15	100.000						
7	2.572E-16	2.338E-15	100.000						
8	2.766E-17	2.515E-16	100.000						
9	-6.893E-18	-6.266E-17	100.000						
10	-5.459E-17	-4.962E-16	100.000						
11	-2.838E-16	-2.580E-15	100.000						

**Extraction Method: Principal Component Analysis.**

Table 5.62.2 shows the final statistics for each factor. The total variance explained by each factor is listed in the column labeled total initial eigen values the next column contains the percentage of the total variance attributed to each factor. It reveals the fact that almost 91% of the total variance is attributable to the first two factors. The remaining 9 factors together account for only 9% of the total variance i.e. 11. Thus, a model with two factors may be adequate to represent the data of financial ratio of UCIL.

**Table No. 5.62.3**  
**Rotated Component Matrix**

	<b>Component</b>	
	<b>1</b>	<b>2</b>
VAR00001	.995	7.678E-02
VAR00002	.806	-.559
VAR00003	.961	-8.150E-02
VAR00004	.424	-.279
VAR00005	.960	-.183
VAR00006	-.952	.289
VAR00007	-.994	-7.528E-02
VAR00008	-.781	.613
VAR00009	.110	.959
VAR00010	.984	-.173
VAR00011	.986	-.163

**Extraction Method: Principal Component Analysis.**

**Rotation Method: Varimax with Kaiser Normalization.**

**A Rotation converged in 3 iterations.**

Table 5.62.3 reveals the fact that the component first is positively correlated with ROS, RONCE, ATR, AOR, OP and NP. It is negatively correlated with DER, OCP and STR. Thus, component first might be described as 'OPERATING LOSS' the second component is positively

associated with STR and EPR whereas negatively correlated with RONCE. Therefore, it should be interpreted as ‘PRODUCTIVITY’. Thus, the financial ratios of Udaypur cement industry limited can be fairly well characterized by two factors ‘Operating Loss’ and Productivity.’”

## 5.2 Behavioral Analysis of Budgeting

Budgets are basically prepared by lower level managers and approved by middle and top level managers. Once Budgets are approved, it is to be implemented through lower level management under supervision of middle level managers of respective sections/departments of MPEs. So Budgets have major concerns with human dimensions of the organizations

Since one of the major objectives of the study is to look into the behavioral implication of budget in the manufacturing public enterprises. To achieve the objective of this study first, three sets of questionnaire have been prepared to collect the response of Top, Middle and Lower level managers. The top-level management includes the personnel of 9<sup>th</sup> level and upward. Middle level management includes the personnel working at 6<sup>th</sup> level to 8<sup>th</sup> level and lower level managers include 4<sup>th</sup> and 5<sup>th</sup> personnel to ask questions and to collect the responses for the study.

This part of the study contains three tables for question asked to the managers of three levels of selected MPEs. These tables are analyzed by using a statistical tool known as chi-square test the goodness of fit. The null hypothesis, mentioned below, is taken to test the significance of responses of different level of managers of MPEs under study.

**Table no. 5.63**

### **Behavioural Analysis of Top- Level Management**

Q.N.	Variable of Behavioral aspect of Budgeting	Descriptive analysis	X <sup>2</sup> value	Hypothesis accepted/ rejected
1.	Do you prepare profit plan (Budget) in your enterprise?	Yes		
2.	To what extent do you find that the			

	primary responsibilities are born by Top- level Management:			
2(i)	To identify and evaluate external variables.	Moderate	36.34	Rejected
2(ii)	To develop or revise broad objectives of the business.	Moderate	36.01	Rejected
3.	“To develop enterprise objectives and selecting a future course of action to accomplish them” are middle and bottom level managers called for Participation?	Some times	25.34	Rejected
4.	While setting goals and performance standard, to what extent do you encourage participation from all responsibility centers?	Moderate	17.34	Rejected
5.	To what extent do you find that the primary responsibilities are born by top-Level management;			
5(i)	To develop specific enterprise goals consistent with broad objectives of the business.	Moderate	20.01	Rejected
5(ii)	To develop enterprise strategies (specify major thrusts to attain the objectives and goals.)	More	10.68	Rejected
5(iii)	To develop executive management planning instructions (specify planning premises or guide lines for managers) based on questions 2 to 5. (I& II).	More	9.34	Accepted
6.	Once the profit planning is done, do you agree that those plans are properly Communicated?	Agree	36.34	Rejected

7.	To what extent middle and lower level managers respond to communication of profit plan?	Moderate	30.68	Rejected
8.	To what extent the managers have risk attitude.	Little	25.34	Rejected
9.	To what extent do you find that the primary responsibilities are born by top-level management to implement the profit plans throughout the budget year?	More	24.34	Rejected
10.	Whatever profit plans made and standard fixed, are they implemented properly and accurately?	Some times and usually	36.01	Rejected
11.	Do you find that organizational hierarchy is properly designed to achieve the profit plans?	Moderate	29.34	Rejected
12.	Do you agree that the divisions of work among individuals are clear-cut and specific?	Agree	19.34	Rejected
13.	Do you find that the managerial authority is properly delegated?	Usually	23.34	Rejected
14.	Do you agree that the delegation of authority and responsibilities are matching?	Agree	17.81	Rejected
15.	Is there always-right person to right job?	Usually	23.34	Rejected
16.	Do you agree that there is proper style of leadership that can motivate individuals and groups to assist willingly and harmoniously in accomplishing enterprise objectives?	Agree	25.34	Rejected
17.	To what extent do you find that the	Moderate	38.67	Rejected

	pay scale and incentives are properly motivating the people at work?			
18.	Do you find that there is provision of job enrichment and career development opportunities?	Some times	33.34	Rejected
19.	Do you agree that there is provision to meet the future expectation of employees?	Undecided	18.68	Rejected
20.	Do you find that there is a provision of other incentives to achieve profit plans?	Some times	22.68	Rejected
21.	Do you agree that there is proper working climate in which employees can work?	Undecided	23.34	Rejected
22.	To what extent do you find that the primary responsibilities are born by top-level management to prepare monthly reports (performance reports) by responsibility centers?	Moderate	13.83	Rejected
23.	Do you agree that the evaluation of performance of managers and employees are based on controllable performance?	Agree	13.34	Rejected
24.	Do you agree that the method of measuring performance is fair (i.e. on the basis of goal and standard fixed, uniformity in measurement etc.)?	Undecided	26.01	Rejected
25.	Do you find the provision and fair system of reward and punishment?	Some times	19.01	Rejected
26.	To what extent do you find that the primary responsibilities are born by top-level management to provide feed	Moderate	32.34	Rejected

	back, corrective actions, and replan (follow-up)?			
27.	Do you agree that follow-up activities (feedbacks, corrective action, replan) are properly conducted?	Undecided	40.34	Rejected
28.	To what extent do you find that corrective actions are taken on time?	Moderate	23.01	Rejected

### **Interpretations**

- 1) All the MPEs are preparing budgets for the organization.
- 2) The Top-Level managers' opinion significantly differs with respect to the bearing of responsibility about identification, evaluation of external variables and development and revision of broad objectives while preparing budgets.
- 3) The Top-Level managers' opinion significantly differs with respect to the participation of middle and lower level managers in the development of enterprises objectives and selecting future courses of action.
- 4) The Top-Level managers' opinion significantly differs with respect to the participation of responsibility centres to set goals and performance standards of MPEs.
- 5i&ii) The Top-Level managers' opinion significantly differs with respect to the development of specific objectives and strategies consistent with broad goal.
- 5iii) The Top-Level managers' opinion donot differ with respect to the development of executives planning instructions consistent with broad goals and objectives.
- 6) The Top-Level managers' opinion significantly differs with respect to the proper communication of plan to them.
- 7) The Top-Level managers' opinion significantly differs with respect to the response of plan by middle and lower level managers.
- 8) The Top-Level managers' opinion significantly differs with respect to the risk attitude of managers.
- 9) The Top-Level managers' opinion significantly differs with respect to the responsibilities born by them to implement profit plan throughout the budget year.

- 10) The Top-Level managers' opinion significantly differs with respect to the proper and accurate implementation of profit plan and standard fixed.
- 11) The Top-Level managers' opinion significantly differs with respect to the development of organizational hierarchy to achieve the profit plan.
- 12) The Top-Level managers' opinion significantly differs with respect to the clear and specific division of work among individuals.
- 13) The Top-Level managers' opinion significantly differs with respect to the proper delegation of managerial authorities.
- 14) The Top-Level managers' opinion significantly differs with respect to the matching of authority and responsibility.
- 15) The Top-Level managers' opinion significantly differs with respect to the allocation of right job to right person.
- 16) The Top-Level managers' opinion significantly differs with respect to the proper style of leadership to motivate the people at work.
- 17) The Top-Level managers' opinion significantly differs with respect to the proper pay scale and incentives.
- 18) The Top-Level managers' opinion significantly differs with respect to the proper job enrichment and career development opportunities.
- 19) The Top-Level managers' opinion significantly differs with respect to the provisions to meet the future expectations to employees.
- 20) The Top-Level managers' opinion significantly differs with respect to the provision of other incentives to achieve the profit plan.
- 21) The Top-Level managers' opinion significantly differs with respect to the proper working climate to work.
- 22) The Top-Level managers' opinion significantly differs with respect to the responsibility born for the preparation of monthly report by responsibility centres.
- 23) The Top-Level managers' opinion significantly differs with respect to the evaluation of performance of employees based on controllable performance.
- 24) The Top-Level managers' opinion significantly differs with respect to the fair method of measuring performance.
- 25) The Top-Level managers' opinion significantly differs with respect to the provision and fair system of reward and punishment.

- 26) The Top-Level managers' opinion significantly differs with respect to the responsibility born to provide feedback, corrective actions and replan.
- 27) The Top-Level managers' opinion significantly differs with respect to the follow-up activities.
- 28) The Top-Level managers' opinion significantly differs with respect to the corrective actions taken in time.

**Table no.5.64**

**Behavioural Analysis of Middle Level Management**

<b>S.N</b>	<b>Variable of Behavioral aspect of Budgeting</b>	<b>Descriptive analysis</b>	<b>X<sup>2</sup> value</b>	<b>Hypothesis accepted/ rejected</b>
1.	To help in the planning work of an enterprise, do top authorities call for participation?	Some times	14.26	Rejected
2.	To prepare profit plan do you call the lower level managers?	Usually	28.76	Rejected
3.	Do you agree that the goals and performance standards are fixed by encouraging participation from all responsibility centers?	Agree	19.76	Rejected
4.	To what extent do you find that primary responsibilities are born by middle level management;			
4(i)	To develop and evaluate project plans (for each project)?	Moderate	31.76	Rejected
4(ii)	To develop strategic profit plan (long-range plan)?	Moderate	17.63	Rejected
4(iii)	To develop tactical plan (short-range) for upcoming year?	More	40.23	Rejected
4(iv)	To implement the profit plans throughout the budget year?	More	23.52	Rejected
5.	Whatever goals and standard fixed,	Usually	24.76	Rejected

6.	is it used or implemented properly? Once the profit plans made, are they communicated to concerned responsibility centers?	Usually	34.76	Rejected
7.	Whatever plans made and standard fixed, are they implemented properly and accurately?	Usually	25.00	Rejected
8.	Do you agree that organizational hierarchy is properly designed to implement the plan?	Agree	44.52	Rejected
9.	Do you find that there is clear-cut and specific division of work among individuals and groups?	More	27.52	Rejected
10.	Is there proper specification of jobs among individuals and groups?	Usually	29.00	Rejected
11.	To what extent there is co-ordination between individual and group activities?	More	35.76	Rejected
12.	Do you agree that managerial authorities are properly delegated?	Agree	32.76	Rejected
13.	Do you find that delegation of authorities and responsibilities are matching?	More	20.76	Rejected
14.	Do you agree that right persons are always placed on right job?	Usually	24.52	Rejected
15.	Do you find that there are conflicts between line and staff members of the organization?	Seldom	31.76	Rejected
16.	Do you find that there is proper amount of pay scale and incentives to motivate people at work?	Some times	19.76	Rejected
17.	Do you agree that there is a	Disagree	24.26	Rejected

	provision to meet the future expectations of employees?			
18.	Is there provision of job enrichment and career development opportunities?	Some times	39.26	Rejected
19.	To what extent do you find the proper working climate in which employees can work?	More	34.76	Rejected
20.	Do you agree that there is proper style of leadership that can motivate individuals or groups to assist willingly and harmoniously in accomplishing enterprise objectives?	Agree	17.26	Rejected
21.	Is there a provision of other incentives to achieve planning goals and targets?	Some times	31.26	Rejected
22.	Is there goal congruence between enterprise and divisions?	Seldom	30.76	Rejected
23.	To what extent do you find the favorable attitude of top-level managers toward their subordinates?	More	25.26	Rejected
24.	To what extent do you find that primary responsibilities are born by middle-level management to prepare monthly reports by responsibility centers?	More	16.76	Rejected
25.	Do you agree that there is proper system of performance evaluation?	Agree	21.76	Rejected
26.	Is there proper channel of appraising performance report?	Usually	20.76	Rejected

27.	While measuring performance, uniformity is maintained among the employees?	Usually	23.26	Rejected
28.	Is there fair system of reward and punishment?	Some times	17.02	Rejected
29.	To what extent do you find that primary responsibilities are born by middle-level management to provide feedback, corrective actions and replan?	More	31.76	Rejected
30.	Is there proper system of taking corrective action?	Usually	28.26	Rejected

### **Interpretations**

- 1) The Middle level managers' opinion significantly differs with respect to the calling for participation of budget by Top-Level managers.
- 2) The Middle level managers' opinion significantly differs with respect to the calling of lower level managers to prepare budget by them.
- 3) The Middle level managers' opinion significantly differs with respect to the calling for participations of responsibility centres to set goals and performance standards.
- 4) The Middle level managers' opinion significantly differs with respect to the responsibility born to develop an evaluate project plans, strategic profit plans, tactical plans and to implement them.
- 5) The Middle level managers' opinion significantly differs with respect to the proper implementation of goals and standard fixed.
- 6) The Middle level managers' opinion significantly differs with respect to the proper communication of profit plans to concerned responsibility centres.
- 7) The Middle level managers' opinion significantly differs with respect to the proper and accurate implementation of plan and standard fixed.
- 8) The Middle level managers' opinion significantly differs with respect to the prope designing of organizational hierarchy to implement the plan.

- 9) The Middle level managers' opinion significantly differs with respect to the clear and specific division of work among individuals and groups.
- 10) The Middle level managers' opinion significantly differs with respect to the specification of jobs among individuals and groups.
- 11) The Middle level managers' opinion significantly differs with respect to the coordination between individuals and groups.
- 12) The Middle level managers' opinion significantly differs with respect to the proper delegation of managerial authorities.
- 13) The Middle level managers' opinion significantly differs with respect to the matching of authority and responsibilities.
- 14) The Middle level managers' opinion significantly differs with respect to the placement of right persons to the right jobs.
- 15) The Middle level managers' opinion significantly differs with respect to the conflict between line and staff members of the organization.
- 16) The Middle level managers' opinion significantly differs with respect to the proper amount of pay scale and incentives to motivate people at work.
- 17) The Middle level managers' opinion significantly differs with respect to the meeting of future expectation of employees.
- 18) The Middle level managers' opinion significantly differs with respect to the provisions of job enrichment and career development opportunities.
- 19) The Middle level managers' opinion significantly differs with respect to the proper working climate work.
- 20) The Middle level managers' opinion significantly differs with respect to the proper style of leadership to motivate the people at work.
- 21) The Middle level managers' opinion significantly differs with respect to the provision of other incentives to achieve planned goals and targets.
- 22) The Middle level managers' opinion significantly differs with respect to the goal congruence between enterprise and divisions.
- 23) The Middle level managers' opinion significantly differs with respect to the favourable attitude of Top-level managers towards their subordinates.
- 24) The Middle level managers' opinion significantly differs with respect to the responsibility born by middle-level managers to prepare monthly reports by responsibility centres.

- 25) The Middle level managers' opinion significantly differs with respect to the proper system of performance evaluation.
- 26) The Middle level managers' opinion significantly differs with respect to the proper channel of appraising performance reports.
- 27) The Middle level managers' opinion significantly differs with respect to the uniformity maintained among employees for measuring performance.
- 28) The Middle level managers' opinion significantly differs with respect to the fair system of reward and punishment.
- 29) The Middle level managers' opinion significantly differs with respect to the responsibility born to provide feedback, corrective actions and replan.
- 30) The Middle level managers' opinion significantly differs with respect to the proper system of taking corrective actions.

**Table no.5.65**

**Behavioural Analysis of Lower Level Management**

Q.N.	Variable of Behavioral aspect of Budgeting	Descriptive analysis	X <sup>2</sup> value	Hypothesis accepted/ rejected
1.	To formulate plans, goals and targets, do top and middle level authority call for participation?	Some times	28.16	Rejected
2.	Have you freedom to set goals and targets for your own section?	Some times	22.16	Rejected
3.	Whatever plans made, are they communicated properly to your subordinates?	Usually	45.16	Rejected
4.	Do you agree that there is goal congruence between enterprise and employees?	Disagree	32.49	Rejected
5.	Do you think that right person is placed on right job?	Usually	33.66	Rejected
6.	To what extent do you agree that the division of works among groups	Agree	33.50	Rejected

	and individuals are clear-cut and specific?			
7.	To what extent do you find the coordination between individual and group activities?	More	40.66	Rejected
8.	To what extent do you agree that there are always conflicts between line and staff members of an organization?	Undecided	35.49	Rejected
9.	To what extent do you find that your pay scale and incentives are proper to motivate people at work?	Little	35.49	Rejected
10.	To what extent you find the provision of job enrichment and career development opportunities?	Little	35.66	Rejected
11.	To what extent do you find that there is provision to meet the future expectations of employees?	Little	49.50	Rejected
12.	Do you find that there is proper style of leadership that can motivate individuals and groups to assist willingly and harmoniously in accomplishing enterprise objectives?	Moderate	39.49	Rejected
13.	Do you agree that there is proper working climate in which employees can work?	Agree	38.82	Rejected
14.	Do you agree that the attitude of your boss toward employee is favorable?	Agree	38.82	Rejected
15.	Do you agree that there is proper system of reporting and	Agree	33.16	Rejected

	performance appraisal (without any biased attitude)?			
16.	Do you agree that there is proper system of performance evaluation?	Disagree	32.16	Rejected
17.	Do you find that there is fair system of reward and punishment?	Some times	17.66	Accepted
18.	How often do you find that the employment process (for selection of competent employee) norms are violated?	Some times	21.99	Rejected

### **Interpretations**

- 1) The lower level managers' opinion significant differs with respect to the calling for participations by the Top and middle level managers to formulate plans, goals and targets for the organization.
- 2) The lower level managers' opinion significant differs with respect to have freedom to set goals and targets for their own sections.
- 3) The lower level managers' opinion significant differs with respect to the proper communication of plans to their subordinates.
- 4) The lower level managers' opinion significant differs with respect to the goal congruence between enterprise and employees.
- 5) The lower level managers' opinion significant differs with respect to the placement of right persons to the right jobs.
- 6) The lower level managers' opinion significant differs with respect to the clear and specific division of work among groups and individuals.
- 7) The lower level managers' opinion significant differs with respect to the coordination between individual and group activities.
- 8) The lower level managers' opinion significant differs with respect to the conflict between line and staff member of the organization.
- 9) The lower level managers' opinion significant differs with respect to the proper pay scale and incentives to motivate people at work.
- 10) The lower level managers' opinion significant differs with respect to the provision of job enrichment and career development opportunities.

- 11) The lower level managers'opinion significant differs with respect to the provision to meet the future expectations of employees.
- 12) The lower level managers'opinion significant differs with respect to the proper style of leadership to motivate employees at work.
- 13) The lower level managers'opinion significant differs with respect to the proper working climate in which employee can work.
- 14) The lower level managers'opinion significant differs with respect to the favourable attitude of boss towards employees.
- 15) The lower level managers'opinion significant differs with respect to the proper system of reporting and performance appraisal.
- 16) The lower level managers'opinion significant differs with respect to the proper system of performance evaluation.
- 17) The lower level managers'opinion donot differ with respect to the fair system of reward and punishment.
- 18) The lower level managers'opinion significant differs with respect to the violation of norms for selection of competent employees.

**Table No.: 66****Comparative Chart showing Operational results and Principal Components of MEPS during 2049-2058 B.S**

Name of MPEs	Products	Mean Paired difference (Budgeted-Actual /10)							
		Production	Result at 5% S.L.	sales	Result at 5% S.L.	Total income	Result at 5% S.L	Total expenditure	Result at 5% S.L
1) ALIL	Lime	2097.75(M. Ton)	N.S	2134.63(M. Ton)	N.S.	60.09 lakh	Sig.	28.54 lakh	N.S.
2) BSFL	Sugar	3889.67(M. Ton)	Sig.	5750.83(M. ton)	Sig.	1178.15 lakh	Sig.	804.66 lakh	Sig.
	Sprit	423.33(000,litres)	Sig.	371.5(000,Litres)	Sig.				
3) DDC	Milk	8304.75(000,litres)	Sig.	2868.0(000,litres)	Sig.	680.13 lakh	Sig.	597.63 lakh	N.S.
	Butter	346.27 (M. Ton)	N.S.	343.29(M. Ton)	Sig.				
4) HCFL	Cement	109611.4 (M. Ton)	N.S.	54922.57(M. Ton)	N.S.	900.63 lakh	N.S.	854.69 lakh	Sig.
5) HPPCL	Raw herbs	193.7 (M. Ton)	N.S.	73.22(M. Ton)	Sig.	156.29 lakh	Sig.	103.32 lakh	Sig.
	Herbal care products	36408.3 (Bottles)	N.S.						
6) JCF	Cigarette	9.48 (lakh. M.)	Sig.	3.89(lakh)	Sig.	2576.79 lakh	N.S.	2091.44 lakh	N.S..
7)NRTL	R.Collec.	747.59 (M. Ton)	Sig.	628.79(M. Ton) 156.82(M. lit.)	N.S.	446.45 lakh	Sig.	308.85 lakh	Sig.
	R. Produc.	769.47 (M. Ton)	Sig.		N.S.				
	Turpentine	182.95 (M. Ton)	Sig.						
8) RDL	Tablets	8992.5(000,pie.)	N.S.	34189.00(000,pieces)	N.S.	406.52 lakh	Sig.	285.82 lakh	sig
	Jeevan J.	6.89(000,packet)	N.S.						
	I.v,Ent.	650.78(000,bott)	N.S.						
9) UCFL	cements	87929..92 (M. Ton)	Sig.	86256.67(000,Piece)	Sig.	3716.012 lakh	Sig.	2225.27 lakh	

Table No. 66 shows average pair differences of Production, Sales, Total Income and Expenditure of MPEs under study. All these figures show the positive

differences of high value. It indicates that these MPEs were not fulfilled their target of work during 10 years of times period.

Similarly, the average operating profit column of the above table shows negative figure, it indicates that all MPEs were running an operating loss during 10 years of time period. Factor Analysis column shows three principal components of poor financial performance of MPEs. Among them, operating loss is the common factor for all MPEs under study. Second factor is lower productivity of employees and assets of MPEs. Third factors are excessive overhead, lower liquidity position and higher amount of debt to MPEs.

## CHAPTER – 6

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 6.1. Summary

Public enterprises in Nepal have emerged as an instrument for the economic development of the country as a result of the mixed economy system adopted since 1956, when the first five-year plan was introduced. Over the successive five-year plans, the country witnessed an enormous growth of total investment in these enterprises.

The Nepalese Public Enterprises have been organized under the form of Departmental undertakings, Corporations, Development Boards, Government companies, and so on, which are engaged in activities like public utilities, manufacturing, trading, construction, development and other activities

The MPEs under study prepare budget for their organizations. They prepare budget through participation of different levels of management. The planning department takes initiation for the preparation of budget. Once final proposed budget is prepared by planning department, it is forwarded to the meeting of Board of Directors through General Manager or Chief Executive of MPEs. Board members discuss on different aspects of budget and approve it by making some amendments if necessary. Once it is approved by Board meeting, it is to be implemented throughout the whole fiscal year.

Most of the MPEs are operating on loss. The enormity of losses is thought to be an indication of the lacking in effective profit planning and control, otherwise known as budgeting in these MPEs. This study, therefore, has sought to enquire into the effectiveness of budgeting in these enterprises, by examining their financial and accounting aspects. In addition, the study has also attempted to examine the behavioral implications of budgeting by conducting a survey of opinions of the people of top level, middle level, and lower level managers who participate in the preparation and implementation of budgets in these MPEs under study.

To examine the effectiveness of budgeting of the manufacturing public enterprises, the data of ten years have been collected about production, sales, total income, and total expenditure. For this purpose, both budgeted and actual data have been taken into account. For financial performance analysis, number of ratios has been calculated from their respective financial statements. These are return on sales, return on net capital employed, asset turnover ratio, quick ratio, administrative

overhead ratio, debt-equity ratio, etc. The data are analyzed in two ways. For descriptive analysis, different statistical tools like mean, coefficient of variation, standard error, trend Line equation, correlation, coefficient of determination, and multiple regression equation are used. For inferential analysis, some hypotheses are formulated and tested by using some non-parametric statistical tools such as student's 't' test and chi-square test.

## **6.2. Conclusions**

As per objectives of this study, all the sample manufacturing public enterprises are visited and studied the pattern and process of preparing revenue budgets in them. Operational and behavioural data are collected, analyzed and interpreted. The following conclusions are drawn about the objectives of the study.

1. From the study of pattern and process of preparing revenue budget, it is found that all the public enterprises of the study are following bottom – top approach of preparing budgets. This approach or process seems to be better which encourages participatory approach for preparing budget in the selected MPEs. The processes of budgeting followed by them are similar to the theories prescribed for budgeting practices.
2. All the manufacturing public enterprises of the study are preparing production, sales, income and expenditure budgets for their operation. The targets of the following year are not set in accordance with the actual target achieved in current year. There are significant differences between budgeted and actual quantity and amount of production, sales total operating income and expenditure of selected MPES. The actual quantity is always very much lower than the budgeted one. It means the budgeting systems of MPEs are very weak
3. All the manufacturing public enterprises of the study are running on operating loss except NRTL. Among them HCIL and HPPCL are running on huge operating loss in comparison with their sales. The major components of factors of weak performance are Operating loss, lower Employee Productivity, excessive Administrative overhead, idle fixed assets, higher amount of liabilities and lower level of liquidity..

4. The study of the behavioural implications of the budget shows that all manufacturing public enterprises of the study are preparing profit plans or budgets for their operations but they are not sincere in identification and evaluation of external variables affecting the MPEs, the pay scale and incentives of employees are not effective in motivating people at work, managers have little risk attitude to improve the performance of MPEs, there are not satisfactory levels of provision and system of reward and punishment for the achievement of objectives of MPEs, and follow up activities are not satisfactory.

### 6.3 Recommendations

On the basis of the findings and conclusion drawn for this study, the following suggestions and recommendations are given to improve the operational efficiency and effectiveness of MPEs under study.

1. Since all the manufacturing public enterprises are preparing budget for their organization, they are using adhoc basis or traditional style of preparing budget. They have to develop Strategic goals (i.e. long-term goals) and Tactical goals (i.e. middle term goals) to develop operational goals. To develop operational goals, managers just see what was the target or goal of previous year that is followed for next year. But the responsible authorities do not identify and evaluate the external and internal relevant variables to set the target of operating goals for the manufacturing public enterprises, which have major effect on the performance of the enterprises. So, they are suggested to follow scientific method based on facts which will certainly improve the productivity and efficiency of MPEs.
2. The pay scale and incentives of employees should be made sufficient to motivate people at work. The salary should be given sufficiently so that they can maintain the basic standards of need (like food, cloth, education, rent, etc.) for their family.
3. The manufacturing public enterprises have to provide proper opportunity of job enrichment and career development. The employees should be provided challenging jobs, training facilities etc. to make them able to face new challenges and they should be promoted according to their performance and

working period. These matters certainly improve efficiency and sure to achieve their targets in MPES.

4. A system of fair reward and punishment should be developed so that it becomes transparent. There might not be any bias attitude. It helps to motivate the employees to work more and well, which increase efficiency and productivity of employees.
5. There should be sufficient follow-up activities to be launched by all levels of managers so that corrective actions can be taken on time, thereby improve the performance of manufacturing public enterprises, and save the organization from huge financial loss and wastages.
6. The management of manufacturing public enterprises should maintain the Break-even point of production unit or volume so that operating loss cannot occur. They should produce as much quantity that can be sold and generate sufficient income to meet their operating expenditures. Otherwise, operating loss occurs, which will create problem to the manufacturing public enterprises.
7. The management of manufacturing public enterprises should reduce the administrative overhead cost and keep it between 5 to 10 percent of sales according to the nature of the organization. For this purpose, the number of employees should be reduced, unproductive expenses should be curtailed and only those expenses should be sanctioned which help the organization to generate more income than the expenditure.
8. Management should increase the productivity of employees. Employees should have to contribute in such a way so that organization can maintain their expenditures otherwise loss will occur. To increase productivity of employees, Refreshment courses, training programs should be launched time to time in the organizations.
9. Management of the manufacturing public enterprises has to reduce operating loss and try to earn profit otherwise they cannot sustain for long period of time.
10. Huge capitals of manufacturing public enterprises are blocked in fixed assets. They are not utilized properly. Therefore, they should be utilized efficiently and to the potential capacity only then public enterprises can earn profit.

11. Manufacturing public enterprises have to decrease their amount of loan (i.e. liabilities) for that they have to pay higher amount of interest. It is made possible only when they earn profit.

## **Bibliography**

Agrawal, Govind Ram; (1984). *Management control system for public enterprises in Developing countries*. Kathmandu: CEDA, T. U.

Ahmad, Galal;(1990), *Public enterprise Reform. UN,- A challenge for the world Bank* Washington D.C., The World Bank.

American Accounting Association, (n.d.), *Readings in Cost accounting, Budgeting and control*. U.S.A., Edited by: Thomas, William E., Sponsored and published by AAA.

Anthony, R. N. and Deardon J.; (n.d.), *Management control system*. New York, Mc Graw Hill Publishing.

Anthony, Robert N.; Dearden, John; Vancil, Richard F.; (1972). *Management control system; Text, Cases and Readins*. Revised edition, Homewood, Ill; Richard D. Irwin.

Bajracharya, Pushkar; Shrestha, Bal Krishna; (July, 1983). *Management problems in Public sector manufacturing enterprises in Nepal*. Kathmandu, CEDA.

Barrett, M. Edgar; and Fraser, Leroy B.; (July-Aug.1977). *Conflicting roles in budgeting for operations*. Harvard Business Review.

Bedian, Arthur G.; (1985). *Management*. New York, Dryden press.

Bratt, Elmer C.; (1958). *Business forecasting*. Mc Graw Hill Book co. inc.

Chamberlin, Neil W.; (1962).*The analysis of C-V-P Relationships;( The firm-micro economic policy and action)*. National Association of cost Accountants Report. New York, Mc Graw Hill.

Chambers, Edward J.; (n.d.), *Economic fluctuations and forecasting*. New Delhi, Prentice Hall of India Pvt. Ltd.

Dean, Joel; (1992). *Management Economics*. Prentice Hall of India Pvt. Ltd.

Dessler, (1983). *Improving performance at work*. Reston Va.; Reston publishing.

Fernands, Praxy ; (1982). *Control system in public enterprises in developing countries*. ICPE.

Flesher, Dale L. and Flesher Tonya K.; (1980), *Accounting principle for mid-management.*; New York, Delmar Publishing company.

Gentles, Roy A.; (April, 1984). *Alcan's integrated of management techniques raises their effectiveness*. AMA forum.

Gray, Jack and Johnston, Kenneth S. (1973). *Accounting and management action*; New York: Mc Graw Hill Publishing.

Gupta, P. S., (1967). *Budget system, Procedures & forms*. Delhi, Ranjeet printers and publishers.

Gupta, S. P. (1992). *Management Accounting*. Agra, Sahitya Bhawan.

Ministry of Finance, (2001). *Target and Performance of Public enterprises*. Kathmandu, Nepal.

National planning commission, (July, 1998). *The Ninth Plan (1997-2002)*, Kathmandu, Nepal.

Holmes, Arthur W.; Meier, Robert A.; and Pabst, Donald F.; (1970). *Accounting for control and decisions*. Texas, Austin Business publishing.

Horngreen, Charles T.; (1972). *Cost Accounting, a managerial emphasis*. Eaglewood cliffs, N. J., Prentice-Hall.

Horngreen, Charles T.; (1977), *Cost accounting; A Managerial Emphasis*. New Delhi, Prentice Hall of India.

John, Yung Dong; (1960). *Profit planning through volume-cost analysis*. New York, Macmillan.

Johns, Garth N.; (Article), *Budgeting for National Development*. Pakistan, Edited by Dr. A. Moquit,

Jones (Reginald L. and Jones) and Trentin, H. George; (1971). *Budgeting; Key to planning and control. (Practical guidelines for managers)*. American management Association inc.

Joshi, Shyam; (2050). *Managerial Economics*. Kathmandu, Taleju Prakashan.

Kellar, Issac Wayne; Ferrara, William L.; (n.d.), *Management Accounting for profit control*. Second edition, New York, Mc Graw Hill Publishing.

Khan, M. Y.; Jain, P. K.; (1989), *Management Accounting*. New Delhi, Tata Mc graw Hill pubs. Co. ltd.

Knight, W. D.; Weinwurm, E. H.; (1964). *Managerial Budgeting*. New York, The Macmillan co.

Kulkarni, P. V.; (n.d.), *Financial Management*. Bombay, Himalayan Publishing House.India.

Lawler, E.; (1971). *Pay and organizational effectiveness; A psychological view*. New York, Mc Graw Hill Book company.

- Lewis, Deniel; Houck, JR. (n.d.). *A practical guide to budgetary and management control system, A functional and performance evaluation approach*. Toronto, Lexington Books, D.C. Heath and company, Massachusetts, Lexington.
- Makridakis, Spyros; Wheelwright, Steven C.:(1985), *Forecasting methods and Applications*. New York, John wiley & sons.
- Manandhar, Narayan; (1987). *Issue in public enterprises management in Nepal*. Kathmandu.
- March, J. and Simon, H.; (1958). *Organization*. New York, John wiley & sons, Inc.
- Methews, Lawrance M.; (1977). *Practical operating Budgeting*. New York, Mc Graw-Hill Book company.
- Mohammad, Faquir ;( Paper presented), *Budgeting for National Development*. Pakistan, Edited by Dr. A. Moquit.
- Murti, V.G. K.; (1984). *Budgeting, A guide for practicing manager*. New Delhi: Sterling publishers private ltd.
- Narayan, Laxmi; (1992); *Principles and Practices of Public enterprise management*. Sultan chand & company limited, India.
- Ninemeier, Jack D. and Schmidgall, Raymond S.; (1984), *Basic Accounting standards*. Westport, U.S.A., Avil Publishing company.
- Pandey, I. M.; (1986). *Management Accounting; A planning and control approach*. New Delhi, Vikas publishing House.
- Pfeffer, J. and Salancik, G. R.; (19 June, 1974). *Organizational Decision making as a political process. The case of the university Budget*. Administrative Science Quarterly.
- Scott, J. A.; (1970). *Budgetory control and standard costs*. Pitman Publishing.
- Searfoss, D. and Monczka, R.; (Dec.1979). *Perceived participation in the Budget process and motivation to achieve the budget*. Academy of management journal.
- Shrestha, B. P.; (1962). *An introduction to Nepalese economy*. Kathmandu, Published by V.B. Sherestha.
- Tosi, Henry L.; JR, (Autumn, 1974). *The Human effects of Budgeting system on Management*. Vol. 22, No. 4, MSU Business Topics.
- Vroom, V.; (1960). *Some personality Determinants of the effects of participation*. Eaglewood cliffs, New Jersey; Prentice Hall, inc.

Welsch, Glenn A.; Hilton, Ronald W.; Gargon, Paul N.; (1990). *Budgeting, Profit planning and control*. New Delhi, Prentice-Hall of India Pvt. Ltd.

Willsmore, A. W.; (1960). *Business Budgets and Budgetory control*. London, Sir issac pitman & sons Ltd.

Zivetz, Laurie;(n.d.) ; *Private enterprise and the State in modern Nepal*. Madras, Oxford University press, Madras, India