

CHAPTER – 1

INTRODUCTION

1.1 General Background

Nepal is a landlocked country and situated in the lap of Himalaya. Nepal is located 26° 22 to 30° 27 North and longitude 80° 4 to 88° 12' East and elevation ranges from 90 to 8848 meters. The average length is 885 km. north to south. The country is bordered with the two most populous countries of the world, China and India. The northern range is covered with snow over the year where the highest peak of the world, the Mount Everest, stands.

Geographically the country is divided in three regions: Mountain, Hill and Terai. There are 5 development regions and 75 administrative districts. Districts are further divided into smaller units, called Village Development Committee (VDC) and municipality. Currently, there are 3,914 VDC and 58 municipalities in the country. Each VDC is composed of 9 wards, municipality ward ranges from 9 to 35. Katmandu is the capital city of Nepal.

Economic growth of the country has not improved markedly over time to overtake population growth. The current population growth is 2.5 percent per annum. Sixty percent of the population of working age are engaged in active and among them 75 percent are engaged in agricultural activities. In the development scale, Human Development Index (HDI) computed for Nepal for year 2007 is 0.540 (HDI lies between 0 to 1) which is 142nd position of the world. Per capital income of Nepali people are nearly \$300.

Economy of Nepal is mostly dominated by agriculture and accounts about 45% of gross GDP. About 70% of Nepali is directly involved in agricultural field. The agricultural productivity has failed to rise causing slowing down of overall economic growth. Low rates of investment and low levels of output and income have resulted from low productivity in this sector.

Agriculture is not only one way for the economic development of developing countries like Nepal. For the economic development of the country, industrial sector must be developed. Rapid and sound economic development is not possible only from the side of private sector due to the lack of adequate infrastructure as well as appropriate technology required to set up the large industries. So the establishment of public enterprises was felt necessary to create the infrastructure, for the balance regional development, public welfare, to export promotion, for dissemination of the development activities according to the national priorities.

1.2 Nepalese Economy and Industrialization

Agriculture is the backbone of our country. Economic system determines the scope of private sector participation and market forces in business. Nepal has adopted mixed economic system. This system is mix of free market and centrally planned economy where both public and private sector co-exist. The public sector plays a strategic role through the ownership and control of basic industries including utilities. The private sector owns agriculture and small, medium and large industries but is regulated by the state'. In an agricultural country like Nepal, effective mobilization of agricultural resources is very necessary. For the economic development of the country, industrial sector must be developed. Rapid and sound economic development is neither possible only from the side of private sector nor public sector. Participation of both sectors is essential for economic development of the country. Different public and private manufacturing industries were established with the object of balanced regional development, public welfare, employment generation, import substitution and export promotion for dissemination of the development activities according to national priorities.

Nepal's manufacturing sector is small but growing. Its share in GDP is about 15%. It consists mainly of light industries. Intermediate and capital goods industries are few but emerging. It is dominated by food manufacturing especially milling activities Different business laws and policies helps to establish the industry

rapidly. Privatization of public enterprises encourages foreign investment, leading role to private sector, reform in legal framework and encouragement to clean technology etc. Industrial area has played an important role on the growth of industries by providing infrastructure and other facilities.

1.3 Profit Planning and Control

Profit is the primary measurement of business success in any economy; if a firm is not able to earn profit then it fails to hold the capital for long period. Profit planning is planning for the future operation such a way as to maximize the profit or to maintain a specified level of profit. It is a process, which helps management to perform planning function effectively. A comprehensive profit planning is also known as broad budgeting schedule developed in financial statement. Profit deals with the development of objectives, specification of short-term goal and development of strategic and tactical profit plan. A profit plan is a detail expression of the expected result from the planning decision.

The descriptive term comprehensive "profit planning and control" can be used in the same context as; Managerial Budgeting, Business budgeting and budgeting. The term comprehensive profit planning and control can be defined as a systematic and formalized approach for performing significant phases of management planning and control functions.

Profit planning is a comprehensive plan expressed in financial term by which an operation programmed is effective for a given period. A budget is a numerical plan of action, which generally, cover the areas of revenue and expenditures. The main aims of budgeting is to present the future forecasting, numerically expressed in appropriate format so as proper control in profit and cost center could be established. As the size of organization grows, the vital of profit planning becomes an inevitable. Profit planning is primarily a management tool, a means to get something done over a period. A profit planning must be prepared in advance of commencing operations. It is a tool of directing, co-ordination and control and as such in the most important device.

PPC has wide application. It can be applied in profit and non profit, manufacturing and non manufacturing organization. Profit Planning formulates the planning decision of management. A comprehensive PPC or budgeting is a systematic and formalized approach for stating and communicating the firms expectations and accomplish the planning, coordination and control responsibilities of management in such a way as to maximize the use of given resource.

1.4 Introduction of the Organization

Tea cultivation has become an integral part of agriculture system, mostly in eastern part of Nepal; especially Ilam district. 16420 hectares area of Nepal is covered by tea garden. Among the area, 5052 hectares area is situated in Ilam district, despite of its beautiful landmark and climate suitable for tea plantation and dexterity of farmers have promoted tea plantation in Ilam district Since 1920 B.S. Different facilities i.e. govt. subsidy on interest on loan, restriction on land ownership, free land revenue etc. are provided to increase the tea farming for small farmers group and private tea estate. So, there are about sixty tea gardens under private sector having the total area of 1920 hectares and about 2500 farmers are directly involved.

There are many factories established in Ilam district since 2047 B.S. to fulfill the need of tea as well as to earn foreign currency by exporting the Nepal made tea in foreign. Here the introduction of two rural based private tea factories located in the northern part of Ilam district.

1.4.1 Himalayan Sangrila Tea Producers Pvt. Ltd.

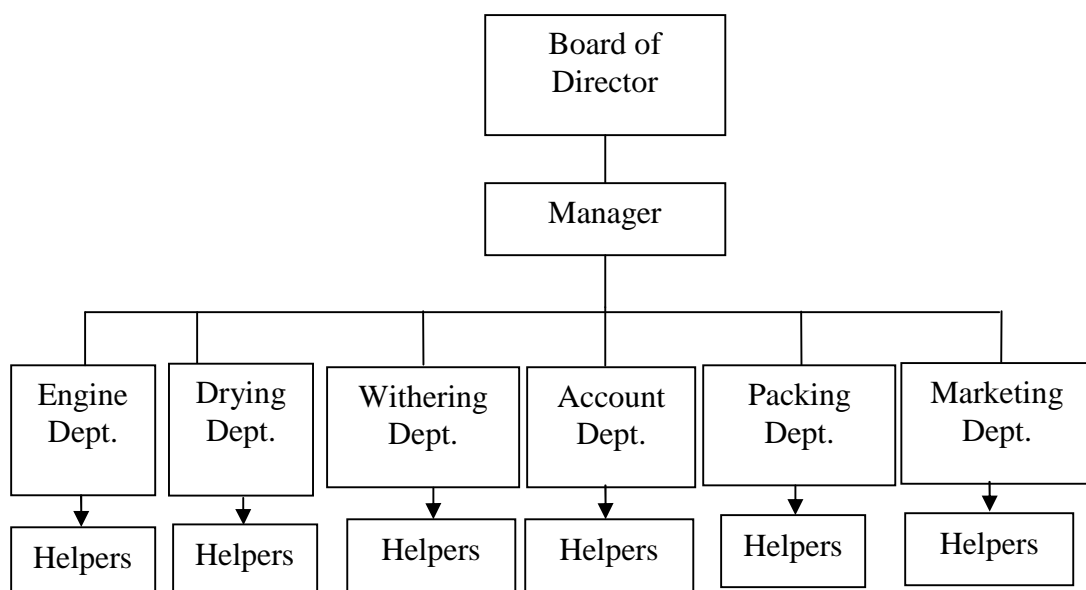
The factory named **Himalayan Sangrila Tea Producers Pvt. Ltd.** is a tea factory established in the year 2056 B.S. under Company Act 2053. It is 6 kilometers far from the district headquarter of Ilam, Established with a view to make contribution in the economy, the factory collects leaf of green tea from different villages of northern part of Ilam and produces the following two types of made tea;

- CTC
- Orthodox

The factory was established to provide and export pure organic made tea to the customer of different part of world. Now a day Himalayan Sangrila Tea Producers Pvt. Ltd. is playing an important role in the improvement in the economic condition of tea farmers of the rural community.

The authorized capital of company is one crore fifty lakhs rupees (15,000,000) divided into 15,000 ordinary shares of Rs.1, 000 each. The issued capital of company is one crore twenty lakhs rupees.

Organizational Structure of Himalayan Sangrila Tea Producers Pvt. (Ltd)



1.4.2 Objectives of Himalayan Sangrila Tea Producers Pvt. Ltd.

-) To maintain quality standard of product.
-) To expand the market share.
-) To optimize the use of raw material.
-) To help national economy.
-) To create the employment for the people of remote area.
-) To cover the national market of tea.

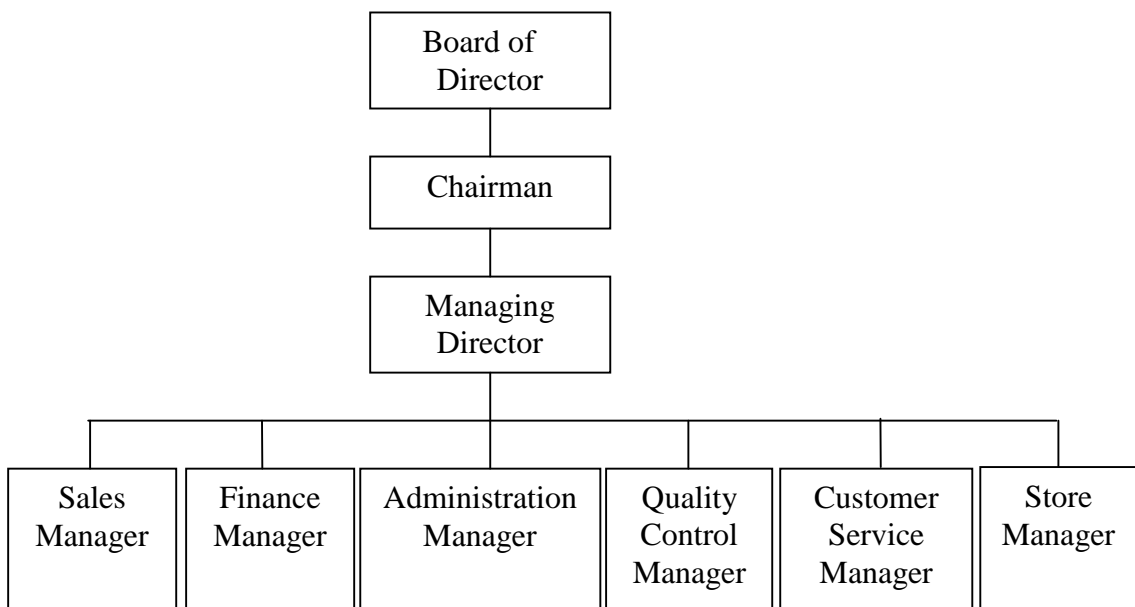
1.4.3 Sankejung Hill range Tea Processing Industries Pvt. Ltd.

Sankejung Hill range Tea Processing Industries Pvt. Ltd. is a tea factory located in sankhjung-3 Ilam. It was established in 2054 B.S. under Company Act 2053. It collects raw material (green leaf tea) from its own 21-ropani tea garden near the factory and from the neighbor villages of Sankejung VDC. It exports orthodox tea in different countries of world i.e. Japan, Germany, USA and India etc. Now the factory is operating in full capacity and able to encourage the local tea farmer to produce green tea in large range.

The authorized capital of company is one crore twenty lakhs rupees (12,000,000) divided into 12,000 ordinary shares of Rs.1000 each

The issued capital of company is one crore rupees i.e. 10,000 ordinary shares of Rs. 1000 each.

Organization Structure of Sankejung Hill range Tea Processing Industries Pvt. Ltd.



1.4.4 Objectives of Sankejung Hill range Tea Processing Industries Pvt. Ltd.

-) To accelerate the growth of industrial sector.
-) To eradicate regional imbalance.
-) To create employment opportunities.
-) To generate profit.
-) To utilize natural resources.
-) To achieve foreign currency.
-) To contribute some amount for rural area.

1.5 Statement of the Problems

Economic prosperity depends upon a sustainable economic development. For the attainment of accelerated economic development in a country, development of tea factories like the **Himalayan Sangrila Tea Producer Pvt. Ltd.** and **Sankejung Hill Range Tea Processing Industries Pvt. Ltd.** plays a vital role as it becomes one of sources of earning foreign currency. The concept of borderless world and globalization narrows the world and make all the countries interdependent. It said that today's world has become interdependent in economics, in communication, tourism, human dreams an so on.

Establishment of tea factories like Himalayan Sangrila Tea Industries Pvt. Ltd. and Sankejung Hill Range Tea Processing Industries Pvt. Ltd. is one part but sustainability is at risk due to unhealthy economic condition, instability of government, insecurity etc. This type of factory is established and operated with the profit as well as service motive. Success is not a matter of chance; profit does not happen all of sudden. It is to be planed and managed well. Profit Planning and Control is useful for proper planning, controlling, organizing, and decision-making. The present study is intended to solve the following problems:

-) To what extent is the process of profit planning is followed in the Himalayan Sangrila Tea Industries Pvt. Ltd. and Sankejung Hill Range Tea Processing Industries Pvt. Ltd?
-) What are the main hurdles to implement the profit-planning concept in tea factories?
-) What steps should be taken to improve the profit- planning system in tea factories?

1.6 Objectives of the Study

The basic objective of the present study is to highlight the current practice of profit planning and its effectiveness in Nepalese tea factories. The broad objectives have been further specified in following sub- objectives.

-) To analyze the variances between budgeted and actual figures.
-) To identify the various aspects related with in tea factories.
-) To identify the weakness and strength area of the factories.
-) To make suggestions for the improvement in the profit planning of tea industries.

1.7 Scope of the Study

In every organization, the availability of the resources is scarce and out of this scarce resource, the objective of the organization is to be accomplished. The financial performance of the organization depends upon the uses of its resources. Budgeting is the key to productive financial planning and control. Profit planning process significantly contributes to improve the profitability as well as the overall financial performance of an organization by the help of the proper utilization of the scarce resources, so if the planning process of Himalayan Sangrila Tea Producers Pvt. Ltd. and Sankejung Hill Range Tea Processing Industries Pvt. Ltd. is effective and result oriented the pace of industrialization and development naturally step forward.

Profit planning is the heart of management. It shows profit is the most important indicator for judging managerial efficiency and they do not just happen. For this every organization has to manage its profit. Various financial analysis are the basic tools for proper planning of profit and control over them. The present study is intended to analyze and examine the profit planning system and its application in Himalayan Sangrila Tea Producers Pvt. Ltd. and Sankejung Hill Range Tea Processing Industries Pvt. Ltd.

1.8 Limitation of the Study

The study is bounded in certain limitation, which are as follows:

-) The study covers the period of five years only. i.e. from FY 2060/061 to 2064/065
-) The study is mostly and mainly based on the secondary sources of data and information.
-) The accuracy of the study is based on the data available from the management of Himalayan Sangrila Tea Producers Pvt. Ltd. and Sankejung Hill Range Tea Processing Industries Pvt. Ltd.
-) This study focuses mainly on short-term profit plans.
-) Being a student resource constraint such as time, finance and other resources have limited the scope of the study.

1.9 Scheme of Study

Chapter 1	Introduction
Chapter 2	Review of Literatures
Chapter 3	Research Methodology
Chapter 4	Presentation and Analysis of Data
Chapter 5	Summary Conclusion and Recommendations

CHAPTER - 2

REVIEW OF LITERATURE

2.1 Conceptual Framework

2.1.1 Concept of Profit Planning and Control

2.1.1.1 Profit

Simply, Profit is the excess of income over cost of production. But the term profit is very controversial. Usually, profit does not just happen. Profits are managed. There are several different interpretations about of the term 'profit'. An economist will say that profit is the reward for entrepreneurship for risk taking. A labor leader might say that it is a measure of how efficiently labor has produced and that it provides a base for negotiating a wage increase. An investor will view it is a gauge of the return on his/her money. An internal revenue agent might regard it as the base for determining income taxes. The accountant will define it simply as the excess of a firm's revenue over the expenses of producing revenue in a given fiscal period.

Using the account's measuring stick management thinks of profit as:

- I. A tangible expression of the goals that has been set for the firm.
- II. A measure of the performance toward the achievement of its goals.
- III. A means of maintaining the health, growth and continuity of the company.

Profit is the basic element of profit planning. A business firm is an organization, designed to make profit and profits are the primary measure of its success. Social criteria of business performance usually related to quality of products, area of progress and behavior of the desirability of the whole profit system. Within that system profits are the acid test of the individual firm's performance.

Profit is the reward for breaking risk, the risk of enterprise, the risk of venturing in business. The risk of owing something is related in hoping of selling it later.

The term profit, according to Howley F.B., is the reward of risk taking on business. Schumpeter's opinion is that an entrepreneur earns profit as reward for his introduction innovations. J.M. Keynes held the view that profits resulted from favorable movements of general price level. Mrs. Robinson and Chamberlain opened that the greater the degree for monopoly power, the greater the profits made by entrepreneur.

For the dynamic manufacturing industries, the most telling concept of profits depicts them as the gains in national income that are generated by the managerial drive for distinction through creative innovations.

The difference between the outflows and inflows is profit; the inflows mean the cost of production and selling that product.

2.1.1.2 Planning

Planning means deciding in advance what is to be done in future. It is a method of thinking out acts and purpose beforehand. Planning starts from forecasting and determination of future events. It is the first essence of management and all other functions are performed within the framework of planning. Planning is the basic foundation of profit plans. Planning is a rational way, a systematic way of perceiving how business industry or any organization will get, where it should go by examining future alternative courses of action open to any organization and choosing them. In choosing most feasible and desirable courses of action, a perspective, a frame of reference is established of current decisions. In this process, planning examines the involving chains of cause and effect likely to result in the future and respectively exploit or combat them as the case may be.

Planning is the process of developing enterprises objectives and selecting a future course of action to accomplish them. It includes establishing enterprise objectives, developing premises about the environment in which they are to be accomplished, selecting a course of action for accomplishing the objectives, initiating activities necessary to translate plans into action and current preplanning to correct current deficiencies.

In conclusion, planning does not eliminate risk, it minimizes it. It cannot predict the future with accuracy or present mistake. But it can reduce the number and magnitude of surprises and can provide contingency plan for the occurrence of both favorable and unfavorable situation.

2.1.1.3 Profit Planning

Profit planning or budgeting is forward planning and involves the preparation in advance of the quantitative as well as financial statement 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 budget is such a written plan, in which all aspects of business operation to a defined future period are included. It is a formal statement of policy, plan, objective and goal established by the top management in respect of some future period. It acts as a business barometer as it is complete program of activities of the business for the period covered. Profit planning is a predetermined detail plan of action developed and distributed as a guide to current operation and as a basis for the subsequent evaluation of performance. Thus we can say that profit planning is a tool, which may be used by the management in planning the future courses of action and controlling the actual performances.

A profit planning and control program can be one of the more effective communication networks in an enterprise. Communication for effective planning and control requires that both the executive and the subordinate have the same understanding of responsibilities and goals. Profit plan, if developed through full participation and in harmony with assigned responsibilities, insures

a degree of understanding not otherwise possible. Full and open report that focuses on assigned responsibilities likewise enhances the degree of communication essential to sound management. Profit planning consists of the operation budget, the financial budget and the appropriation budget.

"Profit planning is a comprehensive plan in financial terms operative for a given period of time. It includes the estimate of a) Service activities and project comprising the program. b) The resultant expenditure requirement. c) The resources useable for their support" (Khan and Jain, 1989: 315)

"Comprehensive profit planning is a process designed to help management effectively perform significant phases of the planning and control functions.

PPC model includes the following features:-

- I. Development and application of broad and long range objective of the enterprise.
- II. Specification of enterprise goals.
- III. Development of a strategic long range profit plan in broad terms.
- IV. Specification of a tactical short range profit plan detailed by assigned responsibilities.
- V. Establishment of a system of periodic performance reports detailed by assigned responsibilities.
- VI. Development of follow up producers."

(Keller & other 1984: 215)

Finally, the most detailed level of planning occurs when management operationalizes the objectives, goals, and strategies already established by incorporating them into the profit plan. A profit plan is a financial and narrative expression of the expected results from the planning decisions. It is called the profit plan because it explicitly states the goals in terms of time expectations and expected financial results for each major segment of the entity. Typical profit plan establish the connect and format of the internal-control reports with

respect to operations, inputs, outputs and financial position developed by the entity for monthly performance reporting to the various level of management.

2.1.1.4 Control

Control can be define as the process of measuring and evaluating performance of each organizational component of an enterprise and initiating corrective action to ensure attainment of the objectives, goals, and standards of the enterprises. Control has many facets, such as direct observation, oral expression, narrative memoranda, policies and procedures, reports of actual results, and performance reports. Comprehensive profit planning and control focuses on performance reporting and evaluation of performance to determine the causes of both high and low performances.

2.1.1.5 Concept of Profit Planning and Control

Profit planning & control is a financial and narrative expression of the expected results from the planning decision and ensuring attainment of the objectives, goals, and policies of the enterprise. Profit planning & control is viewed as a comprehensive tool rather than the narrow, traditional view of a budget as a clerically derived set of quantities schedules prepared by an accountant, following the stereotype reporting formats used in external financial statements. For this reason, the new term ' comprehensive profit planning & control' is used in the literature of the business.

Profit planning & control is a comprehensive tool that used by management in planning for the future course of actions and in controlling after subsequent evaluation of performance. Comprehensive profit planning model can take the best use of opportunities through the strengths of the firm and minimization of the threats and weakness of the firm to meet the target profit.

Profit planning & control refers to the organization technique and procedures, where long range and short range plans are formulated, considered and approved, responsibility for execution is delegated, flexibility to meet changing

condition is provided, progress in working the plan is reported, deviation in operating are analyzed and corrective action required to reach the desired objectives is taken. A profit plan is an advance decision of expected achievement based on the most efficient operating standard in effect or in prospect at the time it is established, against which actual accomplished is regularly compared. The primary aim of profit plan is to assist in assuring the procurement of the profits planed and to provide a guide for assisting additions in the 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 expansion, organize future planning, fixing of responsibilities and simulation of effort. In short, it provides tool for more effective supervision of individual operations and practical administration of the business as a whole.

(Neil, 1997: 452)

The profit planning & control model involve:

- I. Development and application of broad and long-range objectives of the enterprise;
- II. Specification of enterprise goals;
- III. Development of a strategic long-range profit plan in broad terms;
- IV. Specification of a tactical short-range profit plan detailed by assigned responsibilities (divisions, departments, projects);
- V. Establishment of a system of periodic performance reports detailed by assigned responsibilities" and
- VI. Development of follow-up procedures.

(Welsch & other, 1992: 30)

Finally, the essence of planning and control rests upon some fundamental or philosophical views of the real role of management in an endeavor. In harmony with some of these views, profit planning and control rests upon the conviction

that a management can plan and control the long range destiny of the enterprise by making a continuous stream of well-conceived decisions. The concept speaks to planned prosperity as opposed to unplanned happenstance. For long-range success, the stream of managerial decisions must generate plans and action to provide the essential inflows that are necessary to support the planned outflows of the enterprises that responsible levels of profit and return of investment are earned. Continuing generation of profit by managerial manipulation of the inflows provides the substance of profit planning and control.

2.1.2 Principle and Purpose of Profit Planning

The main principles and purpose of profit planning are as follows:

- I. To provide a realistic estimated of income and expenses for a period and the financial position at the close of the period detailed by areas of management responsibility.
- II. To provide a comparison of actual results with those budgeted and an analysis and interpretation on of deviation by areas of responsibility to indicate course of corrective action and to lead to improvement in procedures in building future plan.
- III. To provide a coordinate plan of action, which is designed to active the estimates reflected in the budget.
- IV. To provide a guide for management decision in adjustment plans and objectives as uncontrollable conditions changes.
- V. To provide a ready basis for making forecasts during the budget period to guide management in making day-to-day decision.

2.1.3 Advantages of PPC

Profit planning gives most important signal to the management of any enterprises while managing their physical and financial targets. It considerably contributes to improve the profitability of an enterprises as well as the financial

performance. For this reason, it is the heart of the management. There are so many arguments for profit planning and control that may be advantages of it.

The following main arguments are usually given for profit planning and control:

- I. It forces early consideration of basic policies.
- II. It requires adequate and sound organization structure' that is, there must be definite assignment of responsibility for each function of the enterprise.
- III. It compels all members of management, from top down, to participate in the establishment of goals and plans.
- IV. It compels departmental managers to make plans of their departments and of the entire enterprises.
- V. It requires that management put down in figures what is necessary for satisfactory performance.
- VI. It requires adequate and appropriate historical accounting data.
- VII. It compels management to plan for the most economical use of labor, material, and capital.
- VIII. It installs at all levels of management the habit of timely, careful, and adequate consideration of the relevant factors before reaching important decisions.
- IX. It reduces cost by increasing the span of control because less supervision is needed.
- X. It frees executives from many day-to-day internal problems through predetermined policies and clear cut authority relationships. It thereby provides more executive time for planning and creative thinking.

- XI. It tends to remove the cloud of uncertainty that exists in many organizations, especially among lower levels of management, relative to basic policies and enterprise objectives.
- XII. It pinpoints efficiency and inefficiency.
- XIII. It promotes understanding among members of management of their co-workers problems.
- XIV. It forces management to give adequate attention to the effect of general business conditions.
- XV. It forces a periodic self- analysis of the company.
- XVI. It aids in obtaining bank credit; banks commonly require a projection of future operations and cash flows to support large loans.
- XVII. It checks progress or lack of progress towards the objectives of the enterprise.
- XVIII. It forces recognition and corrective action (including reward).
- XIX. It rewards high performance and seeks to correct unfavorable performance.
- XX. It forces management to consider expected future trends and condition

2.1.4 Disadvantages of PPC

Though there are so many advantages of profit planning and control, it is not free from criticism. There are some arguments against it.

These arguments may be taken as disadvantages of it.

The following main arguments are usually given against PPC.

- I. It is difficult, if not impossible, to estimate revenues expenses in our company realistically.
- II. Our management has no interest in all the estimates and schedules. Our strictly informal system is better and works well.
- III. It is not realistic to write out and distribute our goals, policies, and guidelines to all the supervisors.

- IV. Budgeting places too great a demand on management time, especially to revise budgets constantly. Too much paper work is required.
 - V. It takes away management flexibility.
 - VI. It creates all kinds of behavioral problems.
 - VII. It places the management in a straitjacket.
 - VIII. It adds a level of complexity that is not needed.
 - IX. It is too costly, aside from management time.
 - X. The managers, supervisors, and other hate budget.
- (Welsch & other, 1992: 30)

2.1.5 Application of Profit Planning and Control

Some people say that comprehensive profit planning and control is applicable only to large and complex organizations. Also, a not unusual comment is that comprehensive budgeting is a fine idea for most business, but ours is different or it is impossible to project our revenues and expenses and so on.

Sometimes specific industries are viewed as not amenable to profit planning and control. These views are common regarding non-manufacturing enterprises-service companies, financial institutions, hospitals, certain retail business, construction companies, and real-estate enterprises. To the contrary, profit planning and control can be adapted to any organization (profit or non profit, service or manufacturing), regardless of size, special circumstances, or conditions. The fact that a company has peculiar circumstance or critical problems is frequently a good reason for the adaptation of certain profit planning and control procedures. In respect to size, when operations are extensive enough to require more than one or two supervisory personnel, there may be a need for profit planning and control applications. The smallest company certainly has different need in this respect than a large one. As with accounting, a single profit planning and control system that is appropriate for all enterprises cannot be designed. A profit planning and control system must

be tailored to fit the particular enterprises, and it must be continually adapted as the enterprise and its environment change.

2.1.6 Basic Element of Profit Planning

- I. It is a comprehensive and co-coordinated plan. The profit planning considers all activities and operations of an organization. The budgets prepared by different departments inside the organization have to be compiled or coordinated and it is done by profit planning. So before preparing a profit planning, firstly, all the departments have to be complied and that budget is known as comprehensive budget or profit planning.
- II. It can be expressed in financial terms. All activities covered by budgets are related with finds. So the budget has to be expressed in monetary units i.e. in rupees, dollar, or pounds etc.
- III. It is a plan for the firm's operation and resources. A budget is a mechanization to plan for the firm's all operation or activities. The two aspect of every operation are revenue and expenses. The budgets must plan for and quantity revenue and expenses related to specific operation. Plan should be made for carry out the operations. The planning for resources will include planning for assets and sources of funds.
- IV. It is future plan for specific period. Time dimension must be added to a budget. A budget is meaningful only when it is related to a specific of times. The budget estimate will be relevant only for some specific period.

2.1.7 Forecasting

Forecasting is an attempt to find the most probable course of events or at best a range of probabilities.

"The growing competitions, rapid change in circumstances and the trend toward atomization demand that decisions in business are not based purely on guess and hunches rather on careful analysis of means for further forecast. When estimates of future condition are made on the systematic basis, the process is referred to as forecasting and the figure or statement obtained is known as forecast."

(Gupta, 1990: A8.2)

Forecasting is not only guess or imagination matter but it is related within certain assumption. Forecasting is deciding future course of action at present after analysis of relevant factors of past and present, its main aim is to reduce uncertainty and risk in future and conformity to achieve desired goals or objectives as far as possible.

The careful economics and business analysis is called forecasting, the term forecasting , denotes the producer and executives to describe as closely as possible the nature of the general level of business, economic and company activity expected in the future. Forecasts are predictions or estimates of the change, if any in characteristic economic phenomena which may affect one's business plans. Careful forecasting helps executives' select the right objectives and chart the routes of progress towards those objectives. Forecasting is a special tool of planning necessary for making decisions that are economically sound."

(Foreland & Dalton, 1964: 76)

Forecasts are frequently made in the form of long projection with a maximum of 5 years into the future with present circumstances or with those of the relevant past. The purpose of long-range projection is to give a rough picture of

future prospect, a picture that has some empirical foundation. Typically long-range projection has been set in a gross national product framework. This estimate can suggest the need for product development or diversification and indicates the most desirable channels of distribution and point of personnel need and the specification most required. Finally, a long-range forecast may indicate the specification most required. Finally, a long-range forecast may indicate the value of investment necessary in plant and equipment.

(Foreland & Dalton, 1964: 407)

1.1.7.1 Planning vs. Forecasting

The confusion between forecasting and planning has been emphasized by J. Scott Armstrong as "When the leader of an organization says that he would like a forecast what he often means is that he wants a plan. He was to make something happen and he uses this plan as a target for people in his organization. "

(Armstrong, 1978: 5)

Planning can be performed under condition of certainty, uncertainty, or ignorance about the future. It is in those situations involving uncertainty the forecasting provides the maximum help to planners. When certainty exists, forecasting does not require much effort since predictions about the future possibilities can be made. However such clues can not be provided unless some information is available on which the major purpose of forecasting is to reduce uncertainty and minimize ignorance because both forecasting and planning concern to integrate those two functions within the organizations. Knowledge of forecasting techniques is of little value unless they can be effectively applied in the organization planning process.

"Forecasting and Planning are not the same things. A forecasting is a prediction of future event, condition or situation, where as plans included future events/actions and desired results. Forecasting predicts the future events in

such a way that the planning process can be performed more accurately. Forecasting is our best thinking about what will happen to us in the future. In forecasting, we define situation and recognize problem and opportunities. In planning we develop our objectives in practical detail and we correspondingly develop schemes of actions to achieve these objectives."

(Webstor, 1991: 502)

"Planning and forecasting often are confused. Although related, they have distinctly different purpose. A forecasting is not a plan, rather it is a statement and or a quantified assessment of future condition about a particular subject (e.g. sales revenue) based on one or more explicit assumption. A forecasting should always state the assumption upon which it is based. A forecasting should be view and as only one input into the development of sales plan. The management of a company may accept, modify, or reject the forecast. In contrast, a sales plan incorporates management decision that are based on the forecast, other input and management judgment about such related items as sales volume, price, sales efforts, production and financing. It is important to make distinction between the sales forecast and sales plan primarily because the interest of the technical staffs should not be expected or permitted to make the fundamental management decision and judgment implicit in every sales plan. Sales forecast are conditional and prepared prior to management decision and plans. A sales forecast is converting to sales plan when management has brought to bear management judgment, planned strategies, commitments of resources and the managerial to aggressive action to attain the sales goals."

(Welsch & other, 1992: 407)

Planning is a future guideline of an organization, so it is required appropriate information, which is not possible until and unless research and forecasting. The two most important features of planning are research and forecasting.

(Memorial, 1990: 36)

2.1.8 Budgeting: - As a tool of profit planning

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

"Budget, 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 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 specified period in future."

(Khan and Jain, 1985: 296)

"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 sub unit. Budgeting includes sales, production, distribution and financial aspect of an organization. Budget program are designed to carry out a variety of functions, planning, evaluating performance, coordinating activities, implementing plans, communicating, motivating and authorizing actions."

(Horn & Charles, 1986: 123)

A budget is a written plan for the future. The managers of firm that use budgets are forced to plan ahead. Thus 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 ahead of time. A Budget Helps firm to control its cost by setting guidelines for spending money for unnecessary items because they know at all costs will be compared to the budget. If costs exceed the budget costs, an explanation will be required. Frequently exceeding the budget may even be the grounds 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. The complete budget for a firm is often called master budget. The master consists of many functional budgets. These budgets include a sales budget, a production budget, a purchase budget, an expenses budget, an equipment purchase budget and a cash budget. Once all of these budgets are completed, the master budget for the entire firm is prepared," (Flesher and Tonya, 1994: 406)

Budgetary control is a system of controlling costs which includes the preparation of budgets, coordinating the departments and establishing the responsibilities; comparing actual performance with that budgeted and acting upon results to achieve maximum profitability. Thus budget is concerned with policy making while budgetary control results from the implementation of the policy. The common objectives of budgetary control is to formulate policies aims at objective established after the consideration of the possible course of events in the future and to provide a means for the constant comparison of actual progress towards this goal against the preconceived results. Budget not only compares the actual results with those of budgeted but also provide a standard of the performance. Company controls operations through its budgeting and responsibility reporting system. Top executives are able to control every area of the organization through a system of budgetary planning and control reporting by responsibilities area. Yardsticks of performance are provided for all productive and service area, and results of operations are accumulated and reported in term of these yardsticks at all supervisory levels.

While originally the budget constituted a financial document, it is now concerned with devising a coordinated program of operation, providing an effective means of communication among managerial personnel for the

purpose of evaluating proposed plans of action, directing and diverse activities towards the accomplishments of predetermined goals and obtaining all requisite approvals. Thus there is an increasing trend towards extending the frontiers of business budgets to include planning, coordination and controlling of the entire operations of a business. This has transformed budgets and budgetary control into a valuable tool of purposeful management.

Budgets encourage cogent thinking and help in the avoidance of vague generations as all executives have to qualify plans to examine their feasibility in terms of profit potential. They place the problem of profit in proper perspective by emphasizing that the only means of safeguarding the desired margin of profits lies in adapting costs to proceeds which are beyond the control of an enterprise. Then, by maintaining the various activities of a concern in proper relation to one another, business budgets bring a sense of balance and direction in the affairs of the budget proposals ever conscious of its existence with the consequence that, though no monetary reward is offered to them, there is stranger probability of their achieving the budget goals than in the absence of predetermined targets. To that extent, budget acts as an impersonal policeman that maintains ordered efforts and brings about efficiency in results. (Fremgen & James m., 1973: 144)

2.1.8.1 Requirements for Effective Budgeting

The requirements for effective budgeting are as follows;

1. Support of top management

The budget program can only be successful when top management offers the wholehearted support and when all managers are motivated about the implementation of budget program.

2. Clearly defined organization

Business organization should be defined so as to provide maximum benefits. There should be a sound plan with well-defined and adequately maintained

responsibilities. Records should be clear, consistently departmentalized and established in such a manner as will indicate definite responsibility on each unit or section of the business.

3. Accurate accounting system

Accounting system should be developed to hold each part of the organization to its responsibilities. The budget fosters coordinated action and whenever this is broken down or interfered with, the responsible factor should be unmistakably revealed.

4. Unambiguous policy

A budget program is always based on certain fundamentals, the collection of which is called the "policy" of business. Naturally, therefore, no program can be prepared without the knowledge of the business policy to be adopted during the period covered by two budgets.

5. Preparation by responsible executives

Formulation of budget in the participation of executives who are entrusted with the performance and implementation is one of the essential of executive budgeting.

6. Logical sequence in the budget preparation

It is essential that proper procedures should be evolved for the preparation, submission, examination and review of budget figures in logical sequence.

7. Constant vigilance

An effective system of budgetary control requires that provisions must be made for the comparison of budgeted and actual results at frequent intervals. As soon as unfavorable trends are detected, immediate action should be taken to remedy them.

8. Continuous budget education

An essential condition for the success of budgeting is that it must be able to sustain the interest of those who shoulder the responsibility of putting budget

proposals into effect. This needs continuous "Budget Educating" which is concerned with briefing the employees of the undertaking on the objectives, potentials and techniques of budgeting as well making them understand its uses and limitations.

9. A degree of flexibility

Flexibility for both possible and unforeseen circumstances requires essentially in budgeting. (Sharma & other, 1982: 264)

2.1.9 The fundamental of profit planning and control

Profit planning and control program is based on some fundamentals. The more important fundamentals are:

1. Managerial Involvement

Profit planning and control program requires managerial support, confidence, and participation and performance orientation. All levels of management, especially top management has to consider following points in order to make PPC program successful.

- i. Understand the nature and characteristics of profit planning and control.
- II. Be convinced that this particular approach to managing is preferable for their situation.
- III. Be willing to devote the effort required to make it operative.
- IV. Support the program in all its ramifications.
- V. View the results on the planning process as performance communities.

2. Organizational Adaptation

A profit planning and control program must rest upon sound organizational structure for the enterprises and a clear-cut designation of lines of authorities

and responsibilities. The purpose of organizational structure and the help assignment of authority are to establish frameworks within which enterprise objective may be attained in an interrelationship of the responsibilities of each individual manager are specified.

3. Responsibility Accounting

Planning is based upon historical data that are largely generated by the accounting system, and control includes the measurement of actual results against objectives, goals and plans, consequently the accounting system must be built around the responsibility structure of the enterprise. In order to set up profit planning and control on a sound basis there must be a responsibility accounting system that is, one tailored first and foremost to the organizational responsibilities.

4. Full Communication

Communication in the management and operation of an enterprise seems as a major managerial problem. Communication can be broadly defined as an interchange of thought or information to bring about a mutual understanding between two or more parties; it may be accomplished by words, symbols, message and subtleties of understanding that come from working together, day in and day out by two or more individuals. Communication may be thought of as the link that brings together the human elements in an enterprise.

The goals objectives set by management should be well communicated in all levels of management; PPC program can only be successful when the communication is done in full. Full communication means making everybody of the organization familiar with goals and objectives and to motivate all members for their effective accomplishment.

5. Realistic Expectations

Management must be realistic and avoid either undue conservatism or irrational optimism. The care with which budget goals and objectives are set of such

items as sales, production levels, costs, capital expenditures, cash flow and productivity determines in large measure the future success of the profit planning and control program. To be realistic, expectations must be made in relation a) to their specific time dimension and b) to an assumed external and internal environment that will prevail during that time span. Within these two constraints, realistic expectations should be made to attain predetermined goals.

6. Time Dimension

Effective implementation of the profit planning and control concept requires that the management of the enterprise establish a definite time dimension for certain types of decisions. In viewing time dimensions prospects in managerial planning, a clear-cut distinction should be made between historical considerations and futuristic considerations. Timing of planning activities suggests that there should be a definite management time schedule established for initiating and completing certain phases of planning process.

7. Flexible Application

These fundamental concepts of profit planning and control stresses that flexibility should be adopted so as to seize all favorable opportunities, which were not covered by the cost control. Expenses and cost budgets must not be used and interpreted rigidly; the budget must not prevent the making operational decisions in respect to expenses merely because expenditure was not anticipated.

8. Behavioral Viewpoint

Profit planning and control program can only be successful when the people working in the enterprises are motivated. Goal orientation is characteristics of ambitious and competent individuals who are normally involved in the management process. Such individuals have strong personal goal needs; their performance is enhanced through hierarchy of realistic goal with which they can identify. For implementing the profit planning and control program

effectively, there should be a proper coordination between the individuals goals needs and an organizational goal needs. From this perspective, behavioral consideration in regard of the rewards, performance, results should be taken intensively.

9. Follow Up

This fundamental holds that both good and substandard performance should be carefully investigated, the purpose being threefold:

- i. In the case of substandard performance, to lead in a constructive manner to immediate corrective action.
- ii. In the case of outstanding performance, to recognize it and perhaps provide for a transfer of knowledge to similar operations: and
- iii. To provide a basis for better planning and control in the future.

2.1.10 Component of A Comprehensive Profit Planning and Control

A comprehensive profit planning and control program encompasses much more than the traditional idea of periodic concepts through a variety of approaches, techniques and sequential steps. Basic components of comprehensive profit planning and control program are below:

1. Evaluating of variables affecting the enterprise

Variable which have a direct and significant impact on the enterprise are relevant variables. Variable may have their large firm with a national market, the relevant variable obviously be broad in scope where as a small firm would be concerned primary with regional and local variables operating within the narrow environment of enterprise. These relevant variables include the environmental variable, which have a deep concern in the continuation of the enterprise. Political, social, legal points have a sharp impact and which constitute the strength and weakness of the enterprise. Profit planning and control program begins with the identification of these variables.

2. Specification of the objectives of the enterprise

The statement of board objectives is viewed as a pervasive, although general, expression of the philosophical objectives of the enterprise. These objectives normally avoid specific statements of quantitative goals and focus on such as long-range economic potentials, attitudes of customers, product and service quality, employee relations and attitudes toward owners.

The statement of broad objectives should express the mission, vision and ethical tone of the enterprise. It tends to provide enterprise identity, continuity of purpose and definition. Open, prominent writer lists the purpose of the statement as follows:

1. To provide the purpose of the company
2. To clarify the philosophy character of the company
3. To create a particular climate within the business.
4. To set a guide for managers so that the decisions they make will reflect the best interests of business and justness to those concerned.

Thus the objectives should be specified so as to serve as the foundation of the company and they should be "believable", to be grasped easily by every part concerned to the enterprise i.e. shareholders, customers, government, employees and so on.

3. Establish specific goals for the enterprise

This component of a comprehensive profit planning and control program is to detail specific short-range and long-range goals for the enterprise to bring the statement of broad objectives into sharp focus. This step provides definite and measurable goals for the whole enterprise and for the each major sub divisions (the responsibility centers)

For both the strategic long-range profit plan (say, five years) and for the tactical short range plan (annual) the statement of specific goals should define such

operational goals as expansion and or contraction of product and service lines, growth trends, production goals, profit margins and return on investments.

4. Development and evaluation of enterprise strategies

Development of enterprise long-range strategies requires management to find the best available alternatives for attaining the broad and specific objectives already established. Strategies focus on the "How" they represent the plan of action.

Although strategy formulation is of continual concern to executive management, better managed companies have found that periodic reassessment of the strategies is essential in light of a careful analysis of all relevant variables and their future potential impacts.

5. Preparation of planning premises

Up to the last four steps, executive management explicitly establishes a planning foundation that is a condition precedent to the involvement in the planning process. On the basis of this planning foundation, the statement of planning guidelines is set as executive management instructions and is disseminated in order to initiate a sophisticated and potent move from broad corporate planning to the development of profit plans by each major executive management to the lower levels of management and it should adopt the fundamental of full communication.

6. preparation and evaluation of project plans

Project plan encompasses various time horizons since each project has a unique time dimension. Project plans encompass such items as plans for improvement of present of present products, new and expanded physical facilities, entrance into new industries, exit from product and industries, new technology utilization and other major activities that can be separately identified for specific planning purposes. The nature of projects is such that they must be planned as separate units. In planning for a project, the span of time to be

considered normally must be the anticipated life span of the project. Projects approved then must be fitted into the strategic and tactical profit plans.

7. Development and approval of strategic and tactical profit plans

The strategic long-range and tactical short-range profit plans normally should be developed concurrently for all practical purposes and that the executives in charge of each of the responsibility center through out the firm should participate in their development in harmony with planning premises. Meaningful participation in the planning process generates positive behavioral effects. A manager of each responsibility center has to initiate immediate activities within his own functional sphere to develop a strategic long-rang profit plan (say five year) and in harmony with the five years plan, a tactical short-range profit plan (one year)as soon as he receives the planning premises and procedural instructions.

8. Development of supplement analysis

A number of important analysis may be developed supplementary to the short and long-range profit plans. Those analysis apply many useful managerial techniques in the decision making process. Specific important analysis is: planning model simulations, cost-volume profit (break even); managerial cost, return on investment; linear programming models; variable expenses budgets and accessory statistics both historical and prospective.

9. Implementation of plan

Implementation of management plans that have been developed and approved in the planning process involves the management function of directing subordinates in the accomplishment of enterprise objectives and goals. Communication is an especially important aspect of direction. Thus competent management at all levels requires that enterprise objectives, goals, strategies and policies be keenly appreciated and understood by subordinates. Objectives and goals should be realistic and attainable and they should present a real

challenge to the overall enterprise and to each responsibility center. The plans should have been developed with the managerial conviction that they are going to be met or exceeded in all major respect. If these principles are made effective in the developmental process, the various executives and supervisions certainly should have a clear understanding of their responsibilities and the expected level of performance.

10. Development, Dissemination and of periodic performance report

Implementation of plans necessitates continuous and dynamic control in harmony with the assigned managerial responsibilities in the centrist. One salient feature of control is the utilization of periodic performance reports usually prepared and distributed on a monthly basis, although special needs may justify weekly or even daily reports on specific problem. Execution of the management plans is assured through dynamic and flexible control. Thus performance must be measured and reported to each level of management.

11. Implementation of follow up actions

Follow up action is an important facet of effective control and re-planning. Performance by responsibility, provide a basis for certain follow up actions. It is important to distinguish between cause and effect. The performance variations are affecting the results; the management must determine the underlying causes. The identification of causes primarily is a responsibility of line management. Analysis to determine the underlying causes of both favorable and unfavorable performance should be given immediate priority. In the case of unfavorable performance, after identifying the basic causes as opposed to the results, and having selected what appears to be the most fruitful alternative for corrective action, the manager must initiate its implementation. In addition, special types of follow up procedure should be implemented continuously; it should be designed:

- a. To determine the effectiveness of the prior corrective actions, and

- b. To provide a basis to improve future planning and control procedures.

(Mac Alpine, 1985: 45-48)

2.1.11 Development of profit plan

Development of profit plan includes the preparation of various fundamental budgets, analysis of variances and presentation of projected income statement and balance sheet. Top management is involved in the development of profit plan. The preparation process of budget force executives to become better administrator and budgeting puts planning where it become-in the forefront of the manager's mind. Developing profit plan begins with the preparation of master budget. John R. Schermerthorn as below outlines the steps included in the preparation of master budget.

- | | |
|---------|--|
| Steps 1 | Forecast demand for products and or services |
| Step 2 | Identify cost patterns for responsibility centers. |
| Step 3 | Estimate production cost |
| Step 4 | Specify operating objective |
| Step 5 | Develop sales budgets |
| Step 6 | Develop a production budget |
| Step 7 | Develop a purchasing budget |
| Step 8 | Develop budget for responsibility centers |
| Step 9 | Formulate a profit plan |
| Step 10 | Compare a profit plan with operating objectives |
| Step 11 | Formulate a projected cash budget |
| Step 12 | Prepare projected statements of financial position |

(Schermerthorn, 1980: 56)

2.1.11.1 Sales Budget or Plan

After the planning premises have been received, the development of sales plan is the next step in the preparation of profit plans. In practical sense, sales plan is the starting point for the development of the profit plan. The sales forecast is the starting points for budgeting because inventory levels, purchase and operating expenses are generally geared to the rate of sales activity. "Sales plan is the starting point in the preparation of the comprehensive profit planning and control. All the other plans and budgets are dependent upon the sales budget. The budget is usually presented both in units and rupees of the sales revenue or sales volume. The preparation of sales plan is based upon the sales forecast. A variety of methods are used to forecast the sales for the planning period."

(Arthur & other, 1996: 637)

The sales plan is the foundation for periodic planning in the firm because particularly all other enterprises planning are built on it. The primary source of cash is sales. Capital additions needed and the amount of expenses to be planned; the manpower requirement, the production level and other important operational aspects depend on the volume of sales. Therefore, the sales plan must be realistic.

The sales plan has three distinct parts:

1. The planned volume of the sales price per unit for each product.
2. The sales promotional plan and
3. The sales or distribution expenses plan. The sales budget itself is an estimates of main three figures; they are as follow:
 - a. The income that will be earned from sales.
 - b. The costs and expenses of making theses sales and
 - c. The sales surplus. The income from sales depends on the quantity and the price of the goods, which will be sold.

Sales plan forecasts what the business can reasonably expect to sell to its customers during the budget period. The primary purpose of sales plan is:

- a. To reduce uncertainty about future revenues.
- b. To incorporate management judgments and decisions into the planning process.
- c. To provide necessary information for developing other elements of a comprehensive profit plan and
- d. To facilitate management control of sales activities.

(Arthur & other, 1996: 645)

2.1.11.1.1 Sales planning and forecasting

Sales planning and forecasting often are confused. Although related, they have distinctly different purpose. A forecast is not a plan; rather it is a statement and/or a quantified assessment of future conditions about a particular subject (i.e. Sales revenue) based on one or more elicited assumptions upon which it is based. A forecast should be viewed as only one input into the development of sales plan. The management of company may accept, modify or reject the forecast. In contrast, a sales plan incorporates management decisions that are based on the forecasts, other inputs and management judgment about such related items as sales volume, prices, sales efforts, production and financing.

A sales forecast is converted to a sales plan when management has bought to bear management judgment, planned strategies, and commitments of resources and the management to aggressive actions to attain the sales goals. In contrast, sales forecasting is a technical staff function.

Sales forecasting are conditional. The internal technical staffs of the organization are not involved to make the fundamental management decisions and judgments are used to mold the sales plan. The technical staff on the basis of qualified data does sales forecasts. (Welsch, 1992: 137)

"A sales forecast has to be translated into a sales budget and here a number of factors have to be taken into consideration" (Mac Alpine, 1985: 66)

Now it is clear that sales plans are formulated by top executive on the basis of strategies, objectives and guidelines as well as considering the forecast and sales forecast is the job of technical staff who estimate sales on the basis of their past knowledge and experience. And this estimate is used in formulating sales plan.

2.1.11.1.2 Strategic and tactical sales planning

When the managers of the various responsibility centers in the enterprise receive the executive management planning instruction and the project plans, they can begin intensive activities to develop their respective strategic and tactical profit plans. The strategic long-range plan and the tactical short-range profit plan are usually developed concurrently. It is possible (and not infrequent) that executive management or the chief financial executive will develop the strategic and tactical profit plans. This approach is seldom advisable because it denies full participation in the planning process by middle managers. Lack of participation can cause unfavorable effects.

A comparative sales plan includes two separate but related plans the strategic and tactical sales plan. The strategic sales plan is a long-term sales plan and it is usually covers a 5-10 years time horizon. Whereas tactical sales plan has shorter time horizon and usually covers one-year period.

Strategic long-terms sales plan is developed as one of the first step in the overall completion process of comprehensive profit planning. Long-term sales plans are usually developed as annual amounts. The long-term sales plan uses broad groupings of products (product lines) with separate consideration of major and new products and services. Long-term sales plan usually involve in depth analysis of future market potentials which may be built up from a basic foundation such a population changes, state of the economy, industry projection and finally company objectives. Long terms managerial strategies would affect such areas as long term pricing policy, development of new

product and innovations of present products, new directions in marketing efforts, expansion or distribution channels and lost patterns. The influence of managerial strategy decision is explicitly brought near on the long-term sales plan primary on a judgmental basis.

Short-term sales plan or tactical sales plan is prepared to plan sales for the twelve months into the future detailing the plan initially by quarters and by months for the quarter. At the end of each month or quarter through out the year, the sales plan is restudied and revised by adding a period in the future and by dropping the period just ended. Thus tactical sales plans are usually subject to review and revision on a quarterly basis. The short-term sales plan includes a detailed plan for each major product and for groupings of minor products. Tactical sales plans are usually developed in terms of physical units (or jobs) and in sales and/ or service amount. To establish policy about detail in short-range sales plan, the main question is use of the results. First, the major consideration is to provide detail by responsibility for planning and control purpose. Second, the short-range sales plan must provide detail needed for completing the profit plan components by functional managers. That is, the production mangers will need sufficient detail for planning production levels and plans capacity needs; the s capacity needs; the financial management will need sufficient detail for assessing and planning cash flow, unit products cost, and inventory needs and so on. Third, the amount of detail also depends on the type of industry, size of the firm, availability of resources, and use of results by management.

2.1.11.1.3 Developing a Sales Plan

Following steps are followed to develop a comprehensive sales plan:

- Step 1 Develop management guidelines for sales planning.
- Step 2 Prepare sales forecast.
- Step 3 Assemble other relevant data:
 - a. Manufacturing capacity

- b. Sources of raw material and supplies or goods for resale.
- c. Availability of key people and labor force.
- d. Capacity availability.
- e. Availability of alternative distribution channels.

Step 4 Develop the strategic and tactical sales plan.

There are four different participative approaches widely used in the process of developing sales plan.

- a. Sales force composite (Maximum participation)
- b. Sales division managers composite (Participation limited to managers only)
- c. Executive decision (Participation limited to top management)
- d. Statistical approaches (Technical specialists plus limited participation)

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

2.1.11.1.4 Evaluation of Alternatives

Developing a sales plan consists of the consideration of various policies and related alternatives and a final choice by executive management among many possible courses of action. There are mainly two types of problems to which important consideration should be given while preparing the sales plan.

a. Price and volume consideration

In a competitive market, price and sales volume are mutually interdependent. The close relationship between sales volume and sales price poses a complicated problem to the management of every company. Thus two basic relationships involving the sales plan must considered:

- I. Estimation of demand curve that is the extent which sales volume varies at different offering price and
- II. The unit cost, which varies with the level of productive output.

b. Product line consideration:

Determination of the number and variety of products that a company will plan to sell is crucial in the development of sales plan. Sales plan must include tentative decisions about new product lines to be introduced, old product lines to be dropped and innovations and product mix.

c. Production plan

After preparing the sales plan, the next step in comprehensive profit planning and control is the formulation of production plan. A production budget is an estimate of the number of units each product that will be produced in the budget period. The production plan involves determining the number of units of each product that must be manufactured to meet planned sales and maintain the planned inventory levels of finished goods. It is an estimate of how cheaply the goods required by sales can be made.

"Once sales and inventory requirements have been established, the logical first step in the production plan is a facility survey. This survey should determine that all planned products can be produced on existing or contemplated equipment, and that they can be made in the volumes required. In this initial stage, availability of labor supply and skill are considered. At this point, decisions must be made either to eliminate bottlenecks or to reduce planned volume."

(Thomas & other, 1989: 508)

Production budget is based on estimated sales, production must be planned to allow sufficient time to manufacture the products before the estimated date of

sale. The annual sales budget and the inventory requirements provide the framework for the production budget. It is prepared on the basis of

- I. Sales budget,
- II. Plant capacity,
- III. Opening inventory of finish goods
- IV. Required closing inventory of finished goods and
- V. Policy of the management.

Production budget is divided into monthly budgets for the purpose of production planning. In production planning the following factors are considered

- a. Economic batch quality
- b. Delivery schedules
- c. Seasonal conditions
- d. Optimum utilization of capacity
- e. Optimum utilization of labor without much over time and idle time
- f. Reduction of bottlenecks such as shortage of man, materials etc.
- g. Stock requirements
- h. Work in progress.

2.1.11.2.1 Objectives of Production Plan

The objectives of production budget are:

-) To bring to a common focus all the factors necessary to establish policies and to determine operation.
-) To project these established policies into the future by an analysis of past performance.
-) To plan and control the operations being carried out to implement policies decided upon.

-) To make provision for material at right time and place.
-) To plan the sequence of operation required for economical production.
-) To coordinate the various aspects of factory operation as to make them a vital link on the chain of profitable program.

2.1.11.2.2 Responsibility for Production Planning

Production managers are responsible for the development of production plan. The completed marketing plan is given to the production manager for translating it into a production program, concerned managers are fully responsible for production plan and they have also to consider top management policies in respect of:

- Inventory levels
- Stability of production
- Capital additions.

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

2.1.11.2.3 General Considerations in Planning Production and Inventory Levels

Total production requirements (by product) for the budget period deepen upon:

- a. Inventory policies relative to levels of finished goods and work in progress.
- b. Plant capacity policies such as the limits of permissible departure from a stable production level throughout the year.
- c. Availability of raw materials, purchased components and labor.

- d. Adequacy of manufacturing facilities.
- e. The effect of the length of the processing time.
- f. Economical lots or runs.
- g. Timing of production throughout the budget period.

2.1.11.2.4 Steps in developing the production plan

The production plan can be developed as follows:

1. Recasting of sales budget

As sales budgets are typically classified according to product line and sales territory, it is necessary to recombine these planned sales figures on a basis that will permit determination of physical input requirements. This generally means for individual plants or productive facilities.

2. Production Analysis

This consists of breaking down production into its ultimate parts or components.

3 Scheduling

It is concerned with fitting the various processes into a general timetable to permit orders to be manufactured according to requirements based upon selling estimates.

4. Dispatching

This covers the movement of materials and stores from the place they are initially deposited to the first process and thereafter from one process to another.

5. Inspection

It is designed to exercise control over the quality of the product to prevent further work on spoiled parts, to ensure that payment is made in respect of satisfactory work only, to find and locate faults in machines and to maintain a satisfactory standard of accuracy.

The production budget is phrased primarily in physical terms-units of output, labor hours and material requirements. Annual plans for production costs, purchases, manpower and costs of goods sold all derived from the physical production budget which determines the actual production level by taking into account derivation from planned sales and inventory levels. Moreover, normal loss of many process industries has to be reckoned in estimating production requirements.

The following formula is generally used to determine the planned production:

Requirement for sales (in units)	***
Add: Desired final inventory	***
levels of finished goods	***
Total require a production (in units)	****
Less: Beginning Inventory of finished goods	***
Planned production for year	***

2.1.11.2.5 Setting Inventory Policies

In determining inventory policies for finished goods, management should consider the following important factors:

- a. Quantities needed to meet sales requirement
- b. Perish ability of items.
- c. Length of the production period.
- d. Storage facilities
- e. Adequacy of capital to finance inventory and production at the same time in advance to sales.
- f. Cost of holding inventory
- g. Protection against labor shortages
- h. Protection against price increases.
- i. Risk involved in inventory:

Price declines, obsolescence of stock, casual loss and benefit, lack of demand etc.

2.1.11.3 Material Plan

Meaning

After the sales and production plans are formulated, the next step in comprehensive profit planning and control is "material plan". The production budget gives information about the units to be produced and on this basis the raw material need is estimated, based on the production budget, the quantities of each material to be used is determined and this determination of material usages leads to the solution of the problem of when and how much to purchase of each material. "A comprehensive profit planning and control program includes planning and controlling raw material and components used in the manufacturing of finished products. Adequate coordination and balance should be planned and controlled in between factory requirements for raw materials, raw materials inventory levels, and purchase of raw materials. To assure the right amounts of raw materials will be on hand at the time required and to plan for the costs of such materials, it is essential that the tactical short-term profit plan include detailed budget specifying and cost of materials required and a related or raw materials purchases. The planning of raw materials usually requires the following four sub-budgets. This budget specifies the planned quantities of each raw material by time, by product and using by using responsibility.

a. Purchases Budget

The materials budget specifies the quantities and timing of each raw material needed, therefore a plan for material purchases must be developed.

The purchase budget specifies the estimated quantities to be purchased and the estimated cost for each raw material and the required delivery dates.

b. Materials inventory budget

This budget reports the planned levels of raw material inventory in terms of quantities and cost. The difference in units between materials and

requirements as specified in materials budget and the purchase budget is reflected as increases or decreases in the inventory budget.

c. Cost of materials used budget

This budget reports the estimated cost of the materials planned for in the materials budget. It observes that material budget cannot be computed until the planned cost of purchase is determined.

The materials and purchase budget and its sub budgets should be designed in such a way that the related activities and cost will be budgeted in terms of responsibility center, interim time periods, type of raw materials and parts and type of finished product. (Arthur & other, 1996: 240)

Welsch, Hilton, Gordon suggests the following 12 points to be considered in developing inventory policies of raw materials and parts:

1. Timing and quantity of manufacturing needs.
2. Economies in purchasing through quantity discounts.
3. Availability of materials and parts.
4. Lead time (order and delivery)
5. Perish ability of materials and parts.
6. Storage facilities needed.
7. Capital requirements to finance inventory.
8. Cost of storage.
9. Expected change in the cost of materials and parts.
10. Protection against shortages.
11. Risk involved in inventories.
12. Opportunity cost(Inadequate inventory)

In developing the policy with respect to purchase and inventory the basic two questions should be answered. The first is how much to purchase at a time and

is determined by a well-known approach called economic order quantity (EOQ). In EOQ the ordering cost and carrying cost of the inventory will be minimize. EOQ can be calculated by using the following formula:

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

Where,

A = Annual Quantity requirements in units.

O = Average annual cost of placing an order.

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

The second question when to purchase is determined by reorder point. Reorder point is a time when a purchase is made. The reorder points are reached when the inventory level is equal to the time to reorder and receive the replenishments.

2.1.11.4 Direct Labor Cost Budget/ Plan

a. Meaning

Direct Labor budget is the predetermination of planned direct labor hours and labor cost. After preparing the production budget, the direct labor hours are calculated by multiplying the units to be produced and estimated labor hours for each product. After finding total labor hours required, labor cost is calculated by multiplying with the rate labor costs involve major and complex area and covers:

- I. Manpower needs
- II. Recruitment
- III. Training
- IV. Job evaluation and specification
- V. Performance evaluation

VI. Union negotiations, and

VII. Wage and salary administration

A comprehensive profit planning and control program should incorporate appropriate techniques and approaches applicable to each problem area. Careful planning and realistic control of long-term and short-term labor costs will benefit both the country and its employees.

Labor costs in the broad sense, are composed of all expenditure of those employees by the firm; top executive, middle management personnel, staff officers, supervisors, foreman, skilled workers and unskilled workers. It is necessary to consider separately the different types of labor costs.

Labor is generally classified as direct and indirect. The direct labor comprises the estimates of direct labor requirements necessary to produce the types and qualities of output planned in the production.

b. Developing the Direct Labor Budget

Basically there are three approaches to the development of direct labor budget.

There are:

- I. Estimate the standard direct labor hours for each unit of each product, then estimate the average wages rates by department, cost center or operation; multiply the standard time per unit of product by the average hourly wages rate, giving the direct labor cost per unit of output for the department, cost center or operation. Multiply the units of output planned for the department, cost center or operation by the unit direct labor cost rate to obtain the total direct labor cost by product.
- II. Estimate ratios of direct labor cost to some measure of output that can be planned realistically.
- III. Develop personnel tables by ensuring personnel requirements
(Including in each responsibility center)

Generally there are four approaches to develop standard labor times for each product. These are time and motion studies, standard cost and direct estimate by supervisors and statistical estimate by a staff group.

(Welsch & other, 1992: 81-82)

2.1.11.5 Expenses Budget or Plan

a. Meaning

To accomplish planning and control objectives of the organization, overhead budget also plays a significant role. It is important for every organization to classify expenses by responsibility, designated as controllable or non controllable, and estimated with respect to their cost behavior pattern.

Manager should view expenses planning and control as necessary to maintain reasonable expenses levels to support the objectives and planned programs of the enterprise. Expenses planning should not focus on decreasing expenses. Viewed in this light, expenses planning and control should focus on the relationship between expenditures and benefits derived from those expenditures. The desired benefits should be viewed as goals and sufficient resources must be planned to support the operating activities essential for their accomplishment. Three broad categories of expenses are included within the overhead budget namely factory of manufacturing overhead, selling and distribution expenses and general administrative expenses.

In planning the expenses the knowledge of cost behavior is important. Cost behavior is the response of cost to different volume of output. There are three distinct categories of expenses when they are viewed in relation to change in output:

- a. Fixed Expenses: Constant in total, regardless of fluctuation in output.
- b. Variable Expenses: Change in total directly with changes in output, constant per unit.
- c. Semi variable Expenses: Neither fixed nor variable, change in the same direction of output but not proportionately.

b. Manufacturing Overhead Budget

Manufacturing overhead is that of total production cost not directly identifiable with specific products or jobs. Manufacturing overhead includes many dissimilar expenses therefore, it causes problems in the allocation of these cost to products. This is the total of indirect materials cost, indirect wages and indirect expenses of the factory.

While developing the manufacturing overhead budget, the following step should be taken:

- I. Translate the requirements specified in the production plan into output or activity in each department. By doing this, we can compute the planned departmental output or activity.
- II. Plan departmental overhead expenses.
- III. Allocate the planned departmental expenses to the producing departments.
- IV. Allocate the producing department expenses to the products.

Per unit overhead rates for each product could be computed and by adding the direct material cost and direct labor cost for each product, we are in a position to compute the cost of goods manufactured.

c. Selling and Distribution Expenses Budget

Selling and distribution expenses include all costs related to selling, distribution and delivery of products to customers. In many companies, this cost is a significant percentage of total expenses. Careful planning of such expenses affects the profit potential of the firm.

Fundamentally, the top marketing executives has the direct responsibility for planning the optimum economic balance between sales budget advertisement budget and distribution budget. (Welsch & other, 1992: 313)

d. Administrative Expenses Budget

Expenses other than manufacturing and distribution are included in administrative expenses. These expenses are incurred in the responsibility centers that provide supervision of and service to all function of enterprise, rather than in the performance of any function. A large portion of administrative expenses is fixed rather than variable and they cannot be controlled. Besides from certain top management salaries, most administrative expenses are determined by management decisions.

It is advisable to base budgeted administrative expenses on specific plans and programs. Past experience, adjusted for anticipated changes in management policy and general expenses are fixed, analysis of the historical record will often provide a sound basis for budgeting them.

2.1.11.6 Planning and Controlling Cash Flows (Cash Budget)

A comprehensive profit planning and control program establishes the foundation for a realistic cash budget. To plan, control and safeguard the cash assets of the enterprise is one of the important responsibilities of the management. The planning and control of the cash inflows and cash outflows is important and cash budget is an effective way for this. Cash budgeting not only plans and controls the cash inflows but also assess cash needs and effectively use excess cash. The cash plan or budget is prepared from the previously completed budgets such as the sales, materials, labor, overhead and capital expenditures budgets.

A cash budget shows the planned cash inflows, outflows and ending position by interim, periods for a specific time span. Most companies should develop both long term and short term plans about their cash inflows. The short-term

cash budget is included in the annual profit plan. A cash budget basically includes two parts (1) the planned cash receipts, (2) The planned cash disbursements.

(Welsch & other, 1992: 433)

Planned cash inflows and outflows give the planned beginning and ending cash position for the budget period. Planning the cash inflows and outflows will include (1) The need for financing the probable cash deficits or (2) The need for investment planning to put excess cash to profitable use.

The primary purposes of the cash budget are:

Give the probable cash position at the end of each period as a result of planned operations.

1. Identify cash excesses or shortage by time periods.
2. Establish the need for financing and/or the availability of idle cash for investment.
3. Coordinate cash with,
 - a. Total working capital
 - b. Sales revenue
 - c. Expenses
 - d. Investments and
 - e. Liabilities
4. Establish a sound basis for continuous monitoring of the cash position.

(Welsch & other, 1992: 434)

2.1.12 Implementation of the profit plan

2.1.12.1 Completion of the Annual Profit Plan

The developments of an annual profit plan ends with the planned income statement, the balance sheet and the planned statements summaries and

integrate the details of plans developed by management for the period. They also report the primary impacts of the detailed plans on the financial characteristics of the firm. Before redistributing the completed profit plan, it is generally desirable to recast certain budget schedules so that technical accounting mechanics and jargons are avoided as possible. (Welsch & other, 1992: 466-467)

The redesigned budget schedules should be assembled in a logical order, reproduced and distributed before the first day of the upcoming budget period. The profit plan completion date is important. Issuance of a profit plan after the beginning of the budget period is one sure way of destroying much of the budget potential. Timely completion of the planning budget suggests the need for a budget calendar.

2.1.12.2 Implementing the profit plan

The first test, of whether the effort and cost in developing a profit plan are worthwhile, is its usefulness to management. The plan should be developed with the conviction that enterprise is going to meet or exceed all major objectives. Participation enhances communication. If this principle is to be effective, the various executives and supervisors should have a clear undertaking of their responsibilities. The copies of the complete profit plan should be prepared and distributed to the members of executive management. Normally, distribution of the complete plan should be limited to vice presidents and to the heads of certain staff groups. The guiding principle is establishing the distribution policy might be expressed to provide one copy to each other member of the management team according to their overall responsibilities, taking into account the problem of segment of the profit plan to middle and lower level management.

After the distribution of the profit plan, a series of profit plan conferences should be held. The top executives discuss comprehensively the plans, expectation and steps in implementation. At this level meeting, the importance

of action, flexibility and continuous control may well be emphasized. In essence, managers have to realize that the budget is a tool for their use. Conferences should be held so as to convey the profit plan to each level of management. The manager of each responsibility center obtains an approved profit plan for his center and it becomes the basis for current operations and exerts considerable coordinating and controlling effects. (Welsch & other, 1992: 472-473)

Performance must be measured and reported to management. Execution of the plan is assured through control. Produce must be established so that accomplishment or failure is immediately known. On this basis action can be taken to correct or minimize any undesirable effects. Short term performance reporting is essential.

A budget program viewed and administered in sophisticated way does not hamper or restrict management instead it provides definite goals around which day to day and month-to-month decisions are made. Flexibility in the use and application of both the profit plan and variable budgets also should be considered in detail. Flexibility on budget application is essential, and it increases the probable of achieving or bettering the objectives.

2.1.12.3 Performance Report

Attainment of the planned profit is vital since management has to devote considerable time and effort to develop this. Evaluation of effectiveness and efficiency of plans operations and performances are the essential fields of managerial activities: control is the process of obtaining conformity of actual performance with planned cause of action. Planning is incomplete if no system for control is developed. Evaluation of performance and reporting it to concerned authorities are necessary aspects of comprehensive planning and control program.

Performance reporting for internal management use is an important part of a comprehensive profit planning and control system. Performance reports are

usually prepared on monthly basis and follow a standardized format from period to period. Such reports are designed to facilitate internal control by the management. Performance reports report actual results compared with goals and budget plans. Such reports are designed to pinpoint both efficient and inefficient performance. The efficiency of management in attaining the desired results depends by large on the information it receives. Performance reports act as an important tool to provide necessary information as it reports the performance of every responsibility center. The main objectives of such reports are the communication of performance measurements, actual results and the related variances. The performance to budget report is the management report that affects the operating manager's effort to live within and beat his budgets allowances. Performance reports should be prepared by considering the following criteria:

- I. Tailored to the organizational structure and locus of controllability (that is by responsibility center)
- II. Designed to implement the management by exception principle.
- III. Repetitive and related to short time periods.
- IV. Adapted to the requirements of the primary users.
- V. Simple, understandable and report only essential information.
- VI. Accurate and designed to pinpoint significant distinctions.
- VII. Constructive in time.

2.1.12.4 Analysis of Budget Variances

Variance is the deviation between budgeted or planned goals and actual results. As performance report shows variances; the next step is to analyze such variances and to determine the underlying causes for managerial planning and control purposes. Variance analysis is the determination of the reasons for a reported variance whether favorable or unfavorable. The difference between standard cost and actual cost is variance.

It is the basic feature of performance report to indicate the variances between actual results and planned or budget goals. If a variance is significant, a careful management study should be made to determine the underlying causes. There are numerous ways to study or investigate variances to determine the underlying causes. Some of the primary approaches are the following:

1. Conferences with responsibility center managers and supervisors and other employees in the particular responsibility center involved.
2. Analysis of the work situation including the flow of work, coordination of activities, effectiveness of supervision and other prevailing circumstances.
3. Direct observation.
4. On the spot investigations by line managers.
5. Internal audits.
6. Special studies.
7. Investigation by staff groups.
8. Variance Analysis.

(Welsch & other, 1992: 570)

Variance analysis involves a mathematical analysis of two sets of data in order to gain insight into the underlying causes of a variance. One amount is treated as the base, standard or reference point. Variance analysis has wide application in financial reporting. Variances are analyzed in the following areas:

1. Raw material variance.
2. Labor variance.
3. Overhead variance.
4. Sales variance.
5. Profit Variance.

For analysis the variance, following steps are followed:

1. Setting standards.
2. Measurement of performance.
3. Analyzing variances.
4. Taking corrective action.

Variances are to be broadly categorized as favorable and unfavorable and further as controllable and non-controllable. If unfavorable variances occur due to controllable causes, then the concerned managers authority or budget center should made accountable for it. (Gupta 1995: 462)

2.2 Economic Background of Nepalese Tea Industry

In Nepal, Mr. Gaj Raj Shing Thapa has initiated tea cultivation practices in 1920 B. S. by bringing a few seeds and plants from Darjelling hills. In an organized way, tea farming in Nepal was started establishing Ilam Tea Estate (1920 B.S.) and Soktim tea state. Different facilities i.e. govt. subsidy on interest on loan, restriction on land ownership, free land revenue etc. are provided to increase the tea farming for small farmers group and private tea estate. So, there are about sixty tea gardens under private sector tea garden having the total area of 1920 hectors and about 2500 farmers are directly involved.

In the year 1863BS, the first tea plantation was nationalized and privatized a number of times, until the year when it was inherited by Nepal Tea Development Corporation in the year 1996 AD.A brief history reveal:

-) First tea plantation sector in Terai was started in 1959AD.
-) Nepal Tea Development Corporation was established in 1996AD.
-) King Birendra shah declared the five districts of eastern development region, viz Ilam, Jhapa, Panchthar, Terathum and Dankuta as tea zone in 1982AD.

-) National tea and coffee development board was established in the year 1987/88AD.
-) Himalayan orthodox tea producer association was established in the year 1998AD.

2.3 Tea Factory and Profit Planning

The profit planning program is most important for the utilization of scarce resources, effectively and efficiently achieve and accomplish the goals and objectives in sales planning ,production planning, planning of labors, factory overheads, administrative expenses, capital budgeting, cash flow, strategic, tactical and manpower planning in tea factory.

2.4 Review of Previous Research Works

The profit planning in Nepalese context appear to be a new dimension for research and analysis, In addition, it is not accepted as the topic to be studied in an easy way. However there are some research works though not related in the title but related with the profit planning and Tea Company. Here an attempt has been made to review some of the thesis submitted in the title profit planning.

Mr. Umesh Acharya has submitted a thesis on the topic "Profit Planning of Ilam Tea Factory" on 2058BS.

Major objectives of his research were

-) To explain the profit planning system of Ilam tea factory.
-) To analyze the variances between budgeted and actual performance of ITF.
-) To recommend measures to improve the performances.

In his research work he has pointed various findings based on the analysis of data and information which are as follows.

-) The factory fails to maintain periodical performance report systematically.

-) Only top level executives are involved in planning and decision making.
-) There is absence of skilled and academic manpower in budgeting of factory.

Recommendations made by him in his research were as:

-) Ilam tea factory must restructure its capital structure should emphasize the internal financing to minimized the burden of high interest of long term loan.
-) Ilam tea factory should develop efficient system of revenue collection.
-) Ilam tea factory should try to reduce the volume of green tea purchase from neighbor village or district.

Mr. Sagar Mishra has a significant contribution on the topic "Profit planning in Tokla Tea Estate (TTE). The data were collected from both primary and secondary sources. The period covered was 5 years from FY 2049/50 to 2053/54. The basic objective of this research paper is to examine how far the different functional budgets are being applied as a tool of profit planning in the estate.

Objectives of the study

-) To interpret the trend of profit /loss and cost of the company in the light of profit plan.
-) To identify the sales plan of the company in the light of strategic and tactical sales plan.
-) To analyze the production plan and actual production trend of the company.
-) To review the Tokla tea estate's profit planning on the basis of overall managerial budgeting.

Findings

-) Inadequate evaluation of relevant internal and external variables.
-) Problems of maintaining the quality of the products.

-) Inadequate profit and productivity due to lack of skilled manpower, excessive fixed cost and inventory.
-) Unrealistic sales forecasts etc.

Recommendations

-) Effective budget education, management participation and good working environment prior to budget initiation and implementation.
-) Careful planning by top management prior to budget initiation implementation.
-) Specify the broad objectives of profit planning and programs and mgmt. responsibilities in planning and controlling.

Mr. Bahadur Karki has submitted a thesis entitled "profit planning in agriculture farm", A case study of potato and tomato production in panchalkhal valley under Kavre District of Nepal.

The main objective of the study was to examine the effectiveness of the profit planning system in the agriculture farming. The agriculture production potato and tomato was the sample crops of his study. The study was covered five year period from, 1997 to 2001.

On the basis of his study, he outlined some finding and recommendations as follows:

Findings

-) The goals and objectives of Pearsall's are not prepared in written form.
-) Peasants are active to fulfill their goals and objectives by the incensement in production volume.

-) Peasants prepare their sales and production plan at the labour basis.
-) The plan is made the boss of family.
-) There is no proper arrangement of market information system.

Recommendations

-) Peasant of panchkhal valley need to adopt profit plan procedures techniques.
-) They need to develop managerial approach.
-) Both short-range profit plans should be formulated.
-) They need to provide marketing information.
-) They need to evaluate the statement of board objective of the firms.

Mr. Shalik Ram Dungana has submitted a thesis entitled "Planning of profit in Nepalese public enterprises"(with special reference to Royal Drugs Limited) to central department of management T.U. kritipur 2005.

The main objective of this study was to examine the present planning premises in the light of the installation of profit planning process.

On the basis of the study Mr. Dungana outlined some findings and recommendations.

Findings

-) The perception of lower level of management in developing plans, goals and objectives and strategies are ignored.
-) Management has no commitment of the goals and objectives of the organization.

) Most of the Nepalese enterprises there are no clear- cut goals and objectives.

) There is no proper coordination between sales, production and inventory.

Recommendations

) Company should define goals and objectives between various levels.

) Sales planning should be coordinates and integrate with advertisement budget.

) The company should developed the systematically periodic performance report detailed by assigned responsibilities for the accomplishing the planning objectives.

) The company should adopt the effective cost control technique to check up hindrance in profit.

) It is necessary to formulate the profit planning calendar (short-term and long-term).

) RDL should stress and efficient utilization of fixed assets.

Mr. Budhi Sagar Subedi has submitted a thesis entitled "profit plans in Manufacturing Company of Nepal with special reference to HIMAL CEMENT Company Ltd" In 2001.

The general objective of his study was to examine the present comprehensive profit planning system applied by Nepalese manufacturing. The major objectives of his study were:

) To highlight the background and operation of HCCL.

) To analyze the various functional budgets that is prepared by HCCL.

) To evaluate the variance between targets and actual achievements of the enterprise.

Findings

-) The sales plan formulation technique of HCL satisfactory coefficient of variation shows the uniformity in planning of sales.
-) Actual Production and actual sales are highly correlation between actual sales and actual production.
-) The company was formed unable to utilize the plant capacity.
-) Costs are not classified in proper manner.
-) A systematic cash flow plan is not prepared.

Recommendations

-) HCCL should formulate clear-cut goals, objective, policies, long term plans and strategic programmed sales and production budget must be prepared of the realistic ground.
-) There must be separate profit planning unit and profit planning director to achieve company's goals.
-) Profit plan manual should be communicated from top to lower level
-) The company should analyze its variances in effective way.

2.5 Research Gap

The previous research studies were basically related to profit planning and control system without detail analysis though statistical tools like mean, median, standard deviation, coefficient of variance, probable errors, coefficient of correlation, graph and diagrams and time series analysis etc. The present study has applied the various tools as per the need while making the detail analysis of profit planning and control.

CHAPTER - 3

RESEARCH METHODOLOGY

Research methodology is a systematic way to solve the research problem. As the basis objective of the present research is to highlight the current practices of profit planning and its effectiveness in Nepalese private tea companies. Following are the major contents of research methodology;

3.1 Research Design

The present research is mainly related with the quantitative plans and accounts of Himalayan Sangrila Tea industries Pvt. Ltd. and Sankejung Hill range Tea processing industries Pvt. Ltd., So analytical approach has been considerably adopted to present the data. But the qualitative aspect of the research, such as effectiveness of profit planning, problems of formulating and implementation the profit plans, views of top personnel of these companies and the theoretical prescription are explained in words where ever necessary. In this respect the present study has followed the analytical as well as descriptive approaches of research design.

3.2 Periods Covered

Profit planning has two time dimensions long- term and short-term. For long-term planning I have analyzed five years trend and for short-term planning one year data are taken. Both Himalayan Sangrila Tea industries Pvt. Ltd. and Sankejung Hill range Tea processing industries Pvt. Ltd's long-term trends are from the fiscal year 2060/61 to 2064/65. Actual details are taken from the accounting records of financial year 2064/65.

3.3 Nature and Sources of Data

Information is the lifeblood of any type of research. To collect the information data collection is a major task. To fulfill the objectives of this study mainly and mostly secondary data have been used.

Secondary data have been taken from the published document, booklets, annual reports, and magazines, similar previous dissertations and the official accounting and planning records.

3.4 Research Questions

Through out the study I have tried to answer the following research questions;

-) To what extent is the process of profit planning followed in the Himalayan Sangrila Tea Industries Pvt. Ltd. and Sankejung Hill Range Tea Processing Industries Pvt. Ltd?
-) What is the basis of making decisions on profit planning?
-) What steps should be taken to improve the profit- planning system in tea factories?
-) How well the factories are using their resources for the attainment of the tools set.

3.5 Tools Used

For the detail study of any research work different kinds of statistical as well as financial tools are used. Crude data are managed and analyzed in proper tables and formats. Interpretation and explanation are made wherever necessary.

To analyze the collected data financial and statistical tools such as: mean, median, standard deviation, coefficient of variance, probable errors, coefficient of correlation, graph and diagrams and time series analysis etc. have been used as per need.

3.5.1 Arithmetic Tools

If $X_1, X_2, X_3, \dots, X_n$ are the given observations, and the arithmetic mean usually denoted by \bar{X} is given by.

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

Where \bar{X} = Arithmetic mean

N = Number of observation

3.5.2 Standard Deviation

Standard deviation for measuring dispersion is given by

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

Where N = Number of observation

3.5.3 Coefficient of Variation

$$C.V = \frac{\sigma}{\bar{X}} \times 100\%$$

3.5.4 Student's T-test

The test is applied for the sample less than 30.

If $X_1, X_2, X_3, \dots, X_n$ and $Y_1, Y_2, Y_3, \dots, Y_n$ be two independent random samples from the given normal populations, null hypothesis is set as.

$H_0: \mu_1 = \mu_2$ i.e. the sample means of X and Y do not differ significantly under the assumption that $\sigma_1^2 \neq \sigma_2^2$ i.e. population variances are not equal.

$H_0: \mu_1 \neq \mu_2$ i.e. the sample means of X and Y differ significantly under the assumption that $\sigma_1^2 = \sigma_2^2$ i.e. population variances are equal.

$$|t| = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

By comparing the value of t with the tabulated value of t for $n_1 + n_2 - 2$ degree of freedom and at 5% level of significant null hypothesis is accepted or rejected. If the calculated value of t came to be less than the tabulated values null hypothesis is accepted, otherwise rejected.

3.5.5 Karl Person's Coefficient Correlation

It is a statistical tool for measuring the intensity of the magnitude of linear relationship between two series.

$$\text{Correlation coefficient } r_{xy} = \frac{(X - \bar{X})(Y - \bar{Y})}{\sqrt{(X - \bar{X})^2} \sqrt{(Y - \bar{Y})^2}}$$

3.5.6 Probable Error of Correlation Coefficient

$$\text{Probability Error } P.E(r) = 0.6745 \left| \frac{1 - r^2}{\sqrt{n}} \right|$$

3.5.7 Least Square Linear Trend

It is very useful and commonly applied tool to forecast the future event in quantities term, on the basis of the tendencies in the dependent variable in the past period.

Mathematically

$$Y = a + bX$$

Where,

Y = Value of dependent variable

a = Y-intercept

b = Slope of trend line

X = Value of independent variable

Normal equations are

$$\sum Y = na + b \sum X$$

$$\sum XY = a \sum X + b \sum X^2$$

3.5.8 Diagram and Graphs

Diagram and graphs are visual aids that give a bird's view of a given set of numerical data. They present the data in simple and recently comprehensive form.

3.6 Research Variables

Sales, production, inventories, purchase, expenses, cash budget, capital utilization, profit and loss, flexible budget, C.V.P. analysis and variance analysis are the various variables that have been used.

CHAPTER- FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This research work is especially designed to review the practices and effectiveness of profit planning in tea factories. This chapter will analyze the various functional budgets and their actual accomplishment in comparison to budgeted amount to accomplish the objectives. PPC is the formal expression of the enterprises plan, goal and objectives started in financial term for future destination. A comprehensive profit planning and control continues to be of prime importance in virtually all organizations. Planning involves the control and manipulation of relevant variables (controllable and non controllable) and it reduces the impact of uncertainty so that the enterprise could be saved from the chances of losses. Profit planning should exploit opportunities by using the limited resources. The heart of management's responsibility is the optimum use of limited resources by using the systematic profit planning program.

Public enterprises in Nepal prepare two periodic profit plans. Long range profit plan encompasses a time horizon of five years beyond the upcoming year and short range (tactical) profit plan is prepared for each six month of coming budgeted year. The strategic long range profit plans are consistent with the objectives defined.

In case of HSTP and SHTPI, they have no practice of preparing long range profit plan. They prepare only short range profit plan and covers the time span of one year. The annual targets are not segmented in monthly and quarterly basis while developing the short range profit plan. The fiscal year starts from 1st shrawan this year to 31st Ashad of next year because of not being the practice of preparing long range profit plan in and the analysis of long range profit plan is limited. So this research is mainly focused on the short range profit plan. To analyze the short range profit plan, various functional budgets; detail analysis of one accounting year (2064/65) to represent techniques and process of preparing budget, comparison of budgeted target and actual results to analyze variance are

included. For the study purpose, it covers the periods of five years from FY 2060/61 to 2064/65 and detail analysis is made for FY 2064/65.

4.2 Sales Budget

There is no practice of preparing long range as well as short range sales plans effectively on both companies, there is only short range sales plan in annual figures and it is not segmented in to quarterly and monthly basis.

HSTP sells most of the tea produced in the year is sold through its own sales depots but SHTPI sale through their wholesaler, retailer and final consumer as well as they have no own depot.

Following table shows the picture of sales trend from FY 2060/061 to 2064/065.

Table - 1
Budgeted and actual sales amount of HSTP and SHTPI
Rs in ('000)

FY	HSTP			SHTPI		
	Budgeted	Actual	Ach%	Budgeted	Actual	Ach%
2060/061	19670.85	18550.74	94.31	7543.59	6776.99	89.84
2061/062	18975.783	18547.43	97.74	10753.83	11170.38	103.87
2062/063	15836.37	14760.49	93.21	7525.85	6135.98	81.53
2063/064	14877.36	12243	82.29	9589.37	9496.96	99.04
2064/065	15938.74	16592.32	104.10	10044.33	9803.61	97.60
Total	85299.103	80693.98	94.60	45456.97	43383.92	95.44
Mean	17059.8206	16138.796		9091.394	8676.784	
SD()	1897.64	2404.23		1324.11	1909.2	
CV	11.12	14.9		14.56	22	
R	0.903			0.992		
P.E.(r)	0.0557			0.0048		
Y=a +bX	Y=16138.78-1022.126X			Y=8676.766+437.986X		
Combined SD	2427.112					
Value of (t)	4.861					

(Details of calculation are on appendix-1)

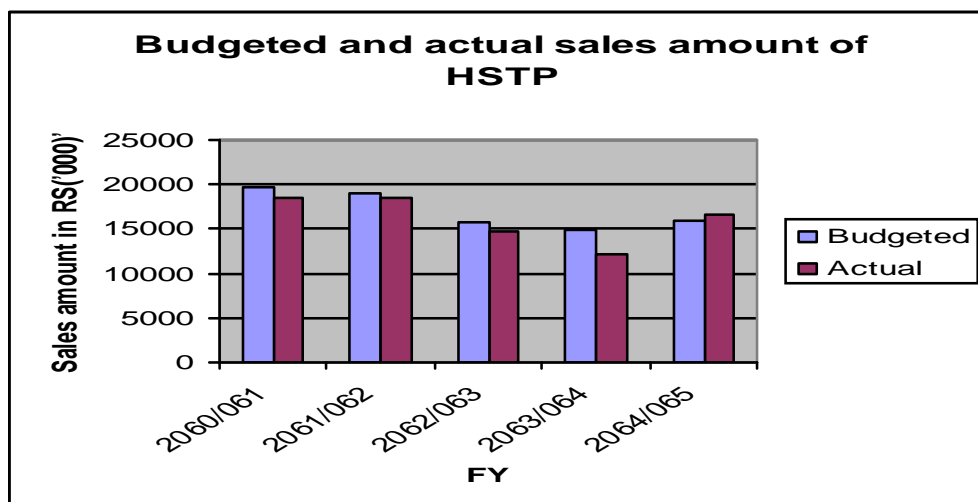
The average sales achievement of HSTP is 94.60%, which is lower than average sales achievement of SHTPI 95.539%. After analyzing the budgeted and actual sales figure, it can be said that sales target is based on historical data and previous year's sales performance.

The budgeted and actual mean, S.D, C.V. of HSTP is Rs.17059.820, 1897.640, 11.123 and Rs 16138.80, 2404.231 and 14.90 respectively, which shows that budgeted sales is more variable than expected sales because CV of budgeted sales is 11.12 which is less than 14.90. Similarly, budgeted and actual mean, SD, CV of SHPTI is 9091.40, 1324.11, 14.56 and 8676.78, 1909.20, 22.00 respectively which shows a budgeted sale is more variable than expected sales because CV of budgeted sales is less than 22.00.

For the calculation of correlation (r), budgeted figure denoted by 'X' are assumed to be independent variables and actual figures denoted by 'Y' are assumed to be dependent variables. Correlation coefficient appeared greater than the probable errors in both the companies i.e. HSTP (0.903)>0.0557 and SHTPI (0.992)>0.004. Correlation coefficient of both is positive at significant level.

FY 2062/063 is assumed as base year so the value of 'X' in FY 2062/063 is zero and negative for the year before 2062/063 and positive after base year. To fit a straight line trend, the time factor is considered as independent factor and sales as dependent. The trend line of HSTP and SHPTI is $Y= 16138.80-1022.13X$ and $Y=8676.77+437.98X$ respectively. The trend of past year continues in figure in both the companies. The calculated value of t (4.861) is greater than the tabulated value 3.169 at 5% level of significance at 10 number of freedom.

Diagram-1



Graph - 1

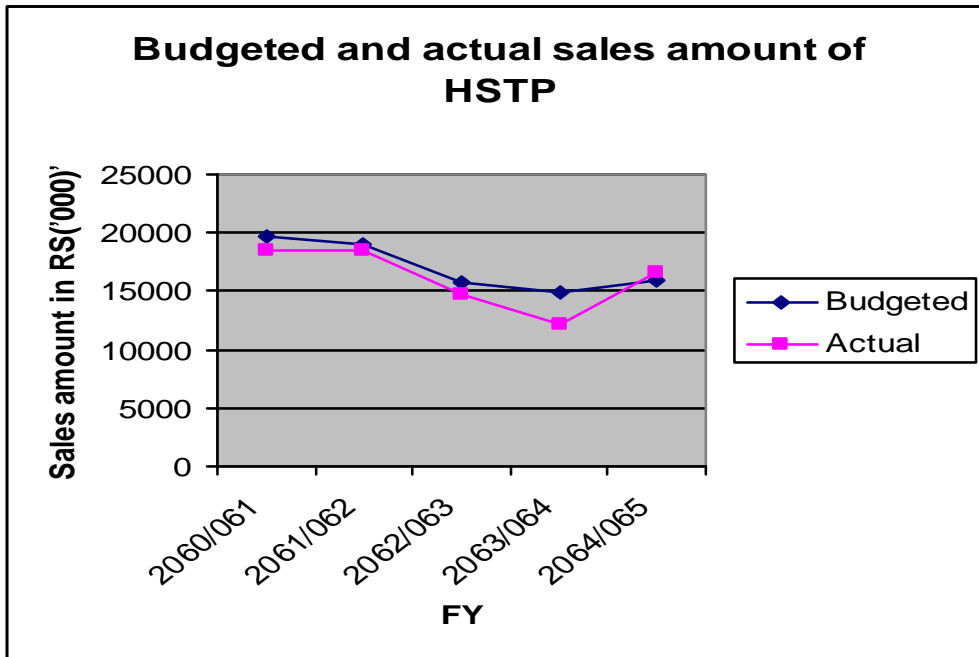
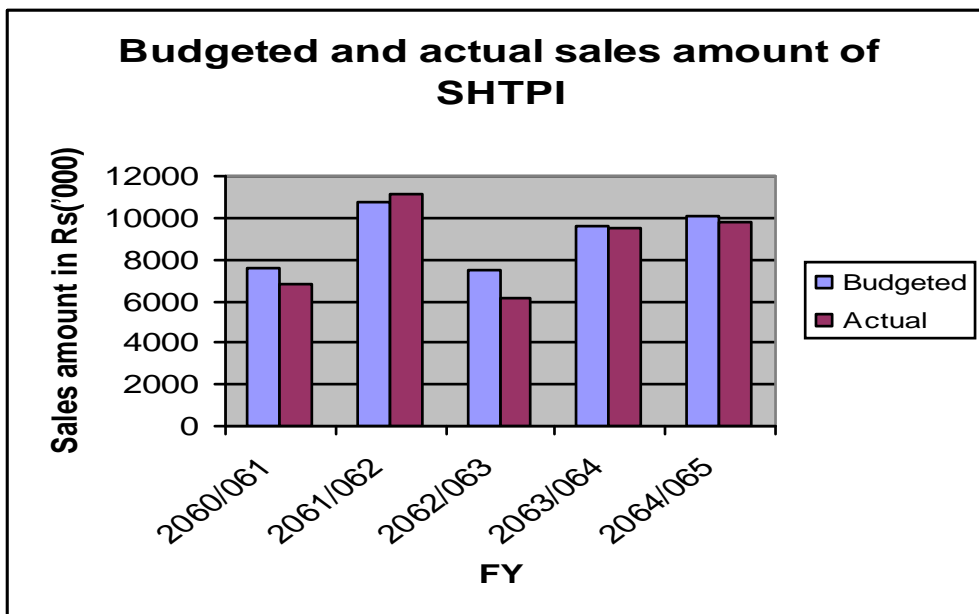
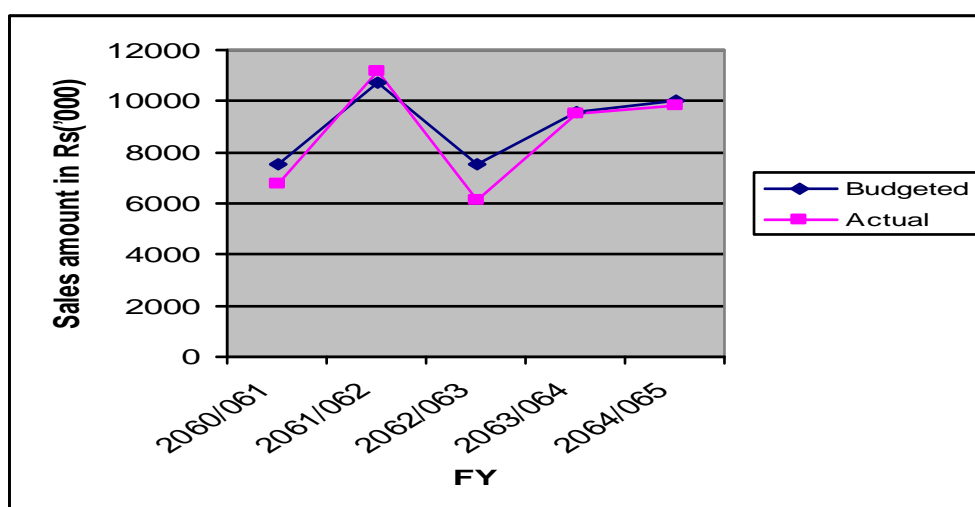


Diagram-2



Graph-2



2.3 Sales Budget in Units

The budgeted and actual sales of HSTP and SHTPI in units can be shown in table no.2 as below.

Table-2

Unit in ('000) KGs

FY	HSTP			SHTPI		
	Budgeted	Actual	Ach%	Budgeted	Actual	Ach%
2060/061	130.00	118.91	91.47	70.00	58.34	83.34
2061/062	100.00	115.435	115.43	70.00	70.40	100.57
2062/063	80.00	76.08	95.11	35.00	46.55	133.00
2063/064	80.00	72.87	91.10	64.00	55.57	86.82
2064/065	70.00	88.73	126.75	56.00	52.90	94.46
Total	460.00	472.04	102.62	295.00	283.75	96.19
Mean	92.00	94.41		59.00	56.75	
SD()	21.35	19.36		13.054	7.862	
CV	23.21	20.51		22.12	13.85	
R	0.824			0826		
P.E.(r)	0.0968			0.0957		
Y=a +bX	Y=94.40-10.293X			Y=56.75-2.57X		
Combined SD	16.521					
Value of (t)	3.604					

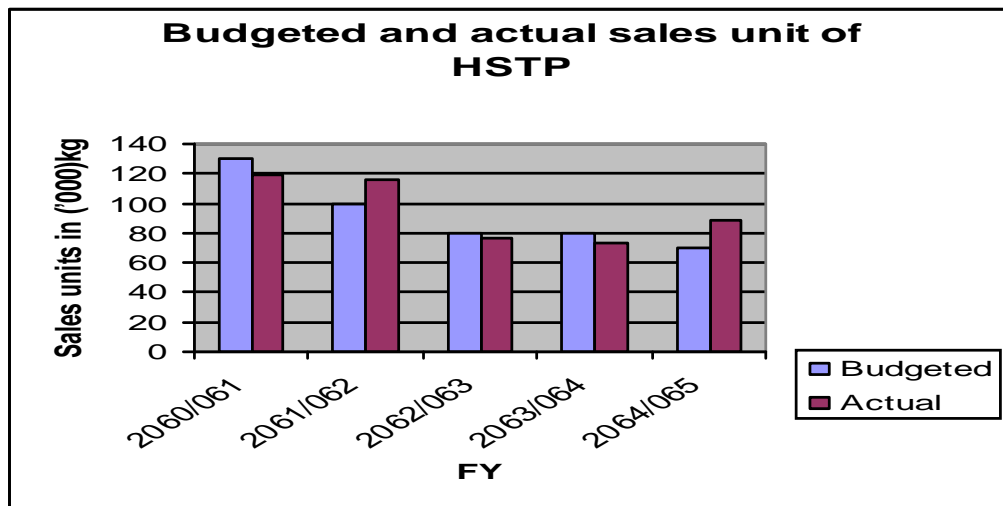
(Details of calculation are on appendix-2)

The average sales unit achievement of HSTP has been 102.62% which is higher than SHTPI^S average sales achievement 96.19%. In case of actual and budgeted data, relating to sales in units, coefficient of variance is less in HSTP

than in SHPTI, which shows less variability. In case of budgeted and actual sales units, the value of 'r' is 0.824 and 0.826 in HSTP and SHPTI respectively, which shows there is perfectly positive correlation between budgeted and actual sales units. PE (r) in both cases is lower than correlation coefficient.

The least square trend shows increasing trend for future in both companies. The calculated value 3.604 is greater than 1.812 at 5% level if significant at 10 degree of freedom. It shows that budgeted and actual sales unit differ more significantly i.e. null hypothesis is rejected.

Diagram-3



Graph-3

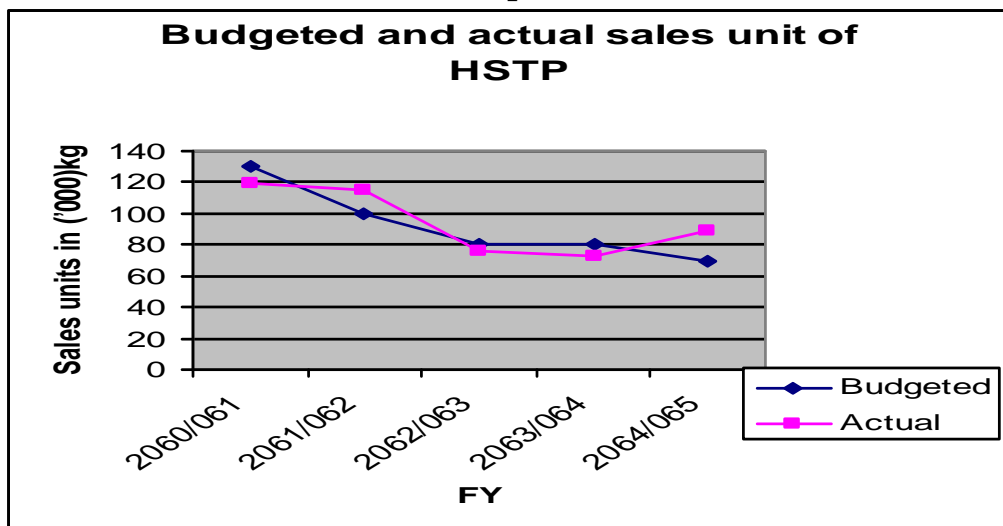
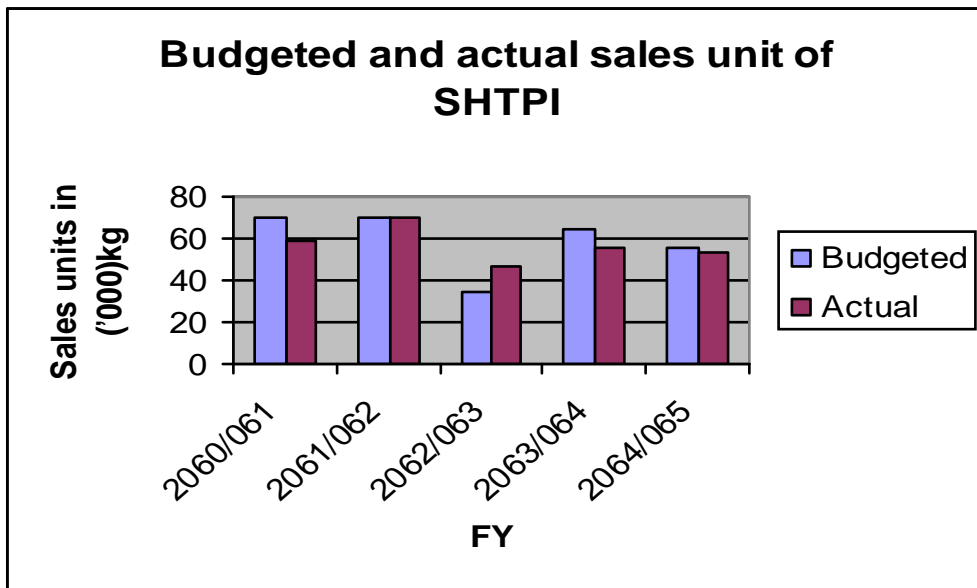
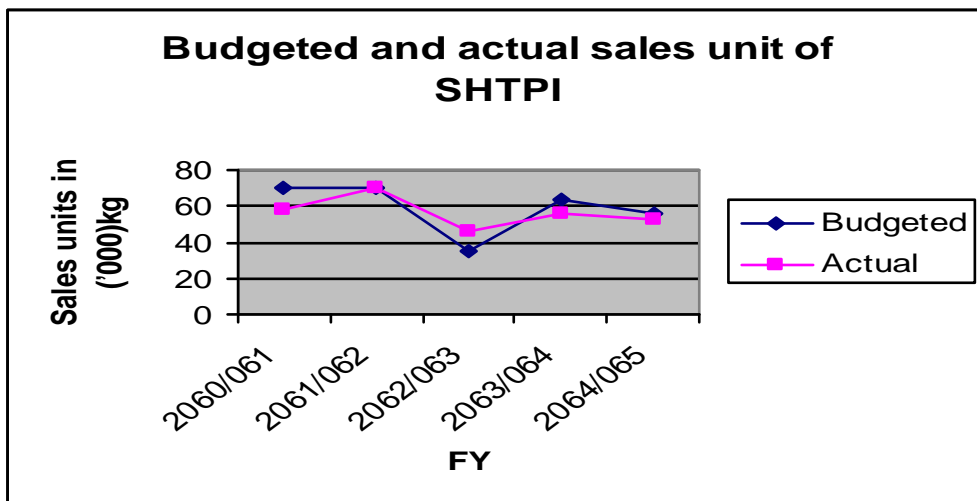


Diagram-4



Graph-4



4.4 Production Budget

In both HSTP and SHTPI there is no effective preparation of long range and short range production plan. They only prepare short range production plan for some coming year in annual figure and don't segment the annual budget by interim periods. In both company, the responsibility of production planning fully rests upon the manager. The quality of finished tea depends upon the appearance, liquoring properties and flavor of tea.

Table-3
Budgeted & Actual production of HSTP & SHTPI

Unit in ('000) KG

FY	HSTP			SHTPI		
	Budgeted	Actual	Ach%	Budgeted	Actual	Ach%
2060/061	135.00	129.605	96.00	70.00	63.90	91.29
2061/062	130.00	109.10	83.92	70.00	58.29	83.27
2062/063	100.00	83.92	83.92	35.00	53.45	152.73
2063/064	100.00	78.91	78.91	64.00	62.00	96.87
2064/065	80.00	76.94	96.17	56.00	55.10	98.39
Total	545.00	478.472	87.79	295.00	292.74	99.23
Mean	109.00	95.70		59.00	58.55	
SD()	20.59	20.50		13.054	3.96	
CV	18.89	21.43		22.125	6.77	
R	0.93			.796		
P.E.(r)	.0405			.1105		
Y=a +bX	Y=95.69-13.55X			Y=58.55-1.39X		
Combined SD	16.51					
Value of (t)	3.56					

(Details of calculation are on appendix-3)

The above table shows that the average achievement of actual production over budgeted production is 87.80 and 99.23 of HSTP and SHTPI respectively. This clearly indicates that achievement percent in SHPTI is more satisfactory than HSPT in production.

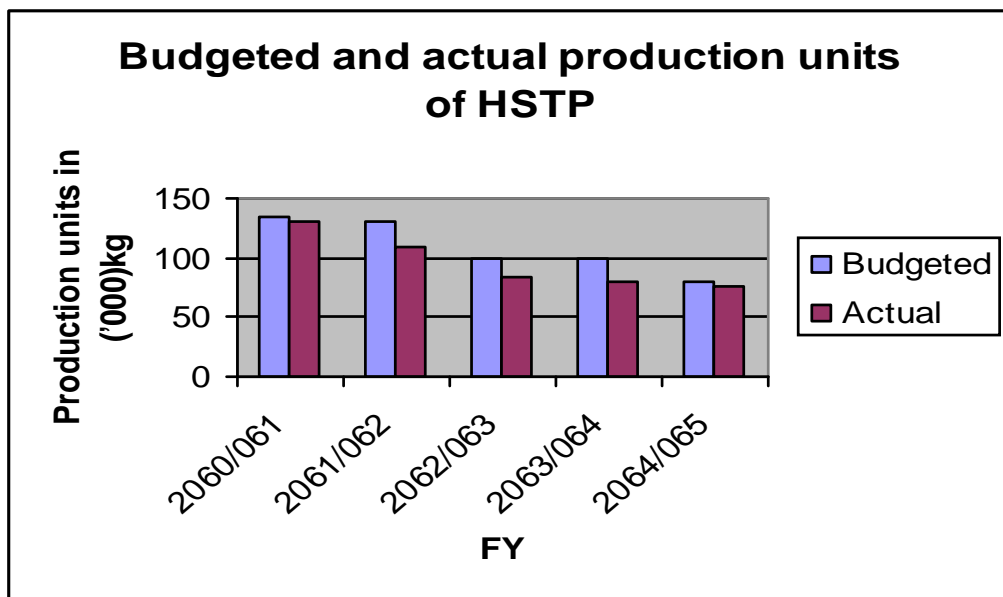
The budgeted and actual mean, s.d., C.V. of HSTP is 109.90, 20.60, 18.90 and 95.70, 20.50, 21.42 respectively. This shows that actual production of HSTP is less than budgeted production.

The budgeted and actual mean, s.d., C.V. of SHTPI is 59.00, 13.05, 22.13 and 58.55, 3.96, 6.77 respectively. This shows budgeted production is more fluctuated than actual production. The value of correlation coefficient (r) in HSTP and SHTPI is 0.93 and 0796 respectively. It shows that there is

perfectively positive correlation between budgeted and actual production in HSTP and SHTPI. Probable error's values of HSTP SHTPI are 0.0405 and 0.1105 respectively.

The calculated value of $t(3.557)$ at 5% level is greater than the tabulated value of $t(1.833)$ at 5% level of significance at 10% of freedom, so alternative hypothesis is accepted i.e. budgeted and actual production differ significantly.

Diagram-5



Graph-5

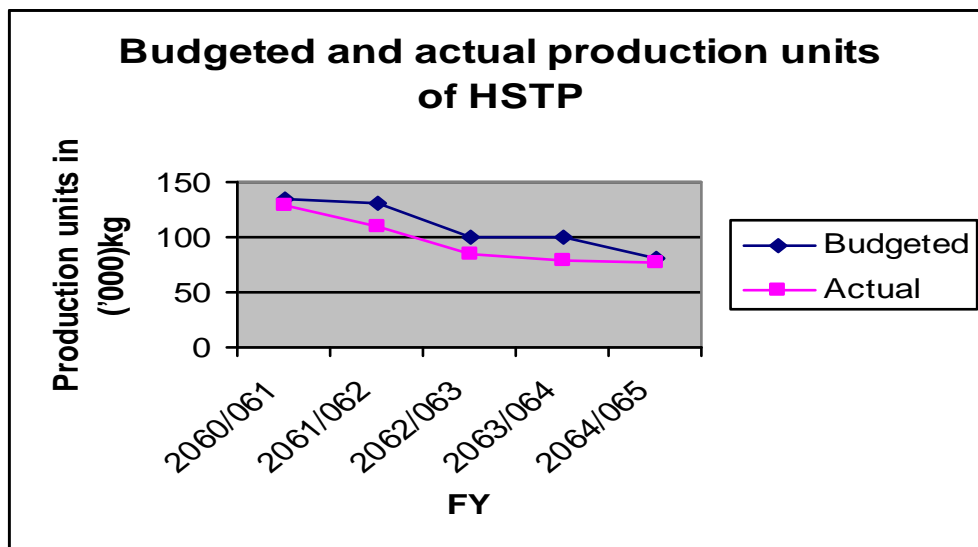
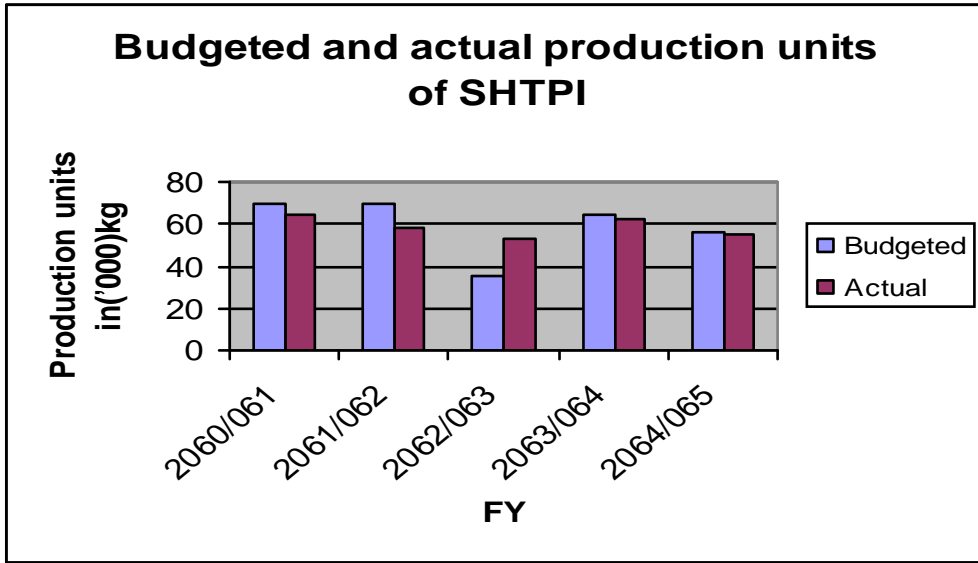
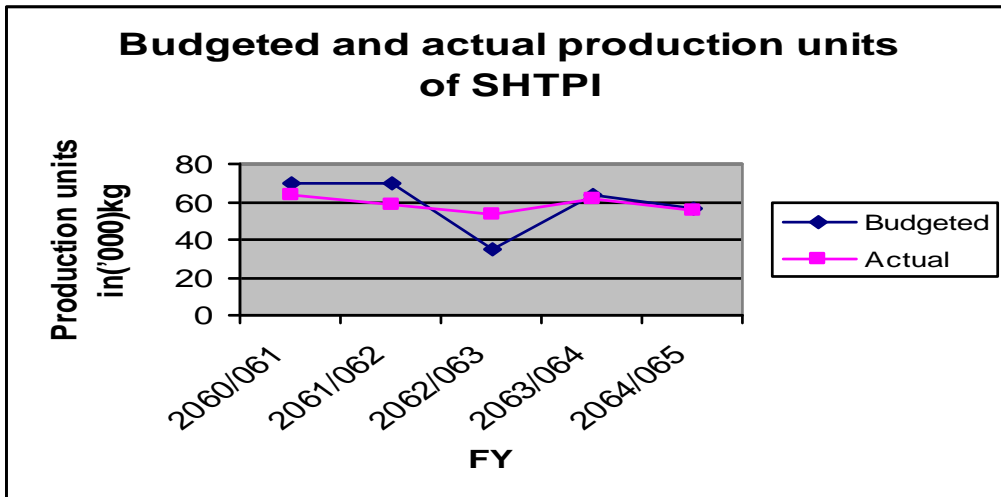


Diagram-6



Graph-6



4.5 Comparison of Actual Production & Sales Unit

Actual Production & Sales in units of SHTP & SHTPI

Table-4

Unit in ('000) KGs

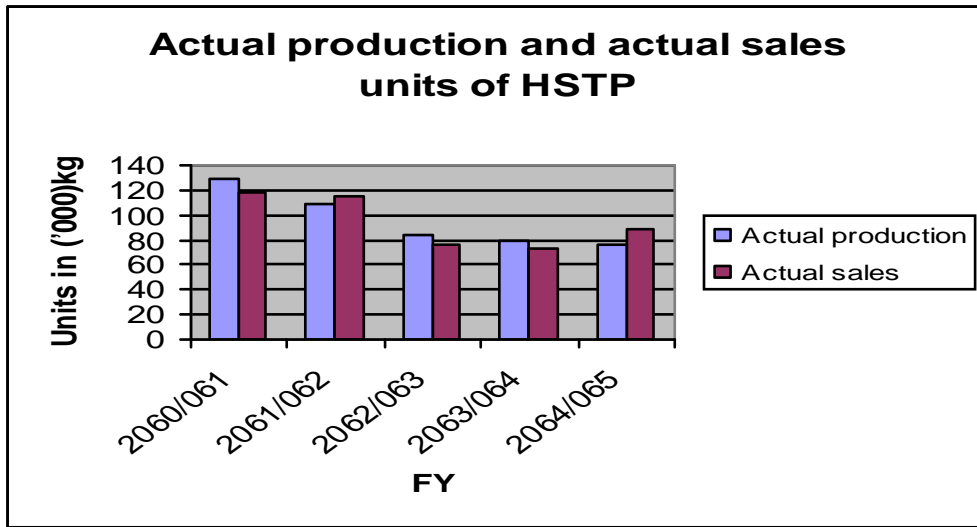
FY	HSTP			SHTPI		
	Actual production	Actual Sales	Ach%	Actual production	Actual Sales	Ach%
2060/061	129.61	118.92	91.752	63.90	58.34	91.30
2061/062	109.10	115.43	105.81	58.29	70.40	120.77
2062/063	83.92	76.09	90.66	53.45	46.55	87.09
2063/064	78.91	72.87	92.36	62.00	55.57	89.63
2064/065	76.94	88.73	115.32	55.10	52.90	96.01
Total	478.472		98.655	292.74	283.752	96.93
Mean	95.70			58.55	56.75	
SD()	20.50			3.96	7.86	
CV	21.425			6..766	13.854	
R	0.91			0.424		
P.E.(r)	0.0546			0.025		

(Details of calculation are on appendix-4)

Average sales achievement of HSTP is 98.655, which varies from 90.966 to 115.324, In case of SHTPI, an average of 96.93% of produced tea, has been sold throughout the study period.

Following points can be stated in conclusion. Production unit figures forecasted and achievement of SHPTI in units is inconsistent and more variable than that of HSTP. There is perfectly positive correlation in HSTP and SHTPI. Actual sales are nearer than production for HSTP than SHPTI.

Diagram-7



Graph-7

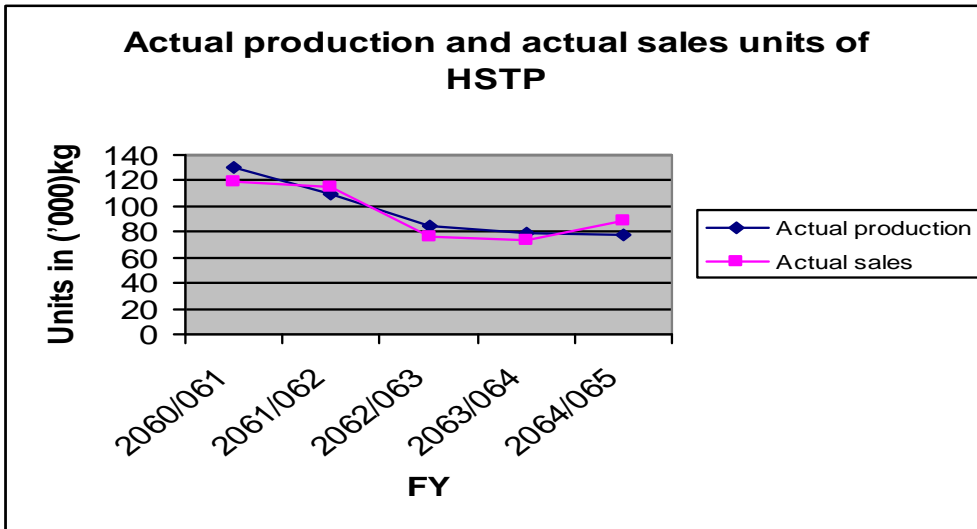
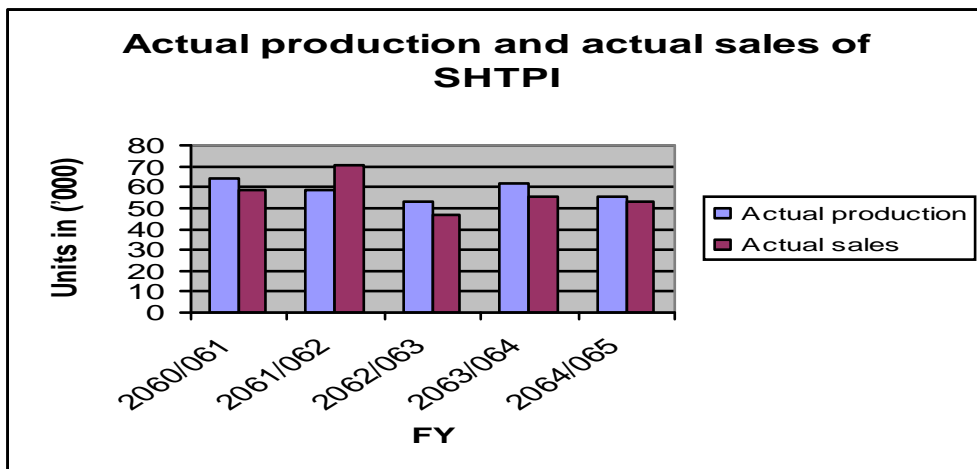
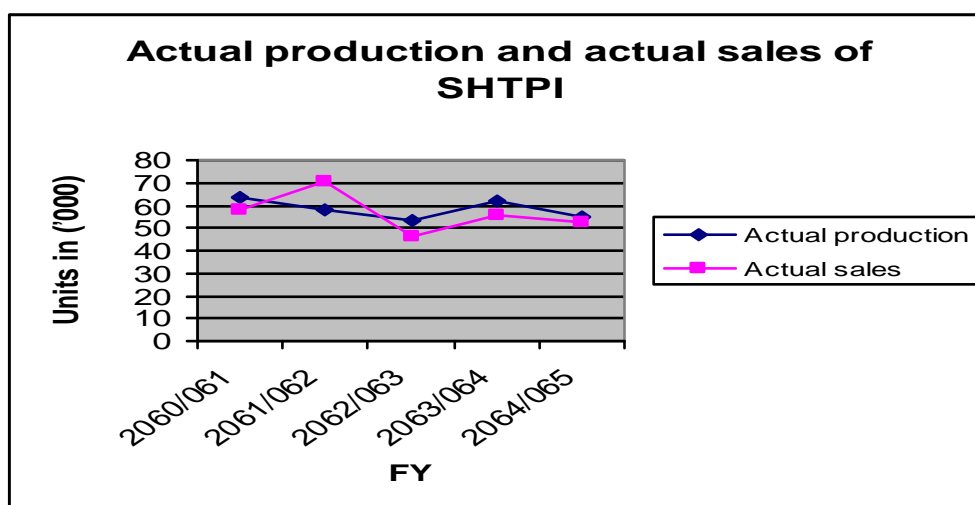


Diagram-8



Graph-8



4.6 Production Capacity Utilization

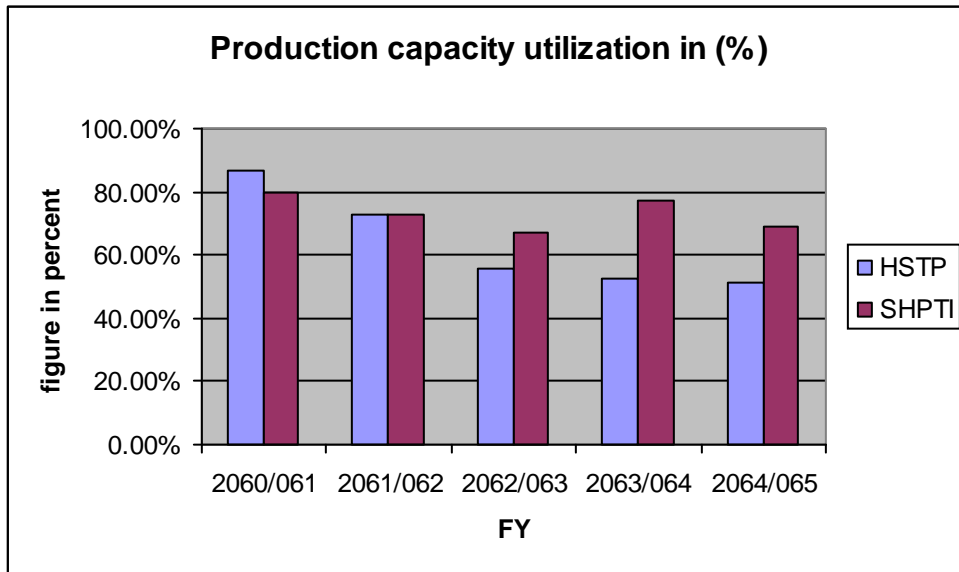
Adequacy of manufacturing facilities should be managed for an efficient production plan. The production capacity of individual department, process and machine should be assessed and coordinated to avoid production bottleneck and idle capacity while developing production budget. Cost of production also depends upon the utilization of capacity. Cost of production will be lower at optimal level of capacity utilization. Per unit manufacturing cost will increase in case of low capacity utilization and vice-versa.

Table-5 Capacity utilization in %

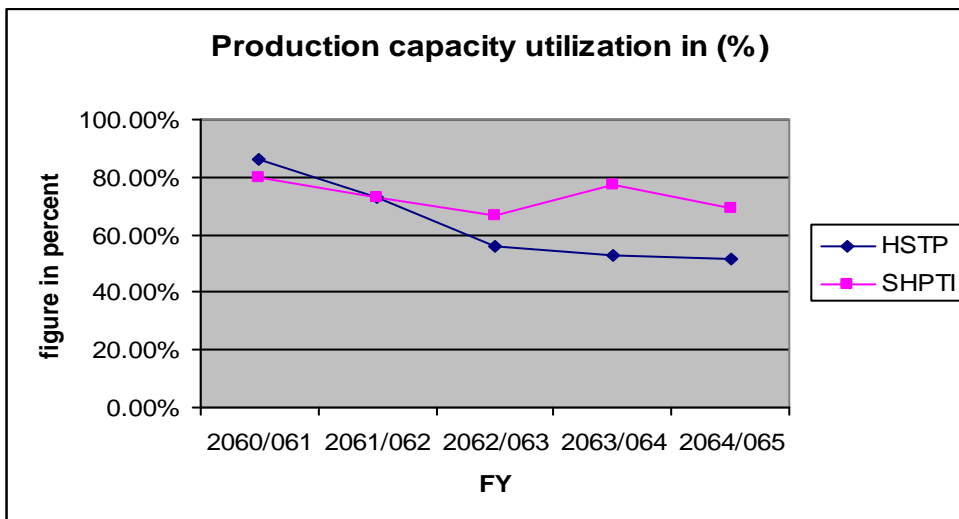
F.Y.	HSTP	SHPTI
2060/061	86.40%	79.88%
2061/062	72.73%	72.86%
2062/063	55.95%	66.82%
2063/064	52.60%	77.50%
2064/065	51.29%	68.87%
Average	63.79%	73.19%

Source: Annual Report of HSTP and SHTPI

Diagram-9



Graph-9



4.7 Expenses Budget

Budget for expenses is necessary to maintain expenses at reasonable levels to support the planning and control. Expenses control should focus on the relationship between expenditure and benefit derived from their expenditures. Planning of expenditure is essential in the process of budgeting. The expenses planning focus on better utilization of limited resources. This plan highlight the relationship between the expenditure and the revenue generated from the expenditure.

4.7.1 Factory Overhead Budget

Manufacturing overhead is that of total production cost not directly identifiable with specific products or jobs. Manufacturing overhead includes many dissimilar expenses therefore, it caused problems in the allocation of these cost to products. This is the total of indirect materials cost, indirect waged and indirect expenses of the factory.

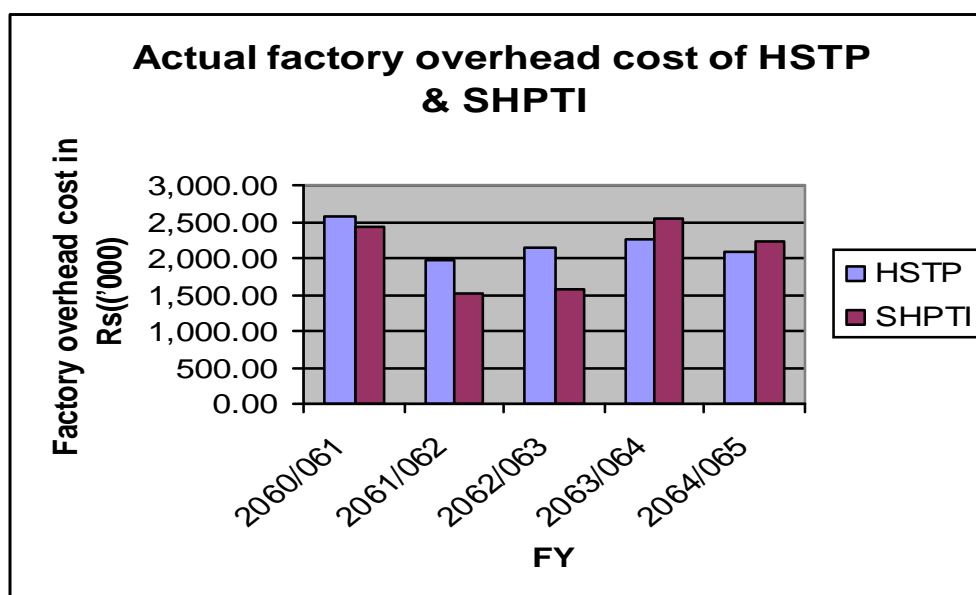
Table-6
Actual Factory overhead cost

Cost in Rs ('000).

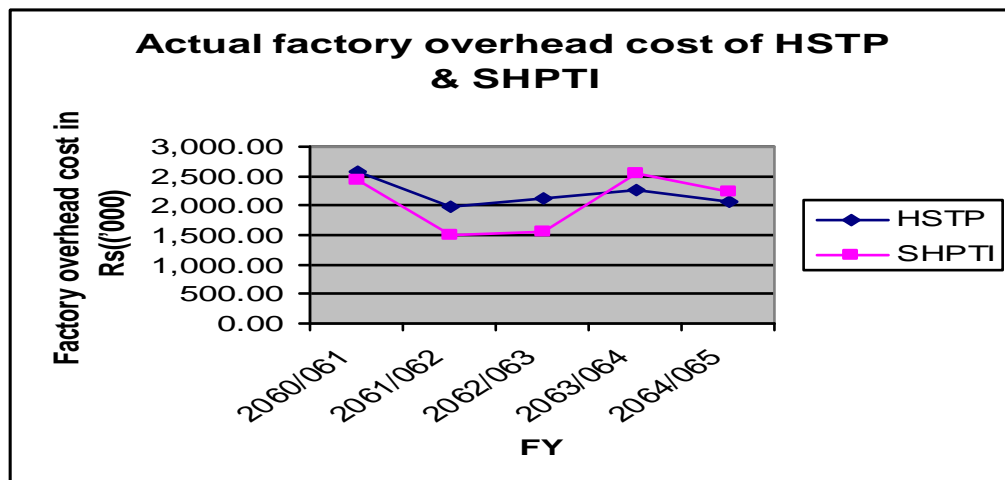
FY	HSTP	SHPTI
2060/061	2,584.84	2,420.70
2061/062	1,975.67	1,500.28
2062/063	2,134.18	1,561.45
2063/064	2,250.51	2,552.92
2064/065	2,079.64	2,240.26

Source: Annual Report of HSTP and SHPTI

Diagram-10



Graph-10



As can be seen in the above figure and table the annual overhead cost of HSTP and SHPTI were approximately 2.5 million and 2.42 million in the year 2060/61 which decreased to 1.9 and 1.5 million in the following fiscal year. It may be due to the insurgency that was prevailing in that time. Since the factories are relatively small capital base, the budgeted figures are not available as they don't use budgeting. In the year 2062/63 the overhead again increased to 2.1 and 1.56 million for HSPT and SHPTI respectively. Following year, the overhead increased to 2.25 and 2.55 million respectively for HSPT and SHPTI. Finally in the year 2064/65 the overhead decreased to 2.07 and 2.24 million respectively for HSPT and SHPTI. It was the year when the factories were shut down due to the strikes of the workers. The fluctuating trend of factory overhead of both the factories is shown by the curve in graph above.

4.7.2 Office and Administration Budget

Expenses other than manufacturing and distribution are included are in office and administrative expenses. These expenses are incurred in the responsibility centers that provide supervision of and service to all function of and service to all function of enterprise, rather than in the performance of any function. A large portion of administrative expenses is fixed rather than variable and they cannot be controlled. Besides from certain top management salaries, most administrative expenses are determined by management decisions.

Table no.-7

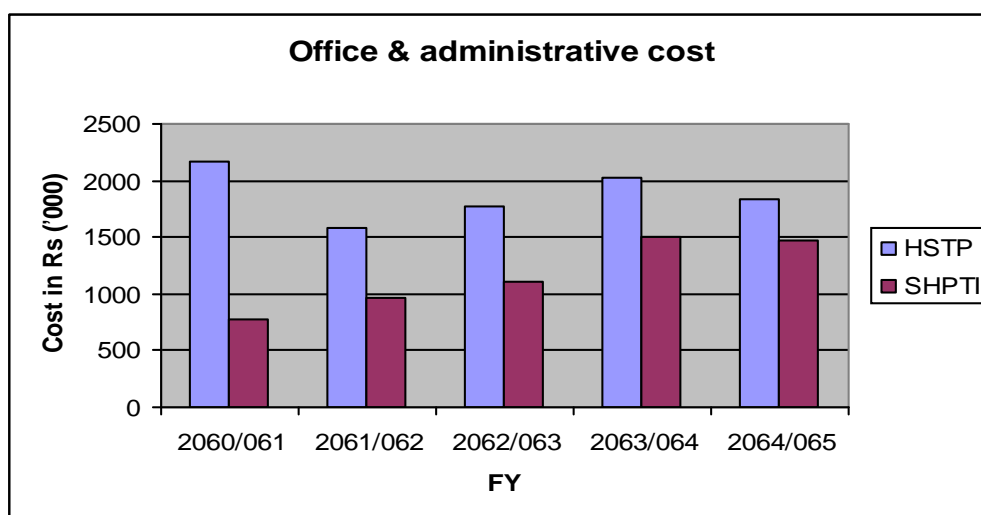
Actual office & Administrative expenses

Cost in Rs ('000)

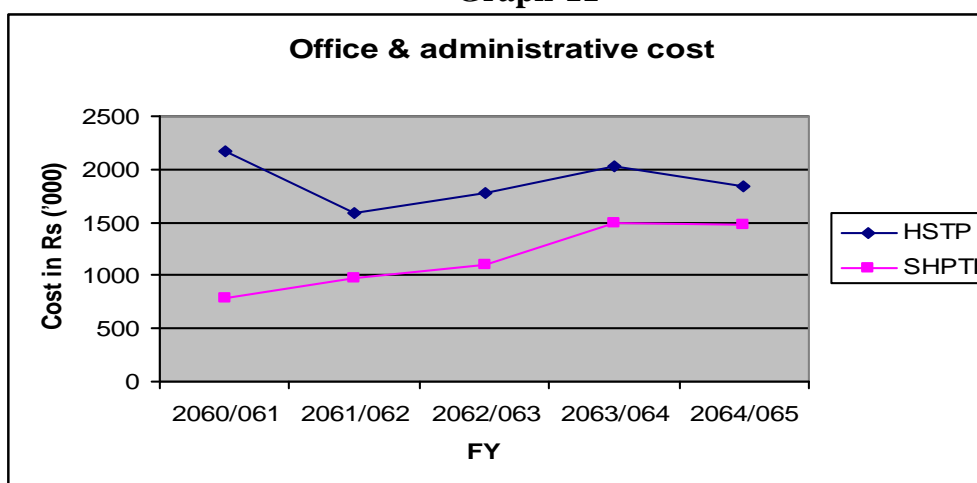
FY	HSTP	SHPTI
2060/061	2167.13	783.2
2061/062	1587.49	970.07
2062/063	1775.98	1103.46
2063/064	2022.49	1497.53
2064/065	1833.62	1473.36

Source: Annual Report of HSTP and SHPTI

Diagram-11



Graph-11



As can be seen from the above figure, the office and administrative overhead of HSTP and SHTPI were 2.1 and 0.78 million approximately in the year 2060/061. These cost increased for SHTPI and decreased for HSTP in the following FY. In the FY 2062/063 and 2063/064 these cost increased for both the factories. Similarly, both the factories experienced the decrease in the office overhead in the year 2064/065.

4.7.3 Selling and Distribution Expenses Budget

Selling and distribution include all costs related to selling, distribution and delivery of products to customers. It covers significant percentage of total expenses. So far HSTP and SHPTI are concerned, they do not keep record of selling and distribution expenses because these are included in the office and administrative overhead cost.

4.8 Capital Expenditure Planning

Capital expenditure involves generally a huge amount to be invested. This is intended to acquire some operational assets such as fixed, plant, building, equipment, machinery etc. in order to earn future revenues or to reduce future costs. In capital expenditure projects funds are tied up for relatively long period of time. Capital expenditure plan enables management to plan the amount of resources that should be invested in capital additions.

Both HSTP & SHPTI doesn't prepare long-term capital expenditure budget. It prepare short-term budget. Total amount is allocated for all capital expenditures and founder chairman decides what is to be purchased according to the necessary of the industry and within the limitation of the allocated amount. Therefore, there is no systematic budget procedure in the context of capital additions.

4.9 Cash Budget

Cash budget is a plan of cash inflows and outflows. The budget shows the planned cash inflows, outflows and ending position by interim periods for a specific time span.

A cash budget basically includes two parts a) The planned cash inflows (receipt) and b) The planned cash outflows (disbursements). Planning of cash inflows and outflow given the planned ending cash positions for the budget period and this will indicate

1. The need for financing probable cash deficits.
2. The need for investment planning to put excess cash to probable use.

Both HSTP & SHPTI doesn't prepare its cash budget for the coming year.

Here is the cash budget for both organizations for fiscal year 2064/065.

Cash collection and disbursement budget for HSTP for FY 2064/65

Table-8

Rs in ('000)

Particulars	Amount	Amount
Opening cash balance		254.373
Cash inflows:		
Add: Cash sales and collection from debtors	16092.832	
Sale of fixed assets	1045.948	
		17138.78
(A) Total cash inflows(collection)		19681.153
Cash outflows:		
Manufacturing expenses	8790.552	
Administrative expenses	1833.619	
Purchase of fixed assets	4299.59	
Income tax paid	345.734	
(B) Total cash outflows (disbursement)		15269.495
(C) Closing cash balance		4411.658

Source: Annual Report of HSTP

Cash collection and disbursement budget for SHPTI for FY 2064/65

Table-9

Rs in ('000)

Particulars	Amount	Amount
Opening cash balance		329.493
Add: Cash received:		
Cash sales	9803.613	
Collection from debtors	193.391	
Sale of fixed assets	241.934	10238.938
(A) Total cash receive (collection)		10568.431
Cash outflows:		
Manufacturing expenses	7401.432	
Office and administrative expenses	1473.361	
Purchase of fixed assets	708.43	
tax paid	180.432	
(B) Total cash payment (disbursement)		9763.655
(C) Closing cash balance		804.776

Source: Annual Report of SHPTI

4.10 Income Statement and Profit and Loss

Budgeted profit and loss account, after preparing all functional budget, is prepared. Profit and loss account is developed to report the financial result of the various functional sub-plans and commitments; profit and loss account is such tool in accounting system which comprehensively represents the operating efficiency of the organization in the relevant period.

Both companies don't prepare a projected profit and loss account in advance. But at the end of each financial year, profit and loss account is prepared to know the profit and loss situation of the companies.

Profit & loss trend of HSTP & SHPTI is given below

Table no.-10

Rs in ('000)

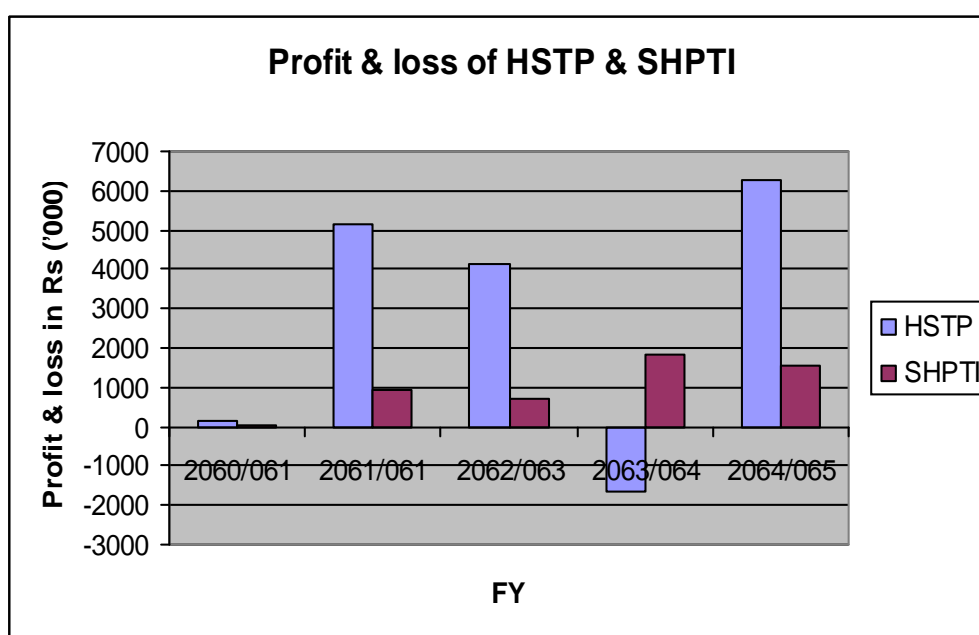
FY	HSTP	SHPTI
2060/061	166.76	60.28
2061/061	5153.28	941.73
2062/063	4114.83	723.38
2063/064	-1665.72	1846.87
2064/065	6259.41	1541.6

Sources: Annual Report of HSTP and SHPTI

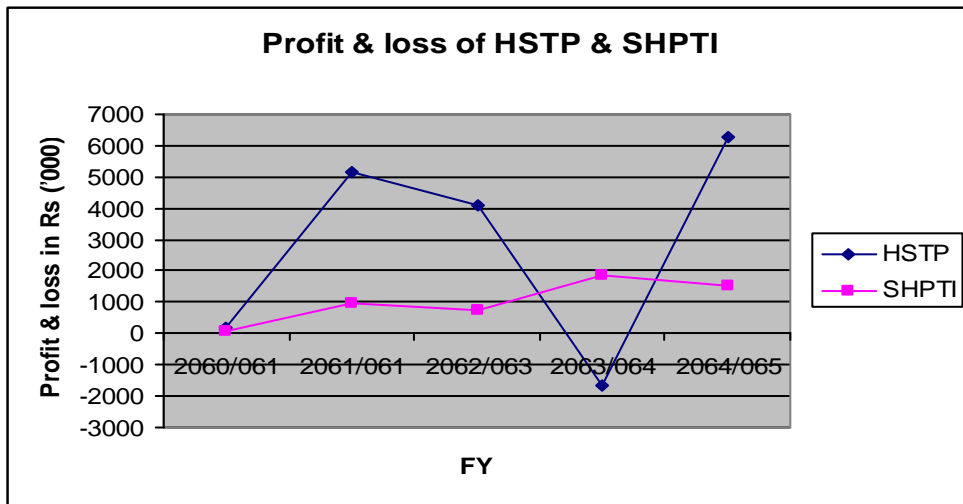
The above table shows that the profit trend of the company is somehow suitable. The HSTP is getting profit in every year except FY 2063/064 but in case of SHPTI the company is in profit for every fiscal year.

The main reason behind earning profit is very favorable climate for green leaf tea plantation, which helps to make low expenditures in raw material and productive expenses. The other factors are low cost of production, low factory expenses, low quantity of closing stock and sales of green leaf tea etc.

Diagram-12



Graph-12



4.10.1 Future Net Profit Pattern

The comparative profit & loss pattern of HSTP & SHPTI for last 5 years and least square analysis for next five years 2065/066 to 2069/070 has been presented in following table.

Table no.-11

For HSTP

Rs in ('000)

FY	Actual	X	XY	X ²	FY	X	Forecasted profit
2060/061	166.76	-2	-533.52	4	2065/066	3	4775.6
2061/062	5153.28	-1	-5353.28	1	2066/067	4	5352.23
2062/063	4114.83	0	0	0	2067/068	5	5928.86
2063/064	-1665.72	1	-1465.72	1	2068/069	6	6505.49
2064/065	6259.41	2	13118.82	4	2069/070	7	7082.12
Total	14028.56	0	5766.3	10			

$$Y = a + bX$$

Then

$$\sum Y = na + b\sum X$$

$$\sum XY = a\sum X + b\sum X^2$$

i.e.

$$14028.56 = 5a + 0b$$

$$5366.30 = 0a + 10b$$

By solving

$$a = 2805.71$$

$$b = 536.63$$

Therefore, $Y = 2805.71 + 536.63X$

Table no.-12

For SHPTI

Rs in ('000)

FY	Actual	X	XY	X ²	FY	X	Forecasted profit
2060/061	60.28	-2	-120.56	4	2065/066	3	2183.11
2061/062	941.73	-1	-941.73	1	2066/067	4	2569.89
2062/063	723.38	0	0	0	2067/068	5	2956.67
2063/064	1846.87	1	1846.87	1	2068/069	6	3343.45
2064/065	1541.6	2	3083.2	4	2069/070	7	3730.23
Total	5113.86	0	3867.78	10			

$$Y = a + bX$$

Then

$$\sum Y = na + b\sum X$$

$$\sum XY = a\sum X + b\sum X^2$$

i.e.

$$5113.86 = 5a + 0b$$

$$3867.78 = 0a + 10b$$

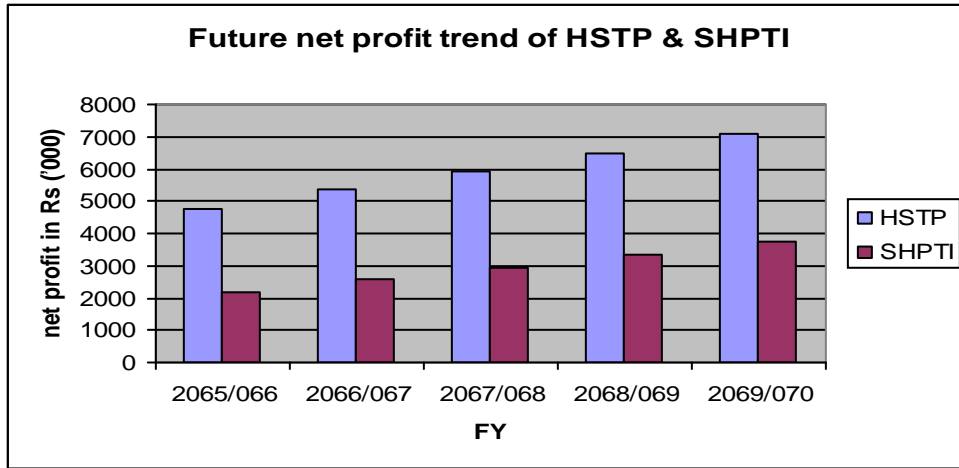
By solving

$$a = 1022.77$$

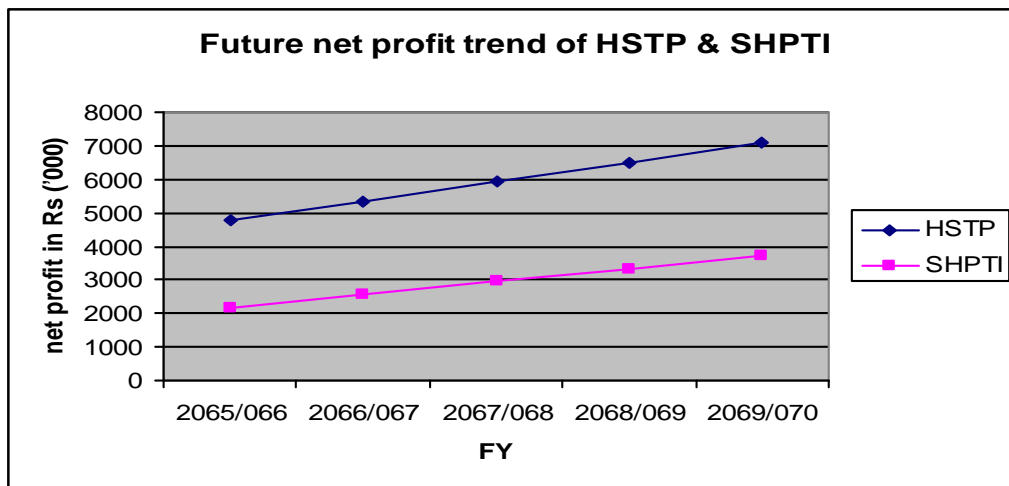
$$b = 386.78$$

Therefore, $Y = 1022.77 + 386.78X$

Diagram-13



Graph-13



4.11 Balance Sheet

After completing different functional budget the development of an annual profit plan ends with the planned income statement, planned balance sheet and planned statement of cash flow by summarizing those budgets, the projected balance sheet reports the effect of plan of operations on the assets, liabilities and capital of the company. It shows the overall financial condition of a firm.

Both HSTP & SHPTI don't prepare the projected balance sheet, but they prepare balance sheet at the end of each financial year to show the financial

condition of the firm. The balance sheet of HSTP & SHPTI at the end of ashad 2065 is presented as under.

Balance sheet of HSTP for 2064/065 ending 31st ashad

Table-13

Rs in ('000)

Particulars	2064/065
<u>Liabilities</u>	
Share capital	10661.688
<u>Reserve and surplus</u>	
Profit & loss A/C	13665.715
General reserve	470.942
<u>Other liabilities and provisions</u>	
Outstanding salary	545.748
Provision for tax	379.675
Sundry creditors	679.394
Bonus to staff	235.648
Outstanding interest	142.585
Total	26781.395
<u>Assets</u>	
Fixed assets	13845.063
Debtors	1745.283
Cash and bank	4533.111
Closing stock	2931.523
Bills receivable	1348.745
miscellaneous expenses	1212.931
Prepaid expenses	1164.739
Total	26781.395

Source: Annual Report of HSTP

Balance sheet of SHPTI for 2064/065 ending 31st ashad

Table-14

Rs in ('000)

Particulars	2064/065
<u>Liabilities</u>	
Share capital	8824.829
Profit & loss A/C	1541.598
Labor provident fond	158.822
Tax payable	81.932
Sundry creditors	475.174
Outstanding expenses	545.338
Total	11545.761
<u>Assets</u>	
Total fixed assets	7687.903
Quick assets	216.045
Store inventories	704.962
Closing stock	2321.063
Prepaid expenses	296.06
Sundry debtors	319.728
Total	11545.761

Source: Annual Report of SHPTI

4.12 Performance Evaluation

Performance reporting for internal management uses is important to show their overall performance. Performance evaluation is an important phase of control process; both companies don't care of their performances. Various techniques and criteria can be used to evaluate performance of a business company. This research report uses following evaluation techniques to measure the performance of HSTP & SHPTI.

- CVP Analysis
- Flexible budget
- Variance Analysis

4.12.1 CVP Analysis

Cost volume profit analysis is an important tool used for the profit planning in a business. It is an analytical tool for studying the relationship between volume, cost and profit. These three factors are interconnected because profit depends upon sales, selling price to a greater extent will depend upon the cost and cost depends upon the volume of production.

Cost volume profit analysis includes both break even analysis and contribution margin analysis. The level of volume which has to sell to accumulate contributions margin equal to fixed costly is called the break even point. There is zero profit at break even point. To find break even point, selling price per unit, variable cost, & total fixed cost are to be known. Contribution analysis includes a series of analytical techniques to determine and to evaluate the effects on profit of changes in sales volume, sales price, fixed expenses and variable expenses.

Cost volume profit analysis is a potent weapon in management's strategic arsenal for sales plan and production plan because CVP relationship determines the sales and production level for certain level of profit.

To present the cost volume profit analysis based on the accounting data of FY 2064/065, the following are computed:

Table-15

Particulars	HSTP	SHPTI
Sales unit	88.73	52.9
Total Sales revenue	16592.32	9803.61
Total fixed cost	1969.5	1594.33
Total variable cost	8790.55	7401.43
I) variable cost ratio	0.53	0.75
iii) p/v ratio(1-vc cost)	0.47	0.25
Bep in Rs	4190.42	6377.32
iv) Bep in units	22.41	34.41
v) Margin of safety for (FY 2064/065)	11748.32	3667.01
vi) Budgeted profit & loss for (FY2064/065)	5521.71	916.75

Sources: Annual report of HSTP and SHTPI

4.12.2 Flexible Budget

Expenses are incurred because of the passage of time, activity level or combination of both time and activity level. A flexible budget estimates cost at different level of activity. By the help of flexible budget, a firm can determine the operation level by considering the cost and profit at different level of activity.

Flexible budget of HSTP & SHPTI at different activity level for FY 2064/065

Table-16

Revenue, cost & unit in ('000)

Activity level	HSTP			SHPTI		
	90%	100%	110%	90%	100%	110%
Sales revenue	14930.31	16592.32	18251.55	8823.25	9803.61	10783.97
Less: VC	7911.49	8790.55	9669.61	6661.29	7401.43	8141.57
Contribution margin	7018.82	7801.77	8581.94	2161.96	2402.18	2642.4
Less: FC	6591.4	6591.4	6591.4	1494.97	1494.97	1494.97
Net income before tax	427.42	1210.37	1990.54	666.99	907.21	1147.43

Diagram-14

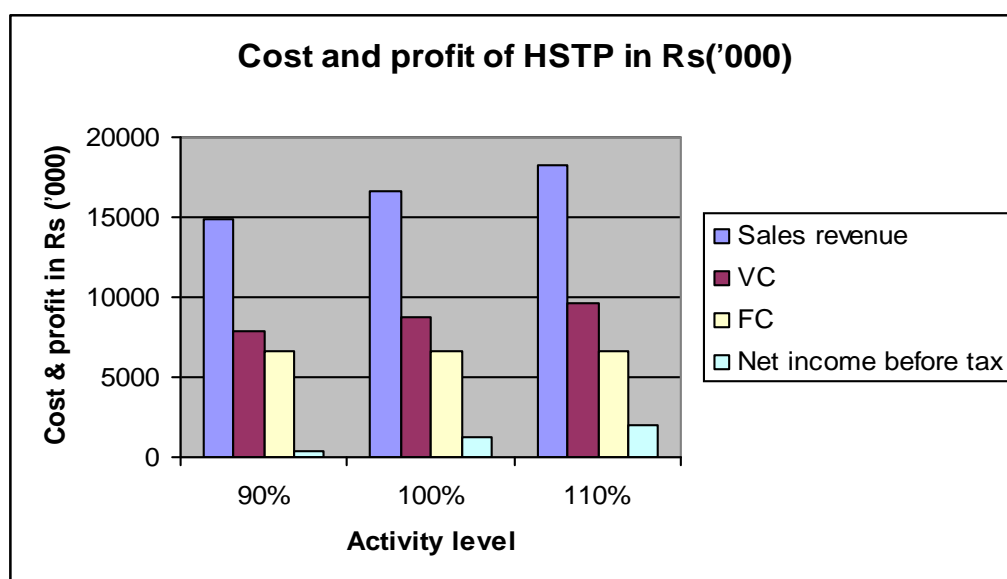
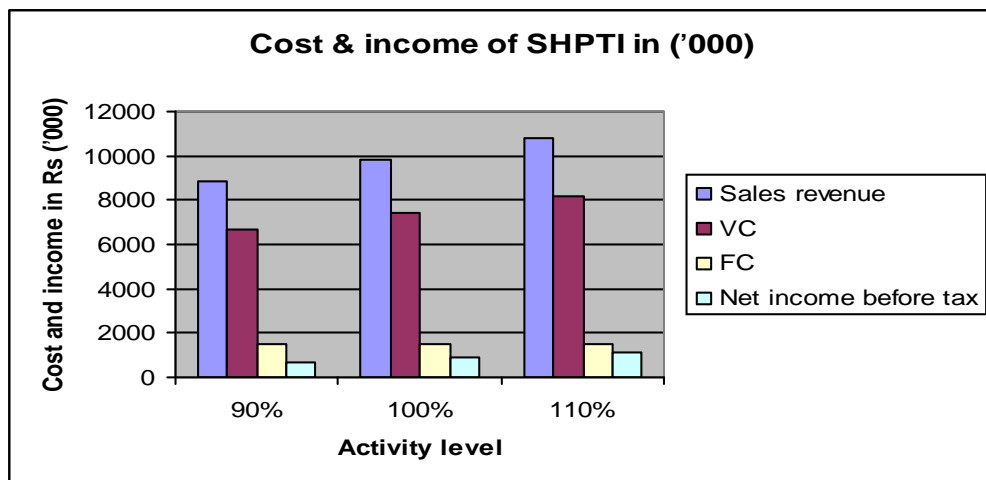


Diagram-15



4.12.3 Variance Analysis

A basic feature of performance report is the report of variance between actual results and planned or budgeted figures. A careful management study should be made to determine the underlying cause of significant variances.

The variance analysis incorporates the following:

1. Standard should be developed for material, labors, overheads yield, sales and profits.
2. Comparison between actual results and standards should be made to find variance.
3. Causes should be analyzed and diagnosed as controllable and uncontrollable.
4. Responsibility and accountability should be assigned to related center and authorized person should be made accountable for controllable causes of unfavorable variances.
5. Necessary corrective actions should be taken to improve unfavorable variances.

4.12.3.1 Sales Variance

The variance between budgeted and actual sales of HSTP and SHPTI can be identified with the help of the following table.

Table-17

Rs. in ('000)

FY	HSTP					SHPTI				
	Budgeted	actual	amount	%	Remark	Budgeted	actual	amount	%	Remark
2060/061	19670.9	18550.7	-1119.3	6.03	unfavorable	7543.59	6776.99	-766.6	11.3	unfavorable
2061/061	18975.8	18547.4	-428.35	2.31	unfavorable	10753.83	11170.4	416.55	3.73	favorable
2062/063	15836.4	14760.5	-1075.9	7.29	unfavorable	7525.85	6135.98	-1389.9	22.7	unfavorable
2063/064	14877.4	12243	-2634.4	21.52	unfavorable	9589.37	9496.96	-92.415	0.97	unfavorable
2064/065	15938.7	16992.3	653.59	3.85	favorable	10044.32	9803.61	-240.71	2.45	unfavorable

The above table indicates that the sales variance of HSTP is unfavorable except in FY 2064/065, whereas sales variance in SHPTI is unfavorable except in FY 2061/062.

4.12.3.2 Production Variance

The variance between budgeted and actual production of HSTP & SHPTI can be identified with the help of table-3.

Production variance for HSTP & SHPTI for FY2060/061 to 2064/065

Table-18

Unit in ('000) kg

FY	HSTP					SHPTI				
	Budgeted	actual	amount	%	Remark	Budgeted	actual	amount	%	Remark
2060/061	135	129.61	-5.4	4.16	unfavorable	70	63.9	-6.1	9.55	unfavorable
2061/061	130	109.1	-20.9	19.16	unfavorable	70	58.29	-11.72	20.1	unfavorable
2062/063	100	83.92	-16.08	19.16	unfavorable	35	53.46	18.46	34.5	favorable
2063/064	100	78.91	-21.09	26.73	unfavorable	64	62	-2	3.22	unfavorable
2064/065	80	76.94	3.06	3.98	unfavorable	56	55.1	-0.9	1.64	unfavorable

The above table shows HSTP has unfavorable production variance for all fiscal years. Budgeted production units are higher for all fiscal years. The budget should be based on the previous year's production. Similarly, in SHPTI the fluctuating relation between budgeted production and actual productions, except in FY 2061/062 the production variance is unfavorable, so management

should focus on production process, control over leakage etc. Management must diagnose the proper reason to control this unfavorable variance.

4.12.3.3 Other Variances

Since these factories do not use budgeting for major costs like factory overhead, office and administrative overhead, and direct labor cost, the analysis of variances is not possible for these costs. It is due to the lack of accounting information and practices.

4.13 Major Findings

The above analysis of various budgets, their achievements analysis of variance and financial budget shows that both of the companies are somehow in satisfactory situation but we can find some internal & external problems in formulating and implementing proper profit plan. Both of the organization uses their resources & utilized their assets properly. The expenses are in optimized situation.

SHPTI is in profit situation every year but HSTP is bear loss in one year. Based the amount of profit is large than SHPTI which is plus point for HSTP.

On the above data presentation and analysis the most remarkable findings are listed below.

1. Both HSTP & SHPTI has not the clear objective for the future fiscal year.
2. Inadequate profit planning due to lack of planning exports.
3. For the Both organizations top management is only involved in making decision.
4. Both HSTP & SHPTI fails to maintain their periodic performance and there is no proper reward and punishment system.
5. Excessive amount of variable cost (75.05% of sales) for SHPTI is the plus point for company.

6. Both HSTP & SHPTI has the low amount of fixed cost which helps somehow to get profit.
7. Low manpower cost & administration cost helps both HSTP& SHPTI to achieve their target.
8. HSTP is failure in FY 2063/064 is due to lower sales revenue in the year.
9. Both HSTP & SHPTI has lower stock level so they are in satisfactory situation.
10. There is lack of defined authority & responsibility in SHPTI, so there is no proper communicative and coordination between the various responsible departments.
11. Good knowledge of entrepreneurship and commercial concept helps to get more profit for HSTP.
12. Proper availability of raw material & skilled manpower keep HSTYP & SHPTI in better position.
13. Flexible budget and variance analysis is completely ignored in both organizations.
14. There is no proper system of segregation cost in to fixed, variable and semi-variable in both organizations.
15. Both organizations have no clear cut vision and concept of profit planning system.
16. There is not the proper system of accountability and responsibility in case of bad performance in both the organizations.

CHAPTER-FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Agriculture has a major role to play both in terms of production and employment generation. In this regard, labor intensive agriculture like tea plantation has an important role to play. Considering the role of tea industry in employment generation, environmental balances, import substitution and export promotion coupled with favorable climatic condition and geographical region in eastern Nepal, both in the hills and the terai, there is enough scope for developing tea plantation and tea industry in Nepal to meet growing demand of tea as well as to provide employment.

Tea plants provide revenue for 110 years or more. So it is financially viable from long term return perspective. At present only about 50% of the national demand is being met by existing tea estates. Nepal has better future prospects of orthodox tea which is highly valued and highly demanded in international market.

Profit planning and control has been developed as a recent most advanced approach to profit management. Comprehensive profit planning and control is viewed as a process designed to help management effectively perform significant of the planning and control function.

Effective profit planning and control and its practices require support of top management, accurate accounting, continuity, degree of flexibility, full communication and realistic expectations etc.

It is sure that most developing countries need to make fairly extensive use of agro based company in the development process. They play a vital role for the country.

Most of the organizations in our country are facing the ambiguity upon their goals and objectives. There is lack of proper communication, co-ordination and participation between the different levels of management and management has to define commitment and determination on the goals and objective of the organization similarly, planners are having no proper skills and techniques to develop various functional budgets.

The present study has examined the profit planning in Nepalese tea factories. HSTP & SHPTI has been taken as representative tea industry of Nepal.

The study intends to analyze and examine the profit planning & control system in HSTP & SHPTI. The study tries to answer the question like what is the overall profit planning and control in HSTP & SHPTI? What are the major problems and issues relating to development and implementation of profit planning? The significance of the study is really on the examination that whether the HSTP&SHPTI are applying profit planning system properly or not. This study covers the analysis of only five years (FY 2060/61 to 2064/065). This study concentrates in financial and accounting aspects. This study has been divided into five different chapters as introduction, review of literature, research methodology, presentation and analysis of data and summary, conclusion and recommendations.

5.2 Conclusions

After analyzing in detail the present practice of profit planning in HSTP & SHPTI, this study concludes the following points:

-) HSTP& SHPTI have not adequately considered controllable and non-controllable variable affecting the organization. Controllable variables include employees training and development, organizational working environment, coordination among employees, management efficiency etc. Similarly non controllable variables include economic factor, government policies, technical factor as well as environmental factor

etc. They have no in depth analysis of the company's strengths and weakness.

) This study has found the following strength and weakness of HSTP & SHPTI.

Strengths

- Job securities for the employees.
- No problem of selling tea.
- Availability of local labor.
- High demand of orthodox tea in international market.
- Tea plantation gives return for more than 100 years in regularly.
- Orthodox tea requires hilly natural climatic region which is available in Ilam.
- Availability of production capacity.

Weaknesses

- Lack of proper management and managerial capability.
- Lack of coordination between various departments.
- Lack of professionalism among employees.
- Decreasing quality of tea due to very old tea plant.
- Shortage of technically qualified manpower.

) There are no any clear cut boundaries to separate cost into fixed, variable and semi variable.

) No consideration to cost volume profit analysis while developing the sales plan and pricing strategy by the both organizations.

) Sales plan and achievement is satisfactory in both organizations.

) HSTP & SHPTI both organizations uses their assets in optimal.

) In both organizations there is no pressure of any political parties and government.

- J Motivation & incentives helps to get profit in both organizations.
- J HSTP & SHPTI is using proper communication system between top level management and employees.
- J The capacity utilization of the both organizations is optimal so the flexible budget shows that there will be profit even if the organization runs at 90% capacity.
- J HSTP & SHPTI have not a practice of systematic forecast estimates are made with previous sales figure and production capacity, thus occurs due to lack of skilled experts.
- J No consideration to cost volume profit analysis while developing the sales plan and pricing strategy by the both.
- J There are no any effective programs to increase the productivity of manpower. Lack of employee's motivation and incentive are major cause for lower productivity.
- J The main reason for low capacity utilization or lower level of production is lack of availability of sufficient raw materials at the right quality, at the right place and at the right time.

5.3 Recommendations

On the basis of comparative study of profit planning in HSTP & SHPTI, it seems necessary to develop, formulate and implementation of profit planning system of the organizations effectively. These following recommendations will be useful to the management of the organizations, other organizations to improve the development and implementation of profit plan.

- J Trained and qualified manpower for budgeting and planning should be hired and existing human resources should be trained to implement effective budgeting.

-) Clear cut goals, objectives long term plan, strategic program should be formulated by the organizations. There should be a scientific implementation of politics and plan in order to achieve goals and objectives in time.
-) Sales forecasting should be made on the realistic ground. Forecasts should include strategic and tactical forecasts that are consistent with the time dimension used in budgeting. The process of developing a realistic sales plan should be according to need of the organization.
-) Both organizations should develop their overhead expenses budget in a well- classified and scientific way.
-) In both organizations there should be a separate planning department to achieve organizational goal.
-) Regular inspection, monitoring and evaluation of budget centers should be under table.
-) There should be proper communication to all level of management about the tactical and strategic plan of the organization to run effectively.
-) To avoid delays in decision making and to take advantages from the opportunities that arise in business environment, unnecessary formalities should be revised and corrected.
-) There should be constant analyze of SWOT and ETOP. These help the organization to strengthen its capability and reduce or avoid their weakness in the market.
-) Provident fund is the amounts payable to employees in the long term period. So it should be treated as long term liabilities while preparing the balance sheet.
-) System of periodical report should be strictly followed.

-) Finish good inventory and raw material should be at optimum level to reduce idle current assets.
-) Democratic style of management should be followed while formulating plans, policies of the government.
-) The pricing policy of the industry should be revised. The cost of production should be considered while pricing the production.

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APPENDIX-1

Statistical calculation

A. Calculation of mean, standard deviation & coefficient of variation

Sales budget in Rupees
(000)

For HSTP							
FY	Budgeted (X)	Actual (Y)	$\frac{(X - \bar{X})(X - \bar{X})}{X}$	$\frac{(Y - \bar{Y})(Y - \bar{Y})}{Y}$	$\frac{(X - \bar{X})^2(X - \bar{X})}{X^2}$	$\frac{(Y - \bar{Y})^2(Y - \bar{Y})}{Y^2}$	$\frac{(X - \bar{X})(Y - \bar{Y})}{(X - \bar{X})(Y - \bar{Y})}$
2060/061	19670.85	18550.74	2611.03	2411.84	6817477.66	5817469.03	6297655.53
2061/062	18975.78	18547.43	1915.96	2408.633	3670914.22	5801512.93	4614851.71
2062/063	15836.37	14760.49	-1223.45	-1378.31	1496829.9	1899730.186	1686289.67
2063/064	14877.36	12243	-2182.46	-3895.8	4763118.56	15177234.27	8502409.43
2064/065	15938.1	16592.32	-1121.08	-453.53	1256831.56	205685.83	-508441.2
Total	85298.46	80693.98	0.001	-0.002	18005171.92	28901632.25	20592765.15

Let X and Y be the budgeted sales and actual sales respectively

For Budgeted sales

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{85299.10}{5} = 17059.82$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(X Z \bar{x})^2}{N}} = \sqrt{\frac{18005171.92}{5}} = 1897.64$$

$$\text{C.V } X \frac{\dagger}{x} | 100\% = \frac{1897.64}{17059.82} | 100\% = 11.12$$

For Actual Sales

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{80693.98}{5} = 16138.80$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(X Z \bar{x})^2}{N}} = \sqrt{\frac{28901632.25}{5}} = 2404.23$$

$$\text{C.V } X \frac{\dagger}{x} | 100\% = \frac{2404.23}{16138.80} | 100\% = 14.90$$

Sales budget in Rupees ('000)

For SHPTI							
FY	Budgeted (X)	Actual (Y)	(X Z \bar{X})	(Y Z \bar{Y})	(X Z \bar{X}) ²	(Y Z \bar{Y}) ²	(X Z \bar{X}) (Y Z \bar{Y})
2060/061	7543.59	6776.99	-1547.801	-1899.79	2395687.94	3609209.64	2940499.96
2061/062	10753.83	11170.38	1662.44	2493.59	2763693.45	6218011.04	4145440.43
2062/063	7525.85	6135.98	-1565.54	-2540.81	2450928.02	6455700.21	3977745.15
2063/064	9589.371	9496.96	497.94	820.17	247947.33	672683.75	408399.40
2064/065	10044.32	9803.61	952.93	1126.83	908077.49	1269745.85	1073791.24
Total	45456.96	43383.91	-0.035	-0.04	8766334.23	18225350.49	12545876.19

Let X and Y be the budgeted sales and actual sales respectively

For Budgeted sales

$$\text{Mean } (\bar{X}) = \frac{X}{N} = \frac{45456.97}{5} = 9091.39$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(X Z \bar{x})^2}{N}} = \sqrt{\frac{8766334.23}{5}} = 1324.11$$

$$\text{C.V } X \frac{\dagger}{x} | 100\% = \frac{1324.11}{9091.39} | 100\% = 11.12$$

For Actual Sales

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{43383.91}{5} = 14.56$$

$$\text{s.d. } (\dagger) = \sqrt{\frac{(X Z \bar{x})^2}{N}} = \sqrt{\frac{18225350.49}{5}} = 1909.21$$

$$C.V \ X \frac{\dagger}{x} | 100\% = \frac{1909.21}{8676.78} | 100\% = 22.004$$

B. Calculation of Combined s.d. and T-test

FY	HSTP			SHPTI		
	Actual (x)	(X Z \bar{X})	(Y Z \bar{Y})	(X Z \bar{X}) ²	(Y Z \bar{Y}) ²	(X Z \bar{X}) (Y Z \bar{Y})
2060/061	18550.74	2411.84	5817469.03	6776.99	-1899.79	3609209.64
2061/062	18547.43	2408.633	5801512.93	11170.38	2493.59	6218011.04
2062/063	14760.49	-1378.31	1899730.186	6135.98	-2540.81	6455700.21
2063/064	12243	-3895.8	15177234.27	9496.96	820.17	672683.75
2064/065	16592.32	-453.53	205685.83	9803.61	1126.83	1269745.85
Total	80693.98	-0.002	28901632.25	43383.91	-0.04	18225350.49

$$A.M. (\bar{X}_1) = \frac{X}{N_1} = \frac{80693.98}{5} = 16138.80$$

$$A.M. (\bar{Y}_1) = \frac{Y}{N_2} = \frac{43383.91}{5} = 8676.78$$

$$S X \sqrt{\frac{(X Z \bar{X})^2 \Gamma (Y Z \bar{Y})^2}{N_1 \Gamma N_2 Z 2}} = \sqrt{\frac{28901632.25 \Gamma 18225350.49}{5 \Gamma 5 Z 2}} = 2427.11$$

$$|t| \times \frac{\bar{X} \bar{Z} \bar{Y}}{\sqrt{\frac{1}{n_1} \Gamma \frac{1}{n_2}}} = \frac{16138.80 \times 8676.78}{2427.11 \sqrt{\frac{1}{5} \Gamma \frac{1}{5}}} = 4.86$$

B. Calculation of Karl person's coefficient correlation and probable error of coefficient of correlation.

For HSTP

$$\begin{aligned} \text{Correlation coefficient } r_{xy} &= \frac{(X \bar{Z} \bar{X})(Y \bar{Z} \bar{Y})}{\sqrt{(X \bar{Z} \bar{X})^2} \sqrt{(Y \bar{Z} \bar{Y})^2}} \\ &= \frac{20592765.15}{\sqrt{18005171.92} \sqrt{28901632.25}} = 0.903 \end{aligned}$$

$$\text{Probability Error } P.E(r) \times 0.6745 \left| \frac{1 Z r^2}{\sqrt{n}} = P.E(r) \times 0.6745 \left| \frac{1 Z 0.903^2}{\sqrt{5}} = 0.0557 \right.$$

For SHPTI

$$\begin{aligned} \text{Correlation coefficient } r_{xy} &= \frac{(X \bar{Z} \bar{X})(Y \bar{Z} \bar{Y})}{\sqrt{(X \bar{Z} \bar{X})^2} \sqrt{(Y \bar{Z} \bar{Y})^2}} \\ &= \frac{12545876.19}{\sqrt{8766334.228} \sqrt{18225350.49}} = 0.992 \end{aligned}$$

$$\begin{aligned} \text{Probability Error } P.E(r) \times 0.6745 \left| \frac{1 Z r^2}{\sqrt{n}} \right. \\ = P.E(r) \times 0.6745 \left| \frac{1 Z 0.992^2}{\sqrt{5}} = 0.0048 \right. \end{aligned}$$

D. Calculation of least square trend for HSTP

FY	Actual sales(Y)	X	X ²	XY
2060/061	18550.74	-2	4	-37101.48
2061/062	18547.43	-1	1	-18547.43
2062/063	14760.49	0	0	0
2063/064	12243	1	1	12243
2064/065	16592.32	2	4	33184.65
Total	80693.98	0	10	-10221.26

$$Y = a + bX$$

Then

$$\begin{aligned}\sum Y &= na + b\sum X \\ \sum XY &= a\sum X + b\sum X^2\end{aligned}$$

i.e.

$$\begin{aligned}80693.98 &= 5a + 0b \\ -10221.26 &= 0a + 10b\end{aligned}$$

By solving

$$\begin{aligned}a &= 16138.80 \\ b &= -1022.13\end{aligned}$$

Therefore, $Y = 16138.80 - 1022.13X$

Calculation of least square trend for SHPTI

FY	Actual sales(Y)	X	X ²	XY
2060/061	6776.99	-2	4	-13553.98
2061/062	11170.38	-1	1	-11170.38
2062/063	6135.98	0	0	0
2063/064	9496.96	1	1	9496.96
2064/065	9803.61	2	4	19607.23
Total	43383.91	0	10	4379.86

$$Y = a + bX$$

Then

$$\begin{aligned}\sum Y &= na + b\sum X \\ \sum XY &= a\sum X + b\sum X^2\end{aligned}$$

i.e.

$$\begin{aligned}43383.91 &= 5a + 0b \\ 4379.86 &= 0a + 10b\end{aligned}$$

By solving

$$\begin{aligned}a &= 8676.72 \\ b &= 437.98\end{aligned}$$

Therefore, $Y = 8676.72 + 437.98X$

APPENDIX-2

Statistical calculation

Sales unit

A. Calculation of Mean, s.d., coefficient of variation

Sales unit in ('000)

kg

For HSTP							
FY	Budgeted (X)	Actual (Y)	$(X - \bar{X})$	$(Y - \bar{Y})$	$(X - \bar{X})^2$	$(Y - \bar{Y})^2$	$(X - \bar{X})(Y - \bar{Y})$
2060/061	130	118.92	38	24.51	1444	600.59	931.27
2061/062	100	115.44	8	21.03	64	442.14	168.22
2062/063	80	76.09	-12	-18.32	144	335.73	219.88
2063/064	80	72.88	-12	-21.53	144	463.67	258.4
2064/065	70	88.73	-22	-5.68	484	32.25	124.94
Total	460	472.04	0	0	2280	1874.38	1702.69

Let X and Y be the budgeted sales unit and actual sales unit respectively

For Budgeted sales

$$\text{Mean } (\bar{X}) = \frac{X}{N} = \frac{460}{5} = 92$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(X - \bar{X})^2}{N}} = \sqrt{\frac{2280}{5}} = 21.21$$

$$\text{C.V } X \frac{\dagger}{x} | 100\% = \frac{21.35}{92} | 100\% = 23.21\%$$

For Actual Sales

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{472.4}{5} = 94.41$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(Y - \bar{Y})^2}{N}} = \sqrt{\frac{1874.38}{5}} = 19.36$$

$$\text{C.V } Y \frac{\dagger}{y} | 100\% = \frac{19.36}{94.41} | 100\% = 20.51\%$$

Sales unit in

('000) kg

For SHPTI							
FY	Budgeted (X)	Actual (Y)	$(X - \bar{X})$	$(Y - \bar{Y})$	$(X - \bar{X})^2$	$(Y - \bar{Y})^2$	$(X - \bar{X})(Y - \bar{Y})$
2060/061	70	58.34	11	1.59	121	2.52	17.47
2061/062	70	70.4	11	13.65	121	186.27	150.13
2062/063	35	46.55	-24	-10.2	576	104.08	244.848
2063/064	64	55.57	5	-1.18	25	1.4	-5.91
2064/065	56	52.9	-3	-3.85	9	14.82	11.55
Total	295	283.75	0	0	852	309.09	423.99

Let X and Y be the budgeted sales unit and actual sales unit respectively

For Budgeted sales

$$\text{Mean } (\bar{X}) = \frac{X}{N} = \frac{295}{5} = 59$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(X - \bar{X})^2}{N}} = \sqrt{\frac{852}{5}} = 13.05$$

$$\text{C.V } X = \frac{\dagger}{x} \times 100\% = \frac{13.05}{59} \times 100\% = 22.13\%$$

For Actual Sales

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{283.75}{5} = 56.75$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(Y - \bar{Y})^2}{N}} = \sqrt{\frac{309.09}{5}} = 7.86$$

$$\text{C.V } Y = \frac{\dagger}{y} \times 100\% = \frac{7.862}{56.75} \times 100\% = 13.85\%$$

B. Calculation of combine s.d. and t-test:

FY	HSTP			SHPTI		
	Actual(X)	$(X - \bar{X})$	$(X - \bar{X})^2$	Actual (Y)	$(Y - \bar{Y})$	$(Y - \bar{Y})^2$
2060/061	118.92	24.51	600.59	58.34	1.59	2.52
2061/062	115.44	21.03	442.14	70.4	13.65	186.27
2062/063	76.09	-18.32	335.73	46.55	-10.2	104.08
2063/064	72.88	-21.53	463.67	55.57	-1.18	1.4
2064/065	88.73	-5.68	32.25	52.9	-3.85	14.82
Total	472.04	0	1874.38		0	309.09

$$A.M. (\bar{X}_1) = \frac{X}{N_1} = \frac{472}{5} = 94.41$$

$$A.M. (\bar{Y}_1) = \frac{Y}{N_2} = \frac{283.75}{5} = 56.75$$

$$S_X \sqrt{\frac{(X - \bar{X})^2 \Gamma (Y - \bar{Y})^2}{N_1 \Gamma N_2 Z^2}} = \sqrt{\frac{1874.38 \Gamma 309.09}{5 \Gamma 5 Z^2}} = 16.52$$

$$|t| = \frac{|\bar{X} - \bar{Y}|}{\sqrt{\frac{1}{n_1} \Gamma \frac{1}{n_2}}} = \frac{94.41 - 56.75}{16.52 \sqrt{\frac{1}{5} \Gamma \frac{1}{5}}} = 3.604\%$$

C. Calculation of Karl person's coefficient correlation and probable error of coefficient of correlation.

For HSTP

$$\text{Correlation coefficient } r_{xy} = \frac{(X - \bar{X})(Y - \bar{Y})}{\sqrt{(X - \bar{X})^2} \sqrt{(Y - \bar{Y})^2}} = \frac{1702.69}{\sqrt{2280} \sqrt{1874.38}} = 0.824$$

$$\text{Probability Error } P.E(r) = 0.6745 \left| \frac{Zr^2}{\sqrt{n}} \right|$$

$$= P.E(r) \times 0.6745 \left| \frac{1 \times 0.824^2}{\sqrt{5}} \right| = 0.09683$$

For SHPTI

$$\text{Correlation coefficient } r_{xy} = \frac{(X - \bar{X})(Y - \bar{Y})}{\sqrt{(X - \bar{X})^2} \sqrt{(Y - \bar{Y})^2}}$$

$$= \frac{423.99}{\sqrt{852} \sqrt{309.09}} = 0.826$$

$$\text{Probability Error } P.E(r) = 0.6745 \left| \frac{1 \times r^2}{\sqrt{n}} \right|$$

$$= P.E(r) \times 0.6745 \left| \frac{1 \times 0.826^2}{\sqrt{5}} \right| = 0.0957$$

D. Calculation of Least Square Trend for HSTP

FY	Actual sales(Y)	X	X ²	XY
2060/061	118.92	-2	4	-237.83
2061/062	115.44	-1	1	-115.44
2062/063	76.09	0	0	0
2063/064	72.88	1	1	72.88
2064/065	88.73	2	4	177.46
Total	472.04	0	10	-102.93

$$Y = a + bX$$

Then

$$\begin{aligned} \sum Y &= na + b\sum X \\ \sum XY &= a\sum X + b\sum X^2 \end{aligned}$$

i.e.

$$\begin{aligned} 472.04 &= 5a + 0b \\ -102.93 &= 0a + 10b \end{aligned}$$

By solving

$$a = 94.40$$

$$b = -10.29$$

Therefore, $Y = 94.40 - 10.29X$

For SHPTI

FY	Actual sales(Y)	X	X ²	XY
2060/061	58.34	-2	4	-116.68
2061/062	70.4	-1	1	-70.4
2062/063	46.55	0	0	0
2063/064	55.57	1	1	55.57
2064/065	52.9	2	4	105.8
Total	283.75	0	10	-25.71

$$Y = a + bX$$

Then

$$\begin{aligned}\sum Y &= na + b\sum X \\ \sum XY &= a\sum X + b\sum X^2\end{aligned}$$

i.e.

$$\begin{aligned}283.75 &= 5a + 0b \\ -25.71 &= 0a + 10b\end{aligned}$$

By solving

$$\begin{aligned}a &= 56.75 \\ b &= -2.57\end{aligned}$$

Therefore, $Y = 56.75 - 2.57X$

APPENDIX- 3

Statistical Calculation

Production Budget

Unit in ('000) kg

For HSTP							
FY	Budgeted (X)	Actual (Y)	$(X - \bar{X})$	$(Y - \bar{Y})$	$(X - \bar{X})^2$	$(Y - \bar{Y})^2$	$(X - \bar{X})(Y - \bar{Y})$
2060/061	135	129.61	26	99.91	676	1149.96	881.69
2061/062	130	109.1	21	13.41	441	179.75	281.55
2062/063	100	83.92	-9	-11.77	81	138.6	105.96
2063/064	100	78.91	-9	-16.79	81	281.84	151.09
2064/065	80	76.94	-29	-18.76	841	351.75	543.89
Total	545	478.47	0	0	2120	2101.89	1964.18

Let X and Y be the Budgeted Production Unit and Actual Production Unit respectively

For Budgeted Production

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{545}{5} = 109$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{N}} = \sqrt{\frac{2120}{5}} = 20.59$$

$$\text{C.V } X = \frac{\sigma}{\bar{X}} \times 100\% = \frac{20.59}{109} \times 100\% = 18.89\%$$

For Actual Production

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = \frac{478.47}{5} = 95.69$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum (Y - \bar{Y})^2}{N}} = \sqrt{\frac{2101.89}{5}} = 20.50$$

$$\text{C.V } Y = \frac{\sigma}{\bar{Y}} \times 100\% = \frac{20.5}{95.69} \times 100\% = 21.43\%$$

Unit in ('000) kg

For SHPTI							
FY	Budgeted (X)	Actual (Y)	(X - \bar{X})	(Y - \bar{Y})	(X - \bar{X}) ²	(Y - \bar{Y}) ²	(X - \bar{X})(Y - \bar{Y})
2060/061	70	63.9	11	5.35	121	28.64	58.87
2061/062	70	58.29	11	-0.26	121	0.07	-2.86
2062/063	35	53.45	-24	-5.09	576	25.93	122.21
2063/064	64	62	5	36.45	25	11.92	17.26
2064/065	56	55.1	-3	-3.45	9	11.92	10.35
Total	295	292.74	0	0	852	78.472	205.84

For Budgeted Production

$$\text{Mean } (\bar{X}) = \frac{X}{N} = \frac{295}{5} = 59$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{(X - \bar{X})^2}{N}} = \sqrt{\frac{852}{5}} = 13.05$$

$$\text{C.V } X = \frac{\sigma}{\bar{X}} \times 100\% = \frac{13.05}{59} \times 100\% = 22.13\%$$

For Actual Production

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{292.74}{5} = 58.55$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{(Y - \bar{Y})^2}{N}} = \sqrt{\frac{78.47}{5}} = 3.96$$

$$\text{C.V } Y = \frac{\sigma}{\bar{Y}} \times 100\% = \frac{3.96}{58.55} \times 100\% = 6.77\%$$

FY	HSTP			SHPTI		
	Actual (x)	(X - \bar{X})	(Y - \bar{Y})	(X - \bar{X}) ²	(Y - \bar{Y}) ²	(X - \bar{X})(Y - \bar{Y})
2060/061	129.61	26	1149.96	63.9	5.35	28.64

2061/062	109.1	21	179.75	58.29	-0.26	0.07
2062/063	83.92	-9	138.6	53.45	-5.09	25.93
2063/064	78.91	-9	281.84	62	36.45	11.92
2064/065	76.94	-29	351.75	55.1	-3.45	11.92
Total	478.47	0	2101.89	292.74	0	78.472

B. Calculation of Combine s.d. and T-test

Unit in ('000) kg

$$A.M. (\bar{X}_1) = \frac{X}{N_1} = \frac{478.47}{5} = 95.69$$

$$A. M. (\bar{Y}_1) = \frac{Y}{N_2} = \frac{292.74}{5} = 58.55$$

$$S X \sqrt{\frac{(X Z \bar{X})^2 \Gamma (Y Z \bar{Y})^2}{N_1 \Gamma N_2 Z^2}} = \sqrt{\frac{2101.89 \Gamma 78.47}{5 \Gamma 5 Z^2}} = 16.51$$

$$|t| X \frac{\bar{X} Z \bar{Y}}{\sqrt{\frac{1}{n_1} \Gamma \frac{1}{n_2}}} = \frac{95.69 Z 58.55}{16.51 \sqrt{\frac{1}{5} \Gamma \frac{1}{5}}} = 3.56\%$$

C. Calculation of Karl Person's Coefficient Correlation and Probable Error of Coefficient of Correlation.

For HSTP

$$\text{Correlation Coefficient } r_{xy} X \frac{(X Z \bar{X})(Y Z \bar{Y})}{\sqrt{(X Z \bar{X})^2} \sqrt{(Y Z \bar{Y})^2}} = \frac{1964.18}{\sqrt{2120} \sqrt{2101.89}} = 0.93$$

$$\text{Probability Error } P.E(r) X 0.6745 \left| \frac{1 Z r^2}{\sqrt{n}} \right| = P.E(r) X 0.6745 \left| \frac{1 Z 0.93^2}{\sqrt{5}} \right| = 0.0405$$

For SHPTI

$$\text{Correlation Coefficient } r_{xy} X \frac{(X Z \bar{X})(Y Z \bar{Y})}{\sqrt{(X Z \bar{X})^2} \sqrt{(Y Z \bar{Y})^2}} = \frac{205.84}{\sqrt{852} \sqrt{78.47}} = 0.796$$

$$\text{Probability Error } P.E(r) \times 0.6745 \left| \frac{1Zr^2}{\sqrt{n}} \right| \equiv P.E(r) \times 0.6745 \left| \frac{1Z0.796^2}{\sqrt{5}} \right| \equiv 0.1105$$

D. Calculation of Least Square Trend for HSTP

Unit in ('000) kg

FY	Actual sales(Y)	X	X ²	XY
2060/061	129.61	-2	4	-259.21
2061/062	109.1	-1	1	-109.1
2062/063	83.92	0	0	0
2063/064	78.91	1	1	78.91
2064/065	76.94	2	4	153.88
Total	478.47	0	10	-135.53

$$Y = a + bX$$

Then

$$\begin{aligned} \sum Y &= na + b\sum X \\ \sum XY &= a\sum X + b\sum X^2 \end{aligned}$$

i.e.

$$\begin{aligned} 478.47 &= 5a + 0b \\ -135.53 &= 0a + 10b \end{aligned}$$

By solving

$$a = 95.69$$

$$b = -13.55$$

Therefore, $Y = 95.69 - 13.55X$

For SHPTI

Unit in ('000) kg

FY	Actual sales(Y)	X	X ²	XY
2060/061	63.9	-2	4	-127.8
2061/062	58.29	-1	1	-58.29
2062/063	53.45	0	0	0
2063/064	62	1	1	62
2064/065	55.1	2	4	110.19
Total	292.74	0	10	-13.9

$$Y = a + bX$$

Then

$$\begin{aligned}\sum Y &= na + b\sum X \\ \sum XY &= a\sum X + \sum bX^2\end{aligned}$$

i.e.

$$\begin{aligned}292.74 &= 5a + 0b \\ -13.90 &= 0a + 10b\end{aligned}$$

By solving

$$a = 58.55$$

$$b = -1.39$$

Therefore, $Y = 58.55 - 1.39X$

APPENDIX – 4

Statistical Calculation

A. Calculation of Mean, Standard Deviation & Coefficient of Variation

Actual Production Vs Actual Sales

Unit in ('000) kg

FY	For HSTP						
	Actual production	Actual Sales	$(X - \bar{X})$	$(Y - \bar{Y})$	$(X - \bar{X})^2$	$(Y - \bar{Y})^2$	$(X - \bar{X})(Y - \bar{Y})$
2060/061	129.61	118.92	33.91	24.51	1149.96	600.59	831.06
2061/062	109.1	115.44	13.41	21.03	189.75	442.13	281.91
2062/063	83.92	76.09	-11.77	-18.32	138.6	335.73	215.77
2063/064	78.91	72.88	-16.79	-21.53	281.84	463.67	361.49
2064/065	76.94	88.73	-18.75	-5.68	351.75	32.25	106.51
Total	478.47	472.04	0	0	2101.89	1874.4	1796.69

Let X and Y be the actual sales unit and actual production unit respectively

For Actual Production

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{478.47}{5} = 95.69$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{N}} = \sqrt{\frac{2101.89}{5}} = 20.50$$

$$\text{C.V } X = \frac{\sigma}{\bar{x}} \times 100\% = \frac{20.50}{95.69} \times 100\% = 21.43$$

For Actual Sales

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = \frac{472.04}{5} = 94.41$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum (Y - \bar{Y})^2}{N}} = \sqrt{\frac{1874.38}{5}} = 19.36$$

$$\text{C.V } Y = \frac{\sigma}{\bar{y}} \times 100\% = \frac{19.362}{94.41} \times 100\% = 20.51$$

Unit in ('000) kg

FY	For SHPTI						
	Actual production(X)	Actual Sales(Y)	(X - \bar{X})	(Y - \bar{Y})	(X - \bar{X}) ²	(Y - \bar{Y}) ²	(X - \bar{X})(Y - \bar{Y})
2060/061	63.9	58.34	5.35	1.59	28.64	2.52	8.5
2061/062	58.29	70.4	-0.26	13.65	0.07	186.27	-3.55
2062/063	53.45	46.55	-5.09	-10.2	25.93	104.08	51.95
2063/064	62	55.57	3.45	-1.18	11.92	1.4	-4.08
2064/065	55.1	52.9	-3.45	-3.85	11.92	14.82	13.29
Total	292.74	283.75	0	0	78.47	309.09	66.11

For Actual Production

$$\text{Mean } (\bar{X}) = \frac{X}{N} = \frac{292.74}{5} = 58.55$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(X - \bar{X})^2}{N}} = \sqrt{\frac{78.47}{5}} = 3.96$$

$$\text{C.V } X = \frac{\dagger}{x} | 100\% = \frac{3.96}{58.55} | 100\% = 6.77\%$$

For Actual Sales

$$\text{Mean } (\bar{Y}) = \frac{Y}{N} = \frac{283.75}{5} = 56.75$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{(Y - \bar{Y})^2}{N}} = \sqrt{\frac{309.09}{5}} = 7.86$$

$$\text{C.V } Y = \frac{\dagger}{y} | 100\% = \frac{7.86}{56.75} | 100\% = 13.85\%$$

- C. Calculation of Karl person's coefficient correlation and probable error of Coefficient of Correlation.

For HSTP

$$\begin{aligned} \text{Correlation coefficient } r_{xy} &= \frac{(X Z \bar{X})(Y Z \bar{Y})}{\sqrt{(X Z \bar{X})^2} \sqrt{(Y Z \bar{Y})^2}} \\ &= \frac{1796.69}{\sqrt{2101.89} \sqrt{1874.38}} = \mathbf{0.905} \end{aligned}$$

$$\begin{aligned} \text{Probability Error } P.E(r) &= 0.6745 \left| \frac{1 Z r^2}{\sqrt{n}} \right| \\ &= P.E(r) \times 0.6745 \left| \frac{1 Z 0.905^2}{\sqrt{5}} \right| = 0.0546 \end{aligned}$$

For SHPTI

$$\begin{aligned} \text{Correlation coefficient } r_{xy} &= \frac{(X Z \bar{X})(Y Z \bar{Y})}{\sqrt{(X Z \bar{X})^2} \sqrt{(Y Z \bar{Y})^2}} \\ &= \frac{66.11}{\sqrt{78.47} \sqrt{309.1}} = \mathbf{0.424} \end{aligned}$$

$$\begin{aligned} \text{Probability Error } P.E(r) &= 0.6745 \left| \frac{1 Z r^2}{\sqrt{n}} \right| \\ &= P.E(r) \times 0.6745 \left| \frac{1 Z 0.424^2}{\sqrt{5}} \right| = 0.025 \end{aligned}$$

APPENDIX-5

A. Profit & loss account of HSTP for five years from FY 2060/061 to 2064/065

Particular	2060/061	2061/062	2062/063	2063/064	2064/065
Net Sales(A)	18550.74	18547.43	14760.49	12243	16592.32
Production of materials	12247.67	10030.73	7458.48	7930.73	6866.75
Manufacturing cost	2489.06	1789.74	1928.38	2011.57	1923.8
Cost of goods manufacturing	14736.73	11820.47	9386.86	9942.3	8790.55
Add : opening stock	2387.84	1232.4	1833.4	2985.66	1172.3
Less : closing stock	1232.4	1833.4	2985.66	1172.3	1931.52
Cost of goods sold (B)	15892.17	11219.46	8234.6	11755.65	8031.33
Gross profit (A-B)	2658.57	7327.97	6525.89	487.35	8560.99
Less : operating expenses					
Administration cost	2167.13	1587.45	1775.98	2022.5	1833.62
Other operating cost	275.68	475.34	552.61	269.87	435.97
Net operating profit/(loss)	215.76	5265.14	4197.3	-1805.02	6291.4
Add : non operating income					
Misc. income	3.78	7.64	1.75	145.43	75.38
By product sales	85.94	45.84	48.94	73.84	38.47
Total income/(loss)	415.48	5318.61	4247.98	-1585.75	6405.25
Less : non operating expenses	138.72	165.34	133.14	79.97	145.83
Net profit (loss)	166.76	5153.28	4114.83	-1665.72	6259.411

Amount in Rs. ('000)

Profit & loss account of SHPTI for five years from FY 2060/061 to 2064/065

Amount in Rs. ('000)

Particular	2060/061	2061/062	2062/063	2063/064	2064/065
Net Sales(A)	6776.99	11170.38	6135.98	9496.96	9803.61
Production of materials	3685.18	3774.58	4845.26	5132.94	5187.45
Manufacturing cost	2314.02	1297.48	1351.11	2408.1	2213.98
Cost of goods manufacturing	5999.2	5072.06	6196.37	7541.04	7401.43
Add : cost of opening stock	1799.43	2114.48	966.65	1713.67	3321.06
Less : cost of closing stock	2114.48	966.65	1713.67	3321.06	4008.18
Cost of goods sold (B)	5684.15	6219.9	5449.35	5933.31	6714.32
Gross profit (A-B)	1092.84	4950.48	686.62	3563.31	3089.29
Less : operating expenses					
Administration cost	783.2	970.08	1103.46	1497.53	1473.36
Depreciation and amortization	199.36	2977.49	305.019	239.09	120.97
Net operating profit/(loss)	110.28	1002.91	721.86	1826.26	1494.97
Add : non operating income					
Vivid. income	0.4	13.93	60.56	115.84	129.27
Sales of cutting	42.84	50.4	8.5	0	1.5
Total income/(loss)	153.52	1067.24	790.92	1942.1	1625.74
Less : non operating expenses	93.24	125.51	67.53	95.24	84.14
Net profit (loss) for the year	60.29	941.73	723.38	1846.87	1541.6

**B. Balance sheet of HSTP for five years from FY 2060/061 to 2064/065
Ending 31st Ashad each year**

Amount in Rs.

(000)					
Particulars	2060/061	2061/062	2062/063	2063/064	2064/065
<u>Liabilities</u>					
Share capital	9088.767	9574.784	9178.652	9887.126	10661.688
<u>Reserve and surplus</u>					
Profit & loss A/C	274.86	4715.492	8909.024	7731.634	13665.715
General reserve	378.645	712.644	633.945	145.612	470.942
<u>Other liabilities and provisions</u>					
Outstanding salary	175.945	430.675	465.638	323.912	545.748
Provision for tax	145.475	338.675	435.945	233.225	379.675
Sundry creditors	432.739	645.339	548.683	677.786	679.394
Bonus to staff	145.944	316.832	475.814	-	235.648
Outstanding interest	74.612	188.472	223.558	190.475	142.585
Total	10716.987	16922.913	20871.259	19189.77	26781.395
<u>Assets</u>					
Fixed assets	7513.569	10098.778	10368.375	9545.473	13845.063
Debtors	588.79	975.936	1748.942	1844.108	1745.283
Cash and bank	744.839	2790.996	3299.768	2542.373	4533.111
Closing stock	1232.4	1833.4	2985.66	2172.304	2931.523
Bills receivable	274.738	518.615	1048.938	945.919	1348.745
miscellaneous expenses	174.819	272.339	446.937	996.754	1212.931
Prepaid expenses	187.832	432.849	972.639	1142.839	1164.739
Total	10716.987	16922.913	20871.259	19189.77	26781.395

**Balance sheet of SHPTI for five years 2060/061 to 2064/065 ending 31st
Ashad each year**

Amount in Rs. ('000)

Particulars	2060/061	2061/062	2062/063	2063/064	2064/065
<u>Liabilities</u>					
Share capital	8008.336	7175.775	8688.788	7961.260	8824.829
Profit & loss A/C	60.285	941.729	723.381	1846.867	1541.598
Labor provident fond	-	142.552	146.418	147.838	158.822
Tax payable	68.734	75.839	54.633	77.128	81.932
Sundry creditors	433.506	286.253	403.735	564.949	475.174
Outstanding expenses	278.432	375.937	348.286	344.943	545.338
Total	8849.293	8998.085	10365.241	10942.985	11545.761
<u>Assets</u>					
Total fixed assets	5706.977	5294.961	7571.474	7979.473	7687.903
Quick assets	104.210	140.925	171.906	141.725	216.045
Store inventories	687.754	755.403	928.078	606.005	704.962
Closing stock	1799.430	2114.484	966.459	1713.665	2321.063
Prepaid expenses	271.987	379.598	379.410	289.385	296.060
Sundry debtors	278.935	312.714	347.914	212.732	319.728
Total	8849.293	8998.085	10365.241	10942.985	11545.761