

# Unit-8: Profit Planning

## **Introduction :**

Modern business world is full of competition, indecision and exposed to different types of risks. This complexity of managerial problems has led to the development of various managerial tools, techniques and procedures useful for management in managing the business successfully. Management planning and control begins with the establishment of the fundamentals objectives of the organization, and continues as the process by which necessary resources are provided and employed effectively and efficiently toward achievement of desired levels of profits- a process that is generally called profit planning. Developing a budget is the most common and critical step in planning any economic activity. Planning horizons refers to the period of time into the future for which management should plan. Effective implementation of the planning concept requires that management of the enterprise establish a definite time dimensions for certain types of decisions. The budgeting system can be referred as a feed forward system in that by using it we attempt to anticipate what we do, what is going to happen during the budget period. That is why budgetary control has now become an essential tool of the management for controlling cost and maximizing profit i.e. in broadest sense for profit planning.

This unit contains the basic framework of budgeting, preparing the master budget, as a planning tool, just-in-time purchasing(?), zero base budgeting and at last the need for further budgeting material.(?)

## **Lesson 1 : The Basic Framework of Budgeting**

Learning objectives

After completing this lesson, you should be able to:

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### **Introduction**

Budgets are an important tool of profit planning. The profit plan through budgets results critical evaluation of many alternatives. These alternatives affect the future of the enterprise under conditions of uncertainty and risks. Budgeting exercise must begin with the quantification of goals, which an enterprise would like to achieve during the budget period. Budget is a formal expression of the future economic activities generating income and expenditure for a definite period. The budget goals should be a proper blending of what could be achieved and what an enterprise would like to achieve. So, a budget is comprehensive, which means that all the activities and operations of an organization are included in it. It covers the organization as a whole and not only some segments. The modus operandi is that budgets are prepared for each segment/ facet/ activity/division of an organization. These are integrated into an overall budget for the entire organization. Thus, the budgets for each of the components are prepared in harmony with each another.

### **Definition of Budget**

The term “budget” has originated from the French word/term “Bougette” which denotes a leather pouch in which funds are appropriated for meeting anticipated expenses. At present the same meaning applies to business management. It is common for the definition of a budget to say that a budget is an explanatory statement prepared in numerical or in monetary terms or in combination of both for a future period with a view to disclosing any detailed future courses of action. In other words it can be stated that, a budget is a blue-print of plan of action

to be followed during a specific period of time for attaining some desired objective.

According to George R. Terry , “ Budget is an estimate of future needs arranged according to an orderly basis, covering some or all of the activities of an enterprise for definite period of time.”

In the opinion of Welsch. “The budget is a formal statement of management plans and policies for a given period to be used as a guide or blueprint in that period.”

Brown and Howard defined,” A budget is a pre-determined statement of management policy during a given period which provides a standard for comparison with the results actually achieved.”

According to CIMA Official Terminology, budget is “ a plan quantified in monetary terms prepared and approved prior to a defined period of time usually showing planned income to be generated and or expenditure to be incurred during that period and the capital to be employed to attain a given objective.”

The study of the above definitions reveals the following basic fundamentals of a budget:

- Budget is a comprehensive plan of what the enterprise endeavours to achieve.
- Budget is a plan expressed either in terms of money or quantity or both for attaining some objective.
- It is prepared for a definite time period.
- It is prepared and approved prior to a definite period of time.
- It provides a benchmark and measures for the purpose of comparison.
- It is prepared in advance and refers to the future course of action.
- It indicates the managements policies the capital to be employed to achieve a given objectives.

## **Classification of Budgets:**

Budgets can be classified according to the following points of view, VIZ :

- (A) Classification according to time factor;
- (B) Functional classification;
- (C) Unit-based classification;
- (D) Classification according to flexibility factor; and
- (E) Other budgets.

***(A) Classification according to time factor :*** In terms of time factor, budgets are broadly of three types :

(1) Long-term Budgets : They are concerned with planning the operations of a firm for a period exceeding one year, may be pve to ten years. Long-term budgets are used to formulate development plans, research plans, fixed capital financing pleas etc. development plans, research plans, fixed capital financing plans etc.

(2). Short-term Budgets : They are generally prepared for a period from one month to one year with a view to achieving any short term goal . Short-term budgets are used to make plans for market sales, administrative expenses, cash requirements, and selling and distribution expenses etc.

(3) Current budgets: Budgets which are prepared for using over a very short period of time and related to current conditions are known as currents budgets. They are prepared for making very short-term plans relating to purchase of raw materials, labor costs, use of machinery, cash distribution etc. Such budgets may be prepared on fortnightly, monthly, bi-monthly, quarterly or half yearly basis and they are meant to be an elaboration of the annual budgets.

***(B) Functional classification:*** Budgets prepared for planning different areas of operating activities of a firm are known as functional budgets. So a functional budget is a budget, which relates to a major function of

the business and which is integrated with the master budget of a firm. The functional budgets also known as operating budgets includes sales budgets, production budgets, production cost budgets, selling and distribution cost budgets, purchase budgets, personnel budgets, research and development budgets, capital expenditure budgets, cash budgets, office and administrative budgets etc. The master budget, which is prepared by integrating all other functional budgets, is also an example of functional budgets. These functional budgets will be discussed in detail in lesson 2 of this unit.

(C). Unit-based classification: According to this classification budgets are of two types.

Monetary budgets: Budgets prepared in monetary unit is termed as monetary budgets. Most of the budgets prepared in a firm are monetary in nature. Examples of such budgets are sales budgets, production budgets, production cost budgets, selling and distribution cost budgets, purchase budgets, personnel budgets, research and development budgets, capital expenditure budgets, cash budgets, office and administrative budgets etc.

Non-monetary budgets: Budgets prepared in unit other than money, viz. quantity measuring unit like quintal, tones, kg, litre, gallon, number etc are known as non-monetary budgets. Examples of such budgets are raw materials usage budgets, production volume budget, sales volume budget, human resource budget etc.

Classification according to flexibility factor: According to this classification budgets are of two types.

(1) Fixed budgets: This is a budget in which targets are rigidly fixed. According to the Chartered Institute of Management Accountants (CIMA), London, “ a fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained. ” This sort of budget can only be effectively used if the level of future activity can be accurately assumed and that level can be maintained as it is. But in reality in a changing environment it is difficult to read future

precisely. For this short coming fixed or also known as static budgets are not considered to be much of use in modern business world.

(2) Flexible budgets: The flexible budgets portray the planned courses of action and expenditure for different levels of operating activity and is capable of accommodating any sort of change in the current operating level. This is a dynamic budget. It is a budget that can be adjusted to any unforeseen changes. It is also called variable or sliding scale budget. According to the Chartered Institute of Management Accountants (CIMA), London, “ A flexible budget is a budget which by recognizing different cost behavior patterns, is designed to change as volume of output changes.” ICWA, UK defines flexible budget as “a budget that, by recognizing the difference between fixed, semi-fixed and variable costs, is designed to change in relation to the level of activity.”

It is to be mentioned here that the main advantage of flexible budget lies in the fact that here the budgeted cost of actual activity is compared with actual cost of actual activity. But in case of fixed budget instead of budgeted cost of actual activity, budgeted cost of budgeted activity is compared with actual cost of actual activity.

(E) Others budgets: Budgets not included in any of the above categories may be included in a specific group and can be termed as other budgets. Examples of such budgets are repairs budget, innovation budget, human resource budget etc.

### **Definition of Budgeting**

In simple words, the managerial action of formulating budgets is known as budgeting. In other words, the act of preparing a budget is called budgeting. So, it includes the entire process of preparation of budgets. Preparation of budgets or budgeting is a planning function which requires a careful study of business situations and understanding of the business goals. On the other hand, their application or implementation is a control function. The technique of budgeting is an ongoing process that requires continuous evaluation of the past performance and estimation of future changes.

According to J,Batty. “ The entire process of preparing the budgets is known as budgeting”

In the words of Rowland and Harr , “ Budgeting may be said to be the act of building budgets”

Again according to W. J. Vatter, “ Budgeting is a kind of future tense accounting in which the problems of future are met on paper before the transactions actually occur.”

So, from the above definitions it is understandable that, budgeting does much more. It ties together the concepts of responsibility accounting, the design of information systems, and the entire managerial process of setting goals and objectives and assembling the resources required to achieve them. Thus budgetary control starts with budgeting and ends with control.

### **Advantages of Budgeting :**

Business people sometimes say that budgeting is not worthwhile because the uncertainties facing an enterprise are so great that no managers can expect to carry out plans as originally formulated. The fact that budgeting force managers to plan is important. Managers must state their premises and expectations and consider the possible consequences of their actions. A formal budgeting process provides a systematic framework for planning and control, which is more likely to be successful than a wait-and-react approach to management.

The advantages of budgeting can be stated as follows:

- a). Budgets provides a means of communicating management’s plans throughout the organization.
- b). Budgets provides definite objectives for evaluating subsequent performance.
- c). It creates an early warning system for potential problems, which gives management additional time to solve the problem.

d). It facilitates the coordination of activities within the business by correlating the goals of each segment with overall company objectives.

e). It results in greater management awareness of the entity's overall operations and the impact of external factors such as economic trends on the company's operations.

f). It makes "management by exception" possible through variance analysis and by distinguishing between controllable and non-controllable costs.

g). It contributes to positive behavior patterns throughout the organization by motivating personnel to meet planned objectives.

So, a budget is an aid to management, it is not a substitute for management. A budget cannot operate or enforce itself. The advantages of budgeting will be realized only when budgets are carefully prepared and properly administered by management.

### **Budgetary Control:**

Another important issue that needs to be discussed is budgetary control because budgetary control starts with budgeting and ends with control.

There are two separate meaningful terms included in the term "Budgetary Control". Earlier we have discussed what a budget is? At this stage we need to understand what is control? Control is the process of evaluating the allotment of duties to individuals and departments for implementing the budget and the work performed by them, finding out variations between the allotted target and performance and taking rectifying measures to overcome the variance in the future. So preparing budget i.e., budgeting and control are the two important managerial functions having a close interrelationship between them.

In the words of Welsch, " Budgetary control involves a constant checking and evaluation of actual results compared with budget goals , which should result in corrective action when indicated."



Rowland and Harr said, “Budgetary control embraces all and in addition includes the science of planning the budgets themselves and the utilization of such budgets to effect an overall management tool for the business planning and control.”

In this connection CIMA’s definition of budgetary control is also worth mentioning. It states that the budgetary control is “the establishment of budgets relating to the responsibilities of executives to the requirements of policy and continuous comparison of actual with budgeted results either to secure by individual action the objective of that policy or to provide a basis for its revision.”

The analysis of the just above definition reveals that budgetary control refers to:

- i). The establishment of budget;
- ii). Translating the plans into budgets, and relating the responsibilities of individual executives and managers to particular section of budget;
- iii). Continuous comparison of actual with budgeted results;
- iv). Stressing on the attainment of the objectives;
- v). Reconsideration of the budgets , if required.

**Comparison between Budget and Budgetary Control:**

From the discussion above it is clear that, budgets means a quantitative plan for the future course of action to be undertaken during a specific period. On the other hand, budgetary control embraces all and includes the science of planning the budgets themselves and utilization of such budgets as an overall management tool. Having a such close link between budget and budgetary control there exists certain differences between them. These differences are stated below:

Budgets	Budgetary Control
(i) Budgets is a planning tool that	(i) Budgetary control is a

estimates the future courses of action	Controlling system that ensures checking of work performed in the light of pre-fixed targets.
(ii)It clearly fixes up the work to be performed by the departments and the employees of the firm.	(ii)It not only establishes the future work schedule but also evaluates the performance by comparing the same with the pre-fix schedule and takes corrective measures for future success of plans.
(iii) Budget is forward looking. It is aimed at fixing up the targets to be achieved in a specific future period.	(iii) Budgetary control is concerned with actual performance. So it is related to present. Its objectives is to make the actual performance conform with plan.
(iv)Budgeting is a one-time job done prior to the budget period. However, due to changing situation, budget may require revision during the budget period.	(iv) Implementation of budgetary control involves measurement of actual performance and comparison of the same with the budget to analysis the variance. The process is continuous and carried out throughout the budget period.
(v)The loopholes of budget and the steps required to rectify the same are the subject matters of any budget.	(v)The budgetary control system conducts post-mortem observation of budget by comparing it with performances achieved, finds out the limitations and makes future revisions.
(vi) From the view point of a firm budgeting is only a functional tool having a restricted	(vi) On the other hand, it is whole system where in planning and controlling tools are intermingled.

application.	Budget is a tool included in budgetary control. So budgetary control has a wide area of application.
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## Assignment Materials

(A) Objective type and Multiple Choice Questions :

1. Which of the following statements are true and which are false?

- (i) A budget is a formal, quantitative expression of plans which provides a benchmark against which to measure actual performance. **T**
- (ii) If a budget is to provide a basis for evaluating departmental performance, departmental managers should not know the budgeted amounts. **F**
- (iii) Budgeting forces managers to think ahead and to anticipate and prepare for changing conditions. **T**
- (iv) Budgets prepared for planning different areas of operating activities of a firm are known as Functional budgets. **T**
- (v) A fixed budget is a budget which is designed to change irrespective of the level of activity actually attained. **F**
- (vi) Flexible budget less in the fact that the budgeted cost of actual activity is compared with actual cost of actual activity. **T**
- (vii) Budgetary control starts with budgeting and ends with control. **T**
- (viii) The best way to establish budget figures is to use last years' actual cost and activity data as current years' budget estimates. **F**
- (ix) Budgets are essentially planning devices, rather than control devices. **F**
- (x) Budget data are generally prepared by top management and distributed downward in an organization. **F**

## (B) Multiple Choice

2. Choose the best answer for each of the following questions by placing the identifying letter in the space provided to the left.

- (i) The benefits of budgeting include all but one of the following statement below :
- (a) Management can plan ahead;
  - (b) An early warning system is provided for potential problems,
  - (c) It enables disciplinary action to be taken at every level of responsibility;
  - (d) The coordination of activities is facilitated
- (ii) Detailed budget data are generally prepared by :
- (a) the accounting department;
  - (b) top management;
  - (c) lower levels of management;
  - (d) the budget committee;
  - (e) none of the above.
- (iii) The essentials of effective budgeting do not include :
- (a) top down budgeting;
  - (b) management acceptance;
  - (c) research and analysis;
  - (d) sound organizational structure.
- (iv) Managers need budgets for all of the following reasons except :
- (a) to guide them in allocating resources;
  - (b) to maintain control;
  - (c) to enable them to measure and reward progress;
  - (d) to determine which individual to hire.
- (v) An example of an functional budget is :
- (a) capital budget;
  - (b) research and development budget;
  - (c) sales budget;
  - (d) budgeted balance sheet.
- (vi) The first step in preparing the functional budget is preparing the :

- (a) sales budget;
  - (b) Operating expense budget;
  - (c) purchase budget;
  - (d) budgeted income statement.
- (vii) Compared to budgeting, long-range planning generally has the :
- (a) same amount of detail;
  - (b) longer time period;
  - (c) same emphasis;
  - (d) same time period.
- (viii) The budget for a merchandising company differs from a budget for a manufacturing company because :
- (a) a merchandise purchase budget replaces the production budget;
  - (b) the manufacturing budgets are not applicable;
  - (c) none of the above;
  - (d) both (a) and (b).
- (ix) The master budget quantifies targets for all of the following except:
- (a) sales;
  - (b) production;
  - (c) markets;
  - (d) cost-driver activity.
- (x) Which of the following is not a major benefits of budgeting?
- (a) it compels managers to think ahead;
  - (b) it provides definite expectations that are the best framework for judging subsequent performance;
  - (c) it aids managers in coordinating their efforts, so that the objectives of the firm as a whole match the objectives of its parts;

- (d) it allows managers to operate day to day, reacting to current events rather than planning for the future.

**(C) Descriptive Questions :**

1. What is the difference between planning and profit planning?
2. "The budget is an aid to management not substitute for management". Comment.
3. "The attitude of top management is crucial to the success or failure of the budgetary system". Do you agree? Discuss.
4. What do you mean by a budget? State the problems that may be faced by the management in the absence of the preparation of a budget.
5. "Budgets are half-used if they serve only as planning device". Comment.
6. Do you think that sales forecasting is an essential element in budgeting control? Justify your answer?
7. Name the different types of budgets that are built up for effective control.
8. Distinguish between fixed budget and flexible budget. In what types of concerns flexible budgets can be useful?
9. What is a budget? What is meant by budgetary control? How do you distinguish between the two. What is the importance of budgetary control?
10. "Budgeting is not just a number game, it is a complete human process", critically examine this statement.

## **Lesson 2: The Master Budget: A Planning Tool**

Learning objectives

After completing this lesson, you should be able to :

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### **Introduction**

The earlier lesson dealt with general aspects of budgeting and concentrated on the basic framework of budgeting. This lesson deals with the analytical and technical aspects. In this lesson discussion will be made to difficult problem of budgeting sales, from which all other budgets flow. The outcome of the budgeting process will be the collection of a series of subsidiary or functional budgets into a total or master budget. The master budget is developed within the framework of a sales forecast that includes potential sales for the firm and the its expected share of such sales.

### **Definition of Master Budget:**

A master budget is, essentially, an overall budget for an entire organization. In reality, it is an amalgamation of smaller specialized budgets, each based on information provided by appropriate manager.

According to **ICMA, London**, “ The master budget, incorporating its component functional budgets which is finally approved, adopted and employed.”

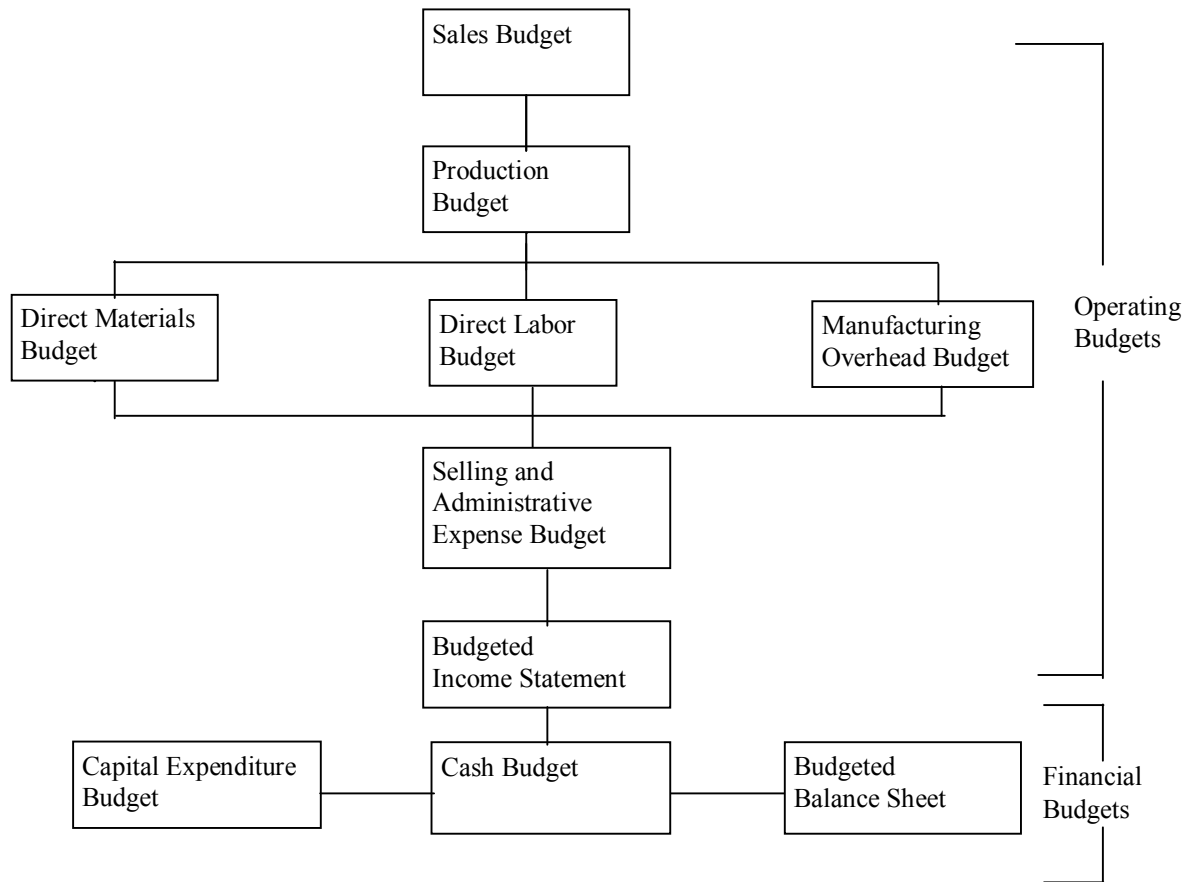
**Davidson and other state**, “The master budget, sometimes called the comprehensive budget is a complete blueprint of the planned operations of the firm for a period,”



So, the master budget, the principal output of a budgeting system, is a comprehensive profit plan that ties together all phases of an organization's operations. For this reason the master budget is often called a controlling budget. A master budget is also called operating budget or "pilot model". A master budget is treated as a governing document for the operations of the business during the period it covers. It is in fact a comprehensive but coincised statement of a company's operating policy for the budget period.

**Preparation of Master Budget:**

The master budget is comprised of a number of separate budgets, or schedules, that are interdependent. The following Exhibit portrays an overview of the various parts of the master budget and their interrelationships in a flowchart.



### **Figure7.1: Components of the Master Budget**

It is understandable from the above figure that, there are two types of budgets in the master budget. The figure diagrams the relationship among various budgets. The first one being operating budget include the individual budgets that conclude in the preparation of the budgeted income statement. The primary objective of operating budget or functional budget is to set goals for the company's sales and production personnel. On the other hand, financial budgets include the cash budget and the budgeted balance sheet. The objectives of these budgets are to focus on the cash resources needed to fund future expected operations and intended capital expenditures.

Preparation of master budget is a multifaceted process that requires much time and effort by management at all levels. At this stage we will discuss the modus operandi of preparing master budget keeping in mind that it is the amalgamation of operating budgets and financial budgets.

#### **Preparing the Operating Budgets:**

##### ***The Sales Budget:***

The sales budget is the starting point in the development of the master budget. It is the key budget that leads to the preparation of all other functional budgets. A budget prepared with the object of expressing in physical quantities and /or in money values the probable sales of a specific future period is known as sales budget. The sales budget is derived from the sales forecast, and it represents management's best estimate of sales revenue for the budget period. It is to be noted that, sales is one of the most important sources of revenue and any error in the sales budget will have undesirable effect on all other functional budgets of the organization.

Sales forecasting techniques can vary from simple estimates based on past experience to sophisticated statistical approaches (such as regression analysis, probability distribution for sales are often used) and computer

models. Whichever model is used, some prediction must be made concerning how many of each product can be sold in the coming budgeted year and what price they can be sold.

Major factors considered when forecasting sales include the following:

- (1). The past period's sales broken down by product line, types of customers, territories, and seasonal variations.
- (2). Present market share modified by future expectations.
- (3). Pricing policies modified by C-V-P analysis.
- (4). General economic trends.
- (5). Economic conditions of the particular industry.
- (6). Other factors expected to affect sales in the industry.
- (7). Disposable income of the consumers.
- (8). Political and legal events.
- (9). The intended pricing policy of the company.
- (10). Advertising and promotion.
- (11). New product entries.
- (12). Expected actions of competitors.
- (13). Market research studies.
- (14). Backlog of unfilled orders.
- (15). Proposed management policies.

Considering the above factors in forecasting sales, the sales budget is prepared by multiplying the expected unit of sales volume for each product by the anticipated unit-selling price. Moreover, the projected sales revenue may be classified as cash and credit sales and by geographical regions, territories, or sales representatives.

### ***The Production Budget:***

Once the sales forecast and the sales budgets are completed, the next phase is to prepare the production budget. A production budget is a formal plan prepared to express the probable volume of production and its expected cost for the coming year based on budgeted sales and budgeted inventories of finished goods. The responsibility of preparing total production budget lies with the works manager, while the departmental managers or the supervisory officers prepare departmental production budget.

The person responsible for preparing production budget should consider following factors in preparation of production budget:

- (1). Maximum production capacity of the industry.
- (2). Production planning of the concern.
- (3). Management's policy regarding production and purchase of components.
- (4). Available storage facility.
- (5). Amount of investment needed.

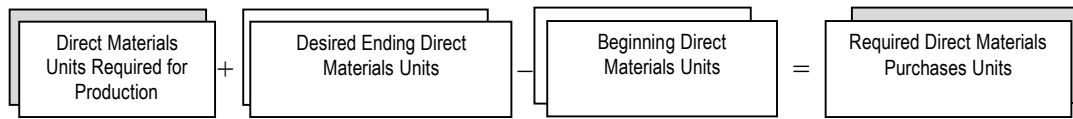
Without considering work-in-process inventory, the production budget in units may be calculated as follows :

$$\begin{array}{|c|} \hline \text{Budgeted Sales} \\ \hline \text{Units} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Desired Ending} \\ \hline \text{Finished Goods Units} \\ \hline \end{array} - \begin{array}{|c|} \hline \text{Beginning Finished} \\ \hline \text{Goods Units} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Required Production} \\ \hline \text{Units} \\ \hline \end{array}$$

### ***Direct Materials Budget:***

Direct material budget is prepared with a view to ensure regular supply of direct material of the required quantity according to the requirements of production schedules. A direct materials budget shows the estimated quantities as well as cost of direct materials and its components required for producing goods as per production budget.

The Direct materials budget in quantities may be calculated as follows:

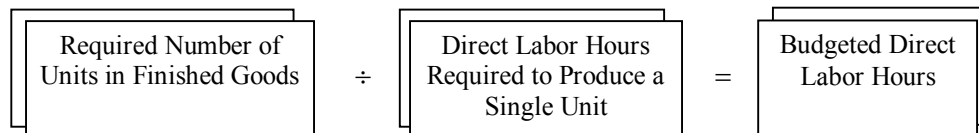


The required direct materials purchase units is then multiplied by the anticipated cost per unit to arrive at budgeted direct materials cost. The direct materials budget is subjective to various factors such as orders already placed, storage capacity, availability of discounts, economic order quantity, and most importantly by the expected changes in the price of raw materials.

### ***Direct Labor Budget:***

The direct labor budget is developed directly from the production budget. It shows the relationship between the quantities and cost of direct labor required to meet the production needs. So the budget that is prepared to estimate the direct labor cost to be incurred for producing budgeted output or for rendering budgeted services is recognized as direct labor budget.

The simple way to calculate Direct Labor budget may be as follows:



This amount is then multiplied by the hourly rate to arrive at the direct labor in cost. For a labor mix, a separate calculation is to be made for each type of labor. Direct labor budget provides management with an estimate schedule of its labor needs and helps the firm for seasonal fluctuations in direct labor requirements. The changes estimated in the rate of wages and the labor policy of management must be taken care of while preparing this budget.

### ***Manufacturing Overhead Budget:***

The manufacturing overhead budget shows the expected manufacturing overhead costs for the budget period. A budget prepared to express in detail the planned cost of all indirect expenditures for materials, labor, and other expenses for a specific future period is known as the manufacturing or factory overhead budget. This budget consists of fixed, variable and semi-variable cost components. As we know variable manufacturing overhead costs changes proportionately with the volume of production, whereas, fixed overhead and the fixed components of semi-variable overheads are apportioned to various budget centers on some equitable basis. Therefore, preparation of manufacturing overhead budget requires experience, knowledge, expertise and intelligence on the part of management personnel.

***Selling and Administrative Expense Budget:***

This budget relates to selling and distribution of products for the budget period and is based on sales budget. Selling and Administrative budget is a quantitative listing of each planned selling and distribution costs for the coming year, such as salesperson's salaries, commissions, office rent, office salaries, and the like. In this budget, as in the preceding budget, expenses are classified into fixed, variable and semi-variable; and estimate is done on the basis of past records.

***Budgeted Income Statement:***

The budgeted income statement is the significant end result in preparing operating budgets. It is important to the managers, they want to know whether budgeted operations will produce a satisfactory profit, and if not, what they might do to increase profit. Without a budgeted income statement, managers would discover unsatisfactory results after they had occurred, when it would be too late to make necessary adjustments. In addition, managers can evaluate the budgeted income statement to the actual income statement to determine if noteworthy variances exist and whether corrective action is necessary. Additionally, the only information required to prepare the budgeted income statement is the income tax rate.

We will understand the procedure of preparing budgeted income statement from demonstrat

### ***Preparing the Financial Budget :***

As shown in the figure 7.1, the financial budgets consist of the capital expenditure budget, the cash budget, and the budgeted balance sheet. In simple words, decisions involving cash inflows and cash outflows beyond the current year are come to the jurisdiction of capital expenditure. Capital Expenditure budget is a budget of future investments in fixed assets and often includes amounts for large expenditure that have long term impact on the financial worth and wealth of the firm. So the budget that provides an account of the estimated expenditure for procurement of capital assets like land, building, plant, machinery, etc. during a fixed budget period is known as capital expenditure budget. The outlay of capital expenditure budgets is normally higher as compared to operating budget; therefore such budgets require cautious planning, analysis and evaluation.

### ***Cash Budget:***

The cash budget, as its name implies, summarizes the estimated cash receipts and the estimated cash payments over the budget period. The importance of cash budget needs not to be overemphasized. Cash is the lifeblood of the business. It is considered to be the most important output in preparing financial budgets. **According to Soloman,** “ the cash budget is an analysis of flow of cash in a business over a future, short or long period of time. It is a forecast of expected cash intake and outlay.” So, cash budget objects are to ensure a balance between liquidity and profitability. This budget is significant because it helps management in planning to avoid excessive idle cash balances on the one hand or unnecessary expensive borrowing on the other. Thus, the cash budget is concerned with the timing of receipts and payments of cash (cash basis), whereas the other budgets are concerned with the timing or incurrence of the transactions themselves (accrual basis).

The cash budget contains following four major sections:

1. The cash receipts sections.
2. The cash disbursement sections.
3. The excess cash or deficiency sections.
4. The financing sections.

1. ***The cash receipts sections:*** The cash receipts sections shows a listing of all expected cash receipts from the company's principal sources of revenue such as cash sales and collections from customers on credit sales. The other sources of receipts that are included in this section are anticipated receipts of interest and dividends, proceeds from planned sales of investments, plant assets, and capital stock.
2. ***The cash disbursement sections:*** The cash disbursement sections shows all cash payments that are planned for the budget period such as, payments for direct materials, direct labor, manufacturing overhead, and selling and administrative overhead expenses. In addition, this section also contains other cash disbursement such as, projected payments for income tax, dividends, investments, equipments purchases, and withdrawals by owners.
3. ***The excess cash or deficiency sections:*** This section is the resultant of the earlier two sections. The excess cash or deficiency can be computed as follows:

$$\begin{array}{|c|} \hline \text{Beginning Cash} \\ \text{Balance} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Cash} \\ \text{Receipts} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Total Cash} \\ \text{Available} \\ \hline \end{array} - \begin{array}{|c|} \hline \text{Cash} \\ \text{Disbursements} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Excess / Deficiency} \\ \text{of Cash} \\ \hline \end{array}$$

If from the above, there is cash deficiency, the company will need to borrow additional cash to meet the cash requirement. On the other hand, if there is excess cash idle cash can be used in short-term or other profitable investment opportunities.

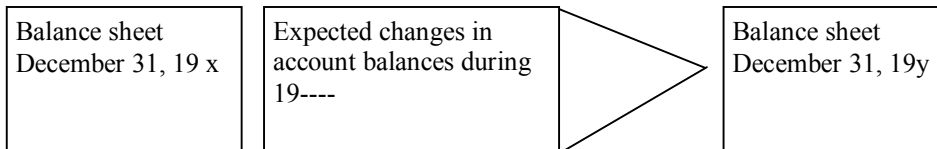
4. ***The financing sections:*** This last section shows a detailed listing of borrowings and the repayments of the borrowed funds during the budget periods. This also shows a detail of interest payments that



will be due on the money borrowed. It is to be noted here that, this financing section is needed when there is a cash deficiency or when the cash balances is below management's minimum required balance.

***Budgeted Balance Sheet:***

The budgeted balance sheet is a projection of financial position that reflects the expected balances in the accounts at the end of the budget period. It is prepared by starting with the company's balance sheet at the beginning of a specific year and adjusting cash figure for all of the expected transactions shown in the operating and cash budgets. This relationship can be exhibited from the following diagram:



The budgeted balance sheet supply management a clear idea about the firm's expected financial position at the end of the accounting period. Based on this information, management may be able to foresee probable trouble spots in liquidity and /or operating efficiency and take remedial measures to prevent their happening.

**Demonstration Problem**

**Problem 7.2.1**

Sales and manufacturing budgets. Niloy Corporation manufactures and sells two products, Barby and Darby. In July, 1999, Scarborough's Budget Department gathered the following data in order to project sales and budget requirements for 2000.

2000 projected sales :

<u>Product</u>	<u>Units</u>	<u>Price (Taka)</u>
Barby	60,000	70

Darby	40,000	100
-------	--------	-----

2000 inventories (in units) :

<u>Product</u>	<u>Expected - Jan. 1, 2000</u>	<u>Desired - Dec. 31, 2000</u>
Barby	20,000	25,000
Darby	8,000	9,000

To produce one unit of Barby and Darby, the following raw materials are used :

<u>Raw Material</u>	<u>Amount Used per Unit</u>	
	<u>Barby</u>	<u>Darby</u>
A.....	4 lbs.	5 lbs.
B.....	2 lbs.	3 lbs.
C.....	–	1 unit

Projected data for 2000 with respect to raw materials are as follows :

<u>Raw Materials</u>	<u>Anticipated Purchase Price</u>	<u>Expected Inventories Jan. 1, 2000</u>	<u>Desired Inventories Dec. 31, 2000</u>
A.....	Tk.58	32,000 lbs.	36,000 lbs.
B.....	Tk.55	29,000 lbs.	32,000 lbs.
C.....	Tk.53	6,000 units	7,000 units

Projected direct labor requirements and rates for 2000 are as follows :

<u>Product</u>	<u>Hours per unit</u>	<u>Rate per Hour</u>
Barby	2	Tk.6
Darby	3	Tk.8

Factor overhead is applied at the rate of Tk.2 per direct labor hour

**Required:** Based on the above projections and budget requirements for 2000 for Barby and Darby, prepare the following 2000 budgets :

- (1) Sales budget.
- (2) Production budget.

- (3) Raw materials purchases budget.
- (4) Direct labor budget.
- (5) Budgeted finished goods inventory at December 31, 2000 (AICPA adapted)

**Solution to Demonstration Problem**

(1) Sales Budget

	<u>Units</u>	<u>Price</u>	<u>Total</u>
Barby	60,000	Tk.70	Tk.42,00,000
Darby	40,000	Tk.100	Tk.40,00,000
Projected Sales .....			Tk.82,00,00

(2) Production Budget

	<u>Barby</u>	<u>Darby</u>
Projected Sales/Budgeted units	60,000	40,000
Desired ending inventories, Dec. 31, 2000	25,000	9,000
	85,000	49,000
Less: Expected benign inventories, Jan. 01, 2003	20,000	8,000
Required Production units	65,000	41,000

(3) Raw Materials Purchases Budget

Raw Material				
	A	B	C	Total
Barby (65000 units projected to be produced) .....	2,60,000 lbs.	1,30,000 lbs.		
Darby (41,000 units projected to be produced) .....	2,05,000 lbs.	1,23,000 lbs.	41,000 units	
Production requirement .....	4,65,000 lbs.	2,53,000 lbs.	41,000 units	
Add: Desired inventories, Dec. 31, 2000.....	36,000 lbs.	32,000 lbs.	7,000 units	
Total requirements .....	5,01,000 lbs.	2,85,000 lbs.	48,000 units	
Less: Expected inventories, Jan. 01, 2000	32,000 lbs.	29,000 lbs.	6,000 units	
Purchase requirements .....	4,69,000 lbs.	2,56,000 lbs.	42,000 units	
Cost per pound	x Tk.8	x Tk.5	x Tk.3	

Total cost of purchase .....	<u>Tk.37,52,000</u>	<u>Tk.12,80,000</u>	<u>Tk.1,26,000</u>	<u>Tk.51,58,000</u>
------------------------------	---------------------	---------------------	--------------------	---------------------

(4) Direct Labor

	<u>Projected Projection (Units)</u>	<u>Hours per Unit</u>	<u>Total</u>	<u>Rate</u>	<u>Total</u>
Barby	65,000 units	2	1,30,000	Tk.6	Tk.780000
Darby	41,000 units	3	1,23,000	Tk.8	Tk.984000
					<u>Tk.17,64,000</u>

(5) Finished Goods Inventory Budget, December 31, 2000

**Barby :**

Raw materials :

A : 4 pounds @ Tk.8 .....	Tk.32
B : 2 pounds @ Tk.5 .....	Tk.10
	<u>Tk.42</u>

Direct Labour : 2 hours @ Tk.6 Tk.12

Factory Overhead : 2 hours @ Tk.2 per  
direct labour hour Tk.4

Tk.58

∴ Tk.58 x 25,000 units ..... Tk.14,50,000

**Darby :**

Raw materials :

A : 5 pounds @ Tk.8 .....	Tk.40
B : 3 pounds @ Tk.5 .....	Tk.15
C : 1 unit @ Tk.3 .....	Tk.3
	<u>Tk.58</u>

Direct Labour : 3 hours @ Tk.8 Tk.24

Factory Overhead : 3 hours @ Tk.2 per  
direct labour hour Tk.6

Tk.88

∴ Tk.88 x 9,000 units ..... Tk.7,92,000

Budgeted Finished, Goods inventory, Dec. 31, 2000 Tk.22,42,000

**Problem 7.2.2**

Rober Inc. is preparing its annual budgets for the year ending December 31, 1996. Accounting assistants furnish the following data :

	<u>Model 222</u>	<u>Model 333</u>
<b>Sales budget :</b>		
Anticipated volume in units	400,000	180,000
Unit selling price	Tk.15.00	Tk.30.00
<b>Production budget :</b>		
Desired ending finished goods units	30,000	25,000
Beginning finished goods units	20,000	5,000
<b>Direct materials budget :</b>		
Direct materials per unit (pounds)	2	3
Desired ending direct materials units	50,000	20,000
Beginning direct materials units	40,000	10,000
Cost per pound	Tk.2.00	Tk.3.00
<b>Direct labor budget :</b>		
Direct labor time per unit	.5	.75
Direct labor rate per hour	Tk.8.00	Tk.8.00
<b>Budgeted income statement :</b>		
Total unit cost	Tk.10.00	Tk.20.00

An accounting assistant has prepared the detailed manufacturing overhead budget and the selling and administrative expense budget. The latter shows selling expenses of Tk.460,000 for product Model 222 and Tk.440,000 for product Model 333 and administrative expenses of Tk.420,000 for product Model 222 and Tk.380,000 for product Model 333. Income taxes are expected to be 30%.

***Instructions***

Prepare the following budgets for the year. Show data for each product. Quarterly budgets should not be prepared.

- (a) Sales                      (d) Direct labor

- (b) Production materials  
 (c) Direct materials  
 (e) Income statement (Note : Income taxes are not allocated to the products.)

**Solution to the Demonstrated Problem :**

(a) **Rober Innc.**  
**Sales Budget**

For the year ending December 31, 1996

	<u>Model 222</u>	<u>Model 333</u>	<u>Total</u>
Expected unit sales	4,00,000	1,80,000	5,80,000
Unit selling price	x Tk.15	x Tk.30	-
<b>Total</b>	<b>Tk.60,00,000</b>	<b>Tk.54,00,000</b>	<b>Tk.11,40,000</b>

(b) **Rober Innc.**  
**Production Budget**

For the year ending December 31, 1996

	<u>Model 222</u>	<u>Model 333</u>	<u>Total</u>
Expected unit sales	4,00,000	1,80,000	
<i>Add:</i> Desired ending finished goods units	30,000	25,000	
<b>Total required units</b>	<b>4,30,000</b>	<b>2,05,000</b>	
<i>Less:</i> Beginning finished goods unit	20,000	5,000	
<b>Required Production units</b>	<b>4,10,000</b>	<b>2,00,000</b>	<b>6,10,000</b>

(c) **Rober Innc.**  
**Direct Materials Budget**

For the year ending December 31, 1996

	<u>Model 222</u>	<u>Model 333</u>	<u>Total</u>
Units to be produced .....	4,10,000	2,00,000	
Direct materials per unit	x 2	x 3	
<b>Total pounds needed for production .....</b>	<b>8,20,000</b>	<b>6,00,000</b>	
<i>Add :</i> Desired ending direct materials (pounds)	50,000	20,000	
<b>Total materials required</b>	<b>8,70,000</b>	<b>6,20,000</b>	
<i>Less:</i> Beginning direct materials (pounds) .....	40,000	10,000	
<b>Direct materials purchases .....</b>	<b>8,30,000</b>	<b>6,10,000</b>	

Cost per pound .....	x Tk.2	x Tk.3	-
Total cost of direct materials purchases	<u>Tk.16,60,000</u>	<u>Tk.18,30,000</u>	<u>Tk.34,90,000</u>

(d)

**Rober Innc.**

**Direct Materials Budget**

For the year ending December 31, 1996

	<u>Model 222</u>	<u>Model 333</u>	<u>Total</u>
Units to be produced .....	4,10,000	2,00,000	6,10,000
Direct labor time (hours) per unit .....	x 0.50	x 0.75	-
Total required direct labour .....	<u>2,05,000</u>	<u>1,50,000</u>	<u>3,55,000</u>
Direct labor cost per hour .....	x Tk.8	x Tk.8	x Tk.8
Total direct labour cost .....	<u>Tk.16,40,000</u>	<u>Tk.12,00,000</u>	<u>Tk.28,40,000</u>

(e)

**Rober Innc.**

**Budgeted Income Statement**

For the year ending December 31, 1996

	<u>Model 222</u>	<u>Model 333</u>	<u>Total</u>
Sales .....	Tk.60,00,000	Tk.54,00,000	Tk.1,14,00,000
Cost of goods sold .....	Tk.40,00,000 *1	Tk.36,00,000 *2	76,00,000
Gross Profit .....	<u>Tk.20,00,000</u>	<u>Tk.18,00,000</u>	<u>38,00,000</u>
Operating expenses			
Selling expenses .....	4,60,000	4,40,000	9,00,000
Administrative expenses .....	4,20,000	3,80,000	8,00,000
Total operating expenses	<u>Tk.8,80,000</u>	<u>Tk.8,20,000</u>	<u>Tk.17,00,000</u>
Income before income taxes	<u>Tk.11,20,000</u>	<u>Tk.9,80,000</u>	<u>Tk.21,00,000</u>
Income tax expenses (30%)			Tk.6,30,000
Net income			<u>Tk.14,70,000</u>

\* 1 = 4,00,000 x Tk.10

\* 2 = 1,80,000 x Tk.20

**Problem 7.2.3**

Fryman Company prepares monthly cash budget. Relevant data from operating budgets for 1996 are :

	<u>January</u>	<u>February</u>
Sales	Tk.3,50,000	Tk.4,00,000
Direct materials purchases	1,20,000	1,30,000
Direct labor	80,000	95,000
Manufacturing overhead	70,000	75,000
Selling and Administrative expenses	79,000	86,000

All sales are on account. Collections are expected to be 50% in the month of sale, 40% in the first month following the sale, and 10% in the second month following the sale. Fifty percent (50%) of the direct material purchases are paid in cash in the month of purchase, and the balance due is paid in the month following the purchase. All other items above are paid in the month incurred except for the selling and administrative expenses that includes Tk.1000 of depreciation per month.

**Other data :**

(1) Credit Sales – November 1995, Tk.2,60,000; December 1995, Tk.3,00,000.

(2) Purchase of Direct materials – December 1995, Tk.1,00,000.

(3) Other receipts – January : collection of December 31, 1995, notes receivable Tk.15,000; February : proceeds from sale of securities Tk.6000.

(4) Other disbursements – February : withdrawal of Tk.5000 cash for personal use of owners.

The company's cash balance on January 1, 1996, is expected to be Tk.55,000. The company wants to maintain a minimum cash balance of Tk.50,000.

**Required:**



(a) Prepare schedules for (1) expected collections from customers and (2) expected payments for direct materials purchases.

(b) Prepare a cash budget for January and February in columnar form.

**Solution to the Demonstration Problem :**

(a) (1) Expected Collections from Customers

	<u>January</u>	<u>February</u>
November (Tk.2,60,000)	Tk.26,000	–
December (Tk.3,00,000)	Tk.1,20,000	Tk.30,000
January (Tk.3,50,000)	Tk.1,75,000	Tk.1,40,000
February (Tk.4,00,000)	–	Tk.2,00,000
Totals .....	<u>Tk.3,21,000</u>	<u>Tk.3,70,000</u>

(2) Expected Payments of Direct Materials

	<u>January</u>	<u>February</u>
December (Tk.1,00,000).....	Tk.50,000	–
January (Tk.1,20,000) .....	Tk.60,000	Tk.60,000
February (Tk.1,40,000)	–	Tk.65,000
Totals .....	<u>Tk.1,10,000</u>	<u>Tk.1,25,000</u>

(b)

**Fryman Company****Cash Budget****For the two months ending February 28, 1996**

	January	February
Beginning cash balance .....	Tk.55,000	Tk.53,000
<i>Add:</i> Receipts		
Collections from customers [See requirement (a) (1)]	Tk.3,21,000	Tk.3,70,000
Notes Receivable .....	15,000	
Sale of securities .....	–	6,000
Total receipts	Tk.3,36,000	Tk.3,76,000
Total available cash	Tk.3,91,000	Tk.4,29,000
<i>Less:</i> Disbursements		
Direct materials [See requirement (a)(2)]	Tk.1,10,000	Tk.1,25,000
Direct labour	80,000	95,000
Manufacturing overhead	70,000	75,000
Selling and administrative expenses	78,000	85,000
Withdrawal by owner		5,000
Total disbursements	Tk.3,38,000	Tk.3,85,000
Excess (deficiency) of available cash over disbursements .....	Tk.53,000	Tk.44,000
Financing		
Borrowings	- 0 -	6,000
Repayments	- 0 -	- 0 -
Ending cash balance	Tk.53,000	Tk.50,000

**Assignment Materials**

(A) Objective type and Multiple Choice Questions :

1. Which of the following statements are true and which are false?

- (i) Nearly all other parts of the master budget are dependent in some way on the sales budget. **T**
- (ii) A master budget is an overall budget for an organization. **T**
- (iii) Production budget is usually geared to the sales budget. **T**
- (iv) The master budget is also known as controlling budget and operating budget. **T**
- (v) In preparing a master budget, budgeted level for production, manufacturing costs, and operating expenses normally are determined before preparing the sales forecast. **F**
- (vi) The objective of operating budget is to set goals for the company's sales and production personnel. **T**
- (vii) A sales budget is different from a sales forecast. **T**
- (viii) The first step in preparing the master budget is the preparation of the budgeted income statement. **F**
- (ix) Master budget is the amalgamation of operating budgets and financial budgets. **T**
- (x) Budgeted purchases are equal to the cost of goods sold plus any beginning inventory. **F**
- (xi) The primary purpose of the cash budget is to show the expected cash balance at the end of the budget period. **F**
- (xii) Depreciation is not included as part of a cash budget. **T**
- (xiii) The accuracy of estimated purchases budgets, production schedules, and costs depends on the detail and accuracy of the budgeted operating expenses. **F**
- (xiv) Manufacturing overhead budget consists of fixed, variable and semi-variable cost components. **T**

- (xv) The preparation of a budgeted balance sheet requires consideration of the cash inflows and outflows scheduled in the cash budget. **T**

**(B) Multiple Choice**

2. Choose the best answer for each of the following questions by placing the identifying letter in the space provided to the left.

(i) The master budget includes forecasts for all of the following except:

- (a) sales;
- (b) number of employees;
- (c) balance sheets;
- (d) cash disbursements.

(ii) Master budgets are sometimes called :

- (a) pro forma statements;
- (b) capital budgets;
- (c) strategic plans;
- (d) accounting budgets;
- (e) none of the above.

(iii) The second step in preparing the master budget is preparing the :

- (a) sales budget;
- (b) budgeted income statement;
- (c) cash budget;
- (d) budgeted balance sheet.

(iv) Sales forecast and sales budget :

- (a) are synonyms for each other;
- (b) connote different things sales forecast is a forecast of market situations, the sales budget reflects the management plan to achieve a given sales target;

(v) If the beginning cash balance is Tk.30,000; the required ending cash balance is Tk.24000; cash disbursements are Tk.2,50,000; and

cash collections from customers are Tk.180000; the company must borrow :

- (a) Tk.64,000;
- (b) Tk.40,000;
- (c) Tk.16,000;
- (d) Tk.76,000.

(vi) The last step in preparing the financial budgets is preparing the :

- (a) budgeted income statement;
- (b) cash budget;
- (c) budgeted balance sheet;
- (d) sales budget.

(vii) Identify the major part of the master budget that focuses on the income statement and its supporting schedules?

- (a) operating budget;
- (b) financial budget;
- (c) cash budget;
- (d) capital budget.

(viii) A statement of planned cash receipts and disbursements is called :

- (a) operating budget;
- (b) cash budget;
- (c) fixed budget;
- (d) flexible budget.

(ix) The production schedule in units:

- (a) cannot be prepared until the budgeted income statement is completed;
- (b) Is independent upon the sales forecast for the period;
- (c) Is based upon the manufacturing cost budget, that is, upon the level of funds available for manufacturing costs;
- (d) Is the starting point in the preparation of the master budget.

- (x) If a company is planning to purchase inventory for resale costing Tk.9,000 in October; Tk.70,000 in November; and Tk.40000 in December. The company pays for Tk.40% of its purchases in the month of purchase and 60% in the month following purchase. What would be the budgeted cash disbursements for purchases of inventory in December?
- (a) Tk.40,000;
  - (b) Tk.70,000;
  - (c) Tk.58,000;
  - (d) Tk.2,00,000.
- (xi) Preparation of a budgeted income statement does not require :
- (a) Estimates of cost of goods sold;
  - (b) Estimates of the timing of cash receipts and payments;
  - (c) Preparation of a sales forecast;
  - (d) Anticipation of operating expenses.
- (xii) A company has budgeted sales of 30,000 units in April, 40,000 units in May, and 60,000 units in June. The company has 6000 units on hand on April 01. If the company requires an ending inventory equal to 20% of the following months sales, production during May should equal :
- (a) 32,000 units;
  - (b) 44,000 units;
  - (c) 36,000 units;
  - (d) 40,000 units.

**(C) Descriptive Questions :**

1. Explain- What a master budget is and explain five of its parts.
2. Distinguish between a master budget and a sales forecast.
3. "The production budget shows both unit production data and unit cost data". Is this true? Explain.
4. How and why cash budgets are prepared?

5. What is a sales budget and how is it prepared.
6. What is a cash Budget? What are its advantages? How is it prepared?
7. What is meant by the term operational budgets? List three operational budgets that would be prepared by a municipal corporation.
8. The master budget contains both operational and financial budgets. What is the difference between an operating budget and a financial budget? How do they relate to each other?
9. How are the production budgets and materials purchasing budgets similar? How are they different? When is each used?
10. What is the formula for determining required merchandise purchases in a merchandising company?
11. In estimating the overhead budget, why is it necessary to separate overhead into its variable and fixed components?
12. Why is the cash budget so important to an organization? If the cash budget identifies a period in which a cash shortage is expected, what action can a firm take?

## **Lesson 3 : Zero Base Budgeting**

Learning objectives

After completing this lesson, you should be able to:

- \*
- \*
- \*
- \*

### **Introduction**

Zero-Base-Budgeting (ZBB) is a new technique designed to revitalize budgeting. This system of budgeting was first introduced in a formalized way in the United States Department of Agriculture in preparing its 1964 fiscal year budget. Later, *Peter A. Puyhrr* designed its logical framework in 1970 and successfully developed, implemented and popularized its wider use at Texas Instruments, a private company, as a tool for planning, budgeting and control. He is, therefore, rightly termed as the "Father of Zero-Base Budgeting". He first applied it to the Staff and Research Divisions of the Company in preparing their 1970 budget. Finding it work successfully there, he extended it to other Divisions of Texas Instruments while preparing their 1971 budgets. Based on his experience, he published an article in November/December 1970 issue of Harvard Business Review, which caught the attention of Jimmy Carter, the Governor of Georgia state, who adopted it in formulation of the budget in a government system for the fiscal year 1973 (July 1972-June 1973).

### **Zero-Base Budgeting : A Definitional Outline**

Zero-Base Budgeting (ZBB) requires that an organization while preparing their budgets should not take earlier year's expenditure for granted and, therefore, should start on a clear slate. It implies that while



framing its budget for the ensuing year an organization should start from ground zero instead of treating the current budget as the starting point or the base. The concept of Zero-Base Budgeting requires that activities of an organization should be viewed afresh, and priorities among competing claims for allocation of funds settled on the basis of justifications developed by the use of evaluation techniques, like cost-benefit analysis, cost-effectiveness analysis, and on other desirable considerations.

Graema (1977) observed : "In the most literal sense, Zero Base Budgeting implies constructing a budget without any reference to what has gone before, based on a fundamental reappraisal of purposes, methods and resources". It has been defined in the ICMA Terminology thus: "A method of budgeting whereby all activities are re-evaluated each time a budget is formulated. Each functional budget starts with the assumptions that the function does not exist and is a zero cost. Increments of costs are compared with the increments of benefits culminating in the planned maximum benefits for a given budgeted cost" (Owler, 1987).

Peter (1973) published a book entitled "Zero-Base Budgeting-a practical management tool for evaluating expenses", explaining the process of ZBB, he mentioned in the book : "The process requires each manager to justify his entire budget request in detail, and puts the burden of proof on him to justify why he should spend any money.....Zero base budgeting provides top management with detail information concerning the money needed to accomplish desired ends. It spotlights redundancies and duplication of efforts among departments, focuses on dollars needed for programs rather than on the percentage increase (or decrease) from the previous year, specifies priorities within and among departments and divisions, allows comparisons across these organizational lines as to the respective priorities funded, and allows a performance audit to determine whether each activity or operation performed as promised". Zero Base Budgeting is most applicable in planning service and support expenses rather than direct manufacturing expenses. This technique is best suited to operations and programs over which management has some discretion.

For example, it can be used to develop : Administrative and general support, Marketing, Research, Engineering, Manufacturing support, Capital budgets. It should not be sued for Direct labour, Direct materials and Factory overheads (Shim and Siegal, 1990).

We can view ZBB from the more positive perspective from the following definition : "ZBB is a planning and budgeting process requiring each manager to (i) establish objectives for his or her function and gain agreement on them, (ii) define alternative ways of achieving these objectives, (iii) select the most practical way of achieving each of these objectives, (iv) break that alternative up into incremental levels of efforts, (v) assess the cost and benefit of each incremental level, and (vi) describe the consequences of disapproval. The budget submission is then described in decision packages, each reflecting one of these incremental levels. All the packages are ranked in order or priority and those above a pre-defined level of affordability or decision point are approved and funded while all others are deferred or eliminated" (Austin and check, 1979).

In conventional or current budget generally no reappraisal of ongoing activities is undertaken when the budget is prepared whereas in ZBB appropriations for the existing programes and activities also required to be justified in each year's budget rather than adding them in the budget as a matter of routine. The following table highlights the key differences between ZBB and traditional (incremental) budgeting system (Shim and Siegal, 1990).

<b>Traditional</b>	<b>Zero Base</b>
Starts from existing base	Starts with base Zero
Examines cost-benefit for new activities	Examines cost-benefit for all activities
Stars with money (taka/repees)	Starts with purposes and activities
Does not examine new ways of operating as integral part of process	Explicitly examines new approaches

Results in non-alternative budget

Results in a choice of service and cost

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### **How Does It Work :**

As currently practiced, ZBB is used in any area on which we can conduct a cost/benefit analysis and for which we do now have (or where it would be uneconomic to develop) standard costs. Normally, such areas include the classic overhead function of finance and accounting, personnel, insurance, legal and management services, marketing, manufacturing and sales staff, research, engineering and forward product development. Because of its programme orientation, ZBB can also be used in capital budgeting. Reduced to its essentials, ZBB involves five steps; defining decision units; setting objectives, developing decision packages, ranking the packages and conducting a performance audit (Austin and Check, 1979). These are discussed separately as follows :-

**1. Defining Decision Units :** A decision unit is a cluster of activities for which a given manager can be held accountable and for which we can define an input (or cost) and output (or benefit). It can be a cost centre (such as the administrative service section), a group of people performing the same function (such as all the departments secretaries) or a multifunctional project, program or product that can be readily tied to broader organizational objectives.)

During the initial implementation phases of ZBB, most organizations elect to use their existing budget centres as decision units. Economics suggest the reason : This approach does not require an expensive change in existing reporting and control systems. But as process evolves away from budgeting and more toward planning, the decision units come to be defined and coded so as to tie in (a) Organizationally to a department (such as personnel), (b) Functionally by the product and service being delivered (such as secretarial services), (c) Strategically by the overall organizational objective being supported (such as a new-product launch).

**2. Setting Objectives :** Setting ZBB decision unit objectives draws heavily on the teaching of Management BY Objectives (MBO). Again, during the initial implementation phase of ZBB, most organizations allow the decision unit manager to set his own charter, build a supporting pyramid of objectives and gain the concurrence of his superiors on them. As the process evolves, this objectives-setting process becomes inexorably linked to higher level planning process that helps organizational goals and strategies. Those organizations already enjoying the luxury of a successful and well-entrenched MBO system find ZBB an invaluable adjunct to translate broader organizational goals and objectives into tactical implementation plans and measure and control the achievement of such objectives.

**3. Development Decision Packages :** Translating objectives into tactical plans is accomplished through the decision package. A decision package has been defined as "An identification of a discrete function or operation in a definitive manager for management evaluation and comparison to other functions". The elements of a decision package are :

- (i) The objective or goal of the effort.
- (ii) A brief description of the proposal approach.
- (iii) Alternative ways considered but rejected.
- (iv) The costs and benefits of the proposed approach, as well as any appropriate quantitative performance measures.
- (v) An assessment of what will happen if the package is disapproved or not funded.

The experienced manager will quickly note that the decision package is nothing more than the old problem-solving process rolled up in a piece of paper.

**4. Ranking the Packages :** As we formulate our decision packages, we involve ourselves in a deep intellectual thought process of searching out alternative ways, choosing among the best of them and breaking up the

chosen alternative into incremental level of effort (or level of service). But the search for alternatives through ZBB does not end there. Having created our decision packages, we must force ourselves to choose among them. Several techniques may be employed for ranking, ranging from management committees that vote on the packages to more sophisticated approaches involving decision tables and paired comparisons. However, in all cases, the end product is ranking schedule ordering the decision packages by priority.

**5. Conducting a Performance Audit :** Without control, the value of any planning system is questionable. ZBB is no different. Once packages have been approved and funded, their execution must be judiciously monitored. In most cases, this is done through the normal management review cycle. But for a select number of packages, top management, the internal audit staff, or even the board of directors (or the legislature) may play a strong role to assure achievement against commitment.

#### **Advantages of Zero Base Budgeting**

Zero base budgeting is a very healthy process that promotes self-searching among the managers. It is used with the object of finding out most useful alternatives for available resources of a company. According to Maheshwari and Gupta, (1992) this technique offers the following advantages-

- (a) It provides the organization with a systematic way to evaluate different operations and programmes undertaken by the management. it enables management to allocate resources according to priority of the programmes.
- (b) It ensures that every programme undertaken by the managers is essential for the organization and is being performed in the best possible way.
- (c) It enables the management to approve departmental budgets on the basis of cost benefit analysis. No arbitrary cuts or increases in budgets estimates are made.

- (d) It helps in identifying areas of wasteful expenditure and if desired, it can also be used for suggesting alternative courses of action.
- (e) It links budgets with corporate objectives. Nothing will simply be allowed only because it was being done in the past, if it does not help in achieving the goals of the enterprise.
- (f) It can be used for introduction and implementation of the system of management by objectives. Thus it can not only be used for fulfillment of the objectives of traditional budgeting but it can also be used for a variety of other purposes.

### **Limitations of Zero-Base Budgeting**

For all its merits, implementation of ZBB is not without difficulties. Shim and Siegal, (1979) describes the limitations of Zero Base Budgeting due to the following problems-

- (a) Zero Base Budgeting is perceived as an implied threat to existing programs.
- (b) ZBB requires a good data system to support analysis and in many cases no such system exists.
- (c) ZBB increases the demand of time placed on line managers.
- (d) Managers tend to overlook the goal in evaluating activity units and focus on personnel security and interests.
- (e) Thrust usually comes from top to bottom and subordinates see little benefit for themselves.
- (f) The thought of creating a budget from scratch usually causes considerable resistance given the lack of support groups and training programmes.

## Assignment Materials

(A) Objective type and Multiple Choice Questions :

1. Which of the following statements are true and which are false?

- (i) Zero base budgeting is a new technique designed to revitalize traditional budgeting. **T**
- (ii) Jimmy Carter rightly termed as the father of Zero base budgeting. **F**
- (iii) ZBB is a method of budgeting whereby all activities are re-evaluated each time a budget is formulated. **T**
- (iv) ZBB is most not applicable in planning service and support expenses but for direct manufacturing expenses. **F**
- (v) ZBB is a planning and budgeting process which do not require to define alternative ways of achieving objectives. **F**
- (vi) In conventional on current budget generally no reappraisal of ongoing activities is undertaken. **T**
- (vii) A decision unit is a cluster of activities for which it is possible to define an input (cost) and output (or benefit). **T**
- (viii) ZBB do not provide systematic way to evaluate different operations and programmes undertaken by the management. **F**
- (ix) ZBB is perceived as an implied threat to existing programs. **T**
- (x) ZBB can be used for introduction and implementation of the system of management by objectives. **T**

## (B) Multiple Choice

2. Choose the best answer for each of the following questions by placing the identifying letter in the space provided to the left.

- (i) Zero base budgeting was first introduced in a formalized way in the year :
- (a) 1964
  - (b) 1970
  - (c) 1971
  - (d) 1973
- (ii) The Father of Zero base budgeting is :
- (a) Jimmy Carter
  - (b) Charles T. Gornge
  - (c) Peter A. Pyhnn
  - (d) Robert McNamara
- (iii) Which of the following steps involved in ZBB :
- (a) Defining decision units and setting objectives
  - (b) Development decision packages
  - (c) Ranking packages and conducting performance audit
  - (d) All the above
- (iv) Zero base budgeting is based on the application of :
- (a) Opportunity cost
  - (b) Sunk cost
  - (c) Variable cost
  - (d) Fixed cost
- (v) The advantages of zero base budgeting include all but any one of the following statement below :
- (a) It provides the organization with a systematic way to evaluate different operations and programmes
  - (b) It ensures that every programme undertaken by the managers is essential
  - (c) It enable the management to apply cost-benefit analysis and to identify areas of wasteful expenditures.



(d) All the above

**(C) Descriptive Questions :**

1. What do you mean by zero-base budgeting? Why is it necessary?
2. "The beauty of the zero base budgeting lies in the fact that decision unit managers take decisions regarding their budgets, without taking away the right of top authority to make budget allocation. Explain the paradox in the statement.
3. What are the different steps involved in the preparation of zero-base budgeting? How is the ZBB useful to the business.
4. How is the ZBB different from conventional budgeting?
5. What are the difficulties in implementing zero-base budgeting?