UNIT TWO

MASTER BUDGET AND RESPONSIBILITY ACCOUNTING

2.1. Introduction

This unit contains two different topics Master Budget and Responsibility Accounting. The first portion is about master budget which is an important management accounting tool for planning future activities and controlling current operation in the organization. Budgets are crucial to the ultimate financial success of any organization. Budgets are so important, mainly because they serve as road map towards achieving organizational goals. Budgets as a management accounting tool helps management in planning, controlling and performance evaluation. In this unit you will study how budget is used in planning the operation of an organization.

2.2. Budget and the Budget Cycle

Most people associate the word "budget" with the approving, rejecting of resource spending. If we associate budget with the government activities, governments usually request their various agencies to prepare their resource requirement so as to examining and approve the reasonableness and importance of the budget. Once the approved, the budget then will be used as a blue print for the agencies activities and means of controlling and limiting their spending.

In contrast, most business organizations use budget to focus attention on their companies' operation and financial implication of their planned operation; not just to limit spending. Budget highlights potential problem and advantage early, allowing management to take steps to avoid these problems or use the advantages wisely.

Thus, a budget is a tool that helps managers in both their planning and control function. A budget is a formal written summery (statement) of management plan for a specific future time period expressed in financial terms. It normally represents primary means of communicating agreed up on objectives throughout the business organization. Once adopted, a budget becomes an important basis for evaluating performance. Thus it promote efficiency and serves as a deterrent to waste and inefficiency

☞ ***Budget in brief is a future plan of action expressed in quantitative terms which is also an aid to management control and performance evaluation***

Budget can cover both financial and non financial aspects of the plan that can serve as blue print for the organization to follow in an upcoming period. A budget covers financial aspects and quantities of management expectation regarding income, cash flows, and financial position. Like financial statements present the historical financial condition and operating results of the business, budgeted balance sheet, cash flow and income statement are also prepare to show the future financial condition and operational performance. Budgeted financial statements are usually supported by detail schedule of the various operation of the firm, so budget also include nonfinancial aspects of the plan such as units of output to be produced and sold, number of employee and working hours, etc.

Budget is a cyclical and sequential activity. In a well managed companies, budget usually cycles through the following steps:

1. Planning the performance of the company as a whole, as well as planning the performance of its subunits (such as department or divisions). Managers at all level agree on what is expected.
2. Providing a frame of reference, a set of specific expectations against which actual results can be compared
3. Investigating variations from plans. If necessary, corrective action follows investigation
4. Planning again, in light of feedback and changed condition.

2.2.3. Purposes of Budget

Budget prepared as a formal business plan is used by all managers at different functional areas and managerial level. Further budget is used by all types of organizations, be it a business organization, government organization or NGO. When administered wisely budget can provide the following benefits:

i. Efficient Allocation of Resources

Resource available to meet the objective of any organization is generally limited; therefore efficient allocation of recourse is one of the prerequisite for successful attainment of organizational goal. For example, an office of a city Administration must allocate its revenue among basic societal service such as security and protection, heath, education, infrastructure etc. In the case of business organizations, the well designed business strategy hardly become successful without availability and efficient allocation of resource. Therefore, adopting formal budgetary process helps organization to identify the resource requirement of the planed activity and allocate in accordance to the priority of each operation in achieving organizational objective.

ii. **Compel strategic planning and implementation of plans**

The budgeting process forces managers to plan ahead. The development of budget triggers managers to plan their operation ahead as well as to prepare on the ways of talking any change during the implementation of the plan.

Budget enable the successful implementation of strategy that is why in most business organization budget is considered as an integral part of strategic planning and implementation.

iii. Facilitating coordination and communication

For any organization to be effective, each manager throughout the organization must be aware of the plan made by other managers. In large and diverse organizations the problem of coordination becomes critical. An important role of budgeting is to improve the coordination among the various units of the organization. Planning or budgeting means establishing objectives in advance and identifying the steps by which the objectives are to be accomplished. The planning process initiates coordination and clarification of sub-goals to achieve major enterprise goals. The coordinated plan or budget provides a blue print for implementation and control.

- ***A good budgeting process facilitates communication in all direction in the organization and help coordinating the various resources, manpower and units of the organization so that goal of the organization is achieved.***

iv. Frame work for judging performance

Once plans are in Place, Company's performance can be measured against the budget established for those plans. Budget can overcome two limitations of using past performance as abases of judging actual results. one limitation is that past results incorporate past misuse and sub standard performance and the other limitation of using past performance is that the future conditions may be expect to differ from the past.

- ***As a performance evaluation basis budgeted performance are better than actual results.***

V. Motivating Managers and Employees

Research shows that budgets that are challenging improve performance. An inability to achieve budget numbers is viewed as filer. Most individuals are motivated to work more intensely to avoid failure than to achieve success. As individuals get closer to goal they work harder to achieve it. For this reason many executives like to set challenging but achieve goal for their subordinates .Creating attitude of anxiety improves performance, but overly ambitious and unachievable budget increase anxiety without motivation that is because individuals see little chance of avoiding.

2.3 Types of Budget

Different organizations prepare budget using different techniques that may be grouped as follows:

(1) **Incremental budgeting**: is a budget set based on past year's actual performance. In this technique a budget for the coming year is simply this year budgeted or actual results plus or minus some amount for expected change on planned operation or change in the market price. This budgeting technique is easy and widely used, however it has its own draw back. As the base is the current year performance or budget any anomaly in the current year performance or budget may be incorporated in the budget.

(2) **Zero based budgeting**: In a dynamic business it often makes sense to 'start afresh' when developing a budget, rather than basing ideas too much on past performance. In this technique each budget is therefore constructed without much reference to previous budgets. Preparing a budget afresh is usually required in most business

organizations, where the business environment is volatile that require continues effort of incorporating changes in budget thinking.

(3) **Rolling budgets**: Given the speed of change and general uncertainty in the external environment, shareholders seek quick results. US companies typically report to shareholders every three months, compared with six months in the UK. Rolling budgets involve evaluating the previous twelve months' performance on an ongoing basis, and forecasting the next three months' performance.

(4) **Strategic budgeting:** This involves identifying new, emerging opportunities, and then building plans to take full advantage of them. This is closely related to zero based budgeting and helps to concentrate on gaining competitive advantage.

(5) **Activity based budgeting**: This examines individual activities and assesses the strength of their contribution to company success. They can then be ranked and prioritized, and be assigned appropriate budgets.

A master budget involves the development of a complete set of financial statement for the budget period with supporting schedule. The primary responsibility for developing a master budget is given to the controller and her or his staff. In large organization, a special budget committee will be formed.

The budget committee is usually composed of several key executive from various segment of the organization. People from finance, sales, purchasing, production, engineering and accounting are usually represented. The procedure followed by this committee in developing the budget is largely determined:

- By the authority it has over the finance budget
- By the amount of participation it allows from others within the organization.

The authority of the budget committee is determined by top management philosophy; top management may have a predetermined profit objective in mind and will look to the budget as a means to accomplish it. This objective may be stated in variety of ways, such as rate of return on net asset, earning per share, or a specific amount of net income. It may be based on operating results of previous years adjusted for expectations about the coming year or some desired level of profitability. When top management has a predetermined profit objective, the budget committee must recognize it and develop a budget that will achieve it.

2.3.2. Process of Developing a Budget

Although each organization is unique in the way it puts together its budget, all budgeting process share some common elements. After organizational goals, strategies, and long range plans have been developed, work begins on the master budget, a detailed budget for the coming fiscal year with some detail.

The master budget is a comprehensive financial plan for a business. It is made up of the Operating and Financial budgets, which are in turn made up of supporting schedules (budgets). To envision the master budget process, picture the financial statements most commonly prepared by companies: The income statement, the balance sheet, the cash flow statement. Then imagine the preparation of these statements before the fiscal period operational period.

2.3.2.1. Parts of A Master Budget

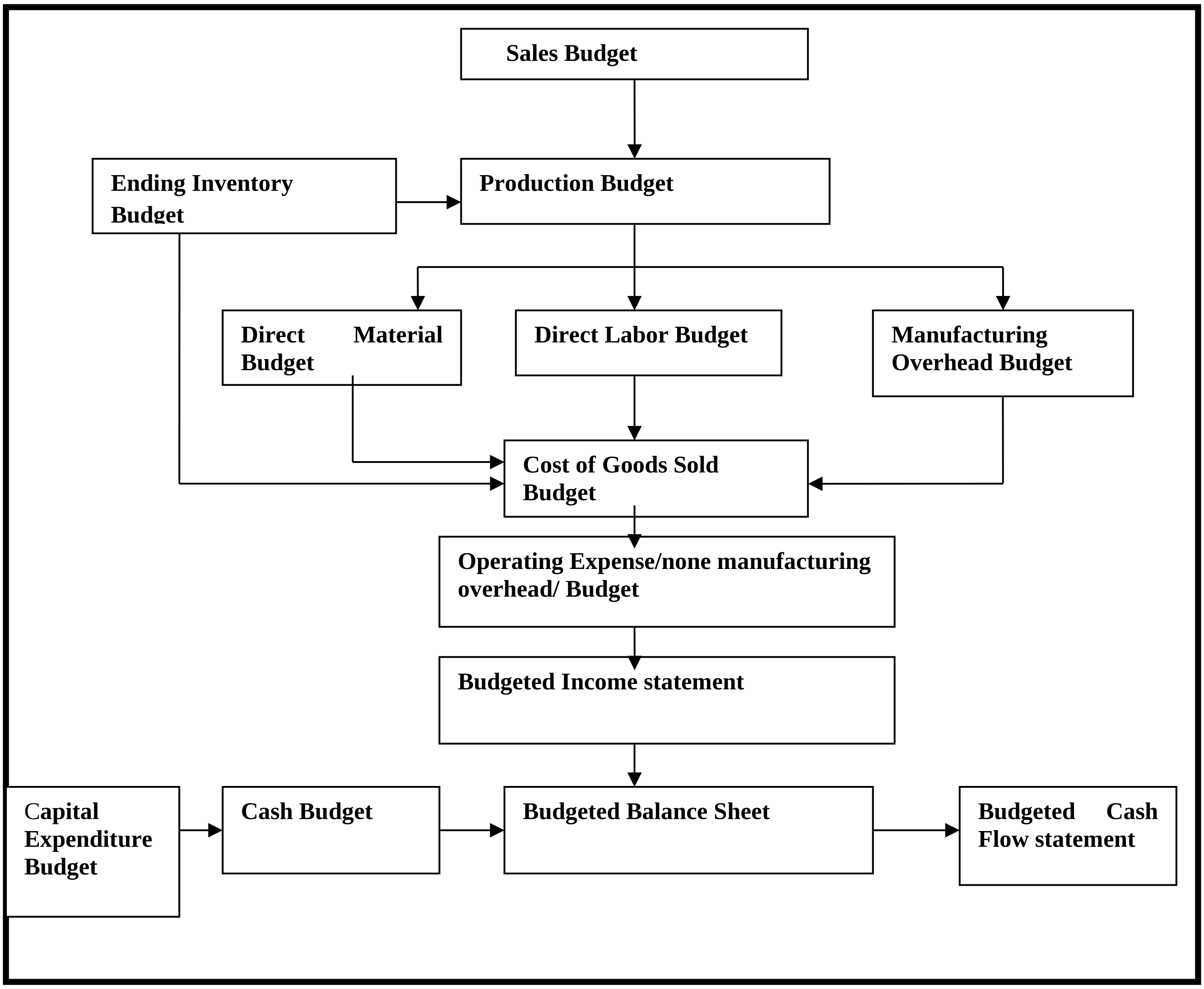
☞ ***What are the parts of a master budget?***

As shown on figure on the next page master budget consists of two major parts, namely: the operating budget and financial budget.

i **Operating budget** refers to the budgeted income statement and the supporting budget schedules for various business functions in the value chain. The operating budget basically shows the expected operating result of the organization in the upcoming operational period.

ii **The financial budget** is part of the master budget made up of the capital expenditures budget, the cash budget, the budgeted balance sheet, and the budgeted statement of cash flow.

An Overview of a Master Budget



2.3.2.2. Steeps in Budget development

2.3.2.2.1. Steps in developing an operating budget

The Operating Budget refers to the budgeted income statement and all the supporting schedules.

One way to think about this question is to understand that the organization has more control over some aspects of the business (for example how much to produce) and less control over other aspects, (the demand for its product and service).

For most organizations sales is uncertain. Therefore, beginning with sales forecast, the firm can plan the activities over which it has more control. As better information about sales becomes available, it is reasonably easy to adjust the rest of the budget. If, on the other hand, production is more uncertain than sales, the firm may want to begin with a raw material and production forecast so as to reduce the uncertainty related to production.

To clearly understand the steps in development of an operating budget, conceder the budget information gathered by the controller of Gibe Furniture Manufacturing company during the process of budgeting for the upcoming fiscal year, 2011.

The summary of required budget information obtained from different operating units, such as sales related information from the marketing department, production related information from production department, direct and indirect labor related information from the human resource department, and other manufacturing and non manufacturing overhead budgets from other departments as well as assumptions taken for the development of an operating budget are given as follows:

(1) The only source of revenues is sales of tables and unit sold is the only revenue driver.
(2) Work in Process inventory is negligible and is ignored.
(3) Unit costs of direct materials purchased and finished goods sold remain unchanged throughout each budget year.
(4) There are two types of Direct materials : Lumber and Metal
(5) There are two types of direct labor: Laminating labor and Machine labor.
Direct labor rates remain unchanged throughout each budget year.
(6) For computing inventor able costs, Gibe Furniture allocates all manufacturing overhead costs using manufacturing labor hours as the allocation base.
(7) Numerical information
   (a) Each table has the following product specifications:

Direct materials:

Lumber----------------- 9 board feet/table
Metal------------------- 10 board feet/table

Direct labor:

Laminating labor------0.25Hrs/table
Machine labor---------3.75 Hrs/table

   (b) Inventory information in physical units for 2011.

	Beginning Inventory	Target Ending Inventory
Direct materials:		
Lumber-------------	20,000 board feet	18,000 board feet
Metal---------------	25,000 board feet	22,000 board feet
Finished goods:		
Tables-------------	5,000 tables	3,000 tables

   (c) Revenue expected from sales of tables for 2011 are:

Selling price-----------Br. 392/table
Units' sales------------- 52,000 tables

   (d) Costs expected for 2011.

	2010	2011

Lumber/ board feet -------	Br. 3.90	Br. 4.00
Metal/ board feet----------	5.80	6.00
Laminating labor/ Hr. ----	24.00	25.00
Machine labor/ Hr. -------	29.00	30.00

(e) Other budgeted costs and amounts for 2006 are:

- Variable non-manufacturing costs------------- 13.5% of sales
- Fixed non-manufacturing costs---------------- Br. 1,400,000
- Variable MOH costs--------------------------- Br. 9.50/DL Hr.
- Fixed MOH costs------------------------------ Br. 1,600,000

(f) The inventorable cost is Br.275/table in 2005.

Now you can see each step in the preparation of the operating budget using the budget information given above.

Step 1: Preparing Revenue budget

The starting point for operating budget development for most business organizations is a revenue budget. A revenue/Sales budget outlines the expected sales for each product in units and Birr. This budget will be developed after the firm made a forecast of the demand for the company's product by taking into account. In forecasting sales different companies may adopt different forecasting techniques, however in most cases sales forecast take into account the following points:

- The sales volume in recent periods
- General industry and economic condition
- Market research studies
- Pricing polices
- Advertising & sales promotion
- Competition & regulatory policies

Based upon the forecasted sales the budgeted sale is prepared by a mere multiplication of forecasted sales volume and selling price.

Budgeted Sales = Budgeted sales volume X Budgeted Selling price

The Revenue budget for Gibe Furniture, based upon budget information 7(C) is,

Schedule (1) Sales Budget

Budgeted Unit	52,000tables
X Budgeted Unit Selling Price	Br 392/table
Budgeted Sales	Br. 20,384,000

Step 2: preparing the production budget (in units)

After the revenues are budgeted, you would then prepare a Production Budget. The production budget is prepared to show how many units must be produced in order to meet your budgeted sales need and the target level of ending inventory balance for finished goods.

The total number of budgeted production requirement, is therefore, the sum of budgeted sales in unit and target ending inventory. However, if the firm is not new in operation, usually some of its production requirement can be satisfied using the inventory kept of the beginning of the period. Therefore, the banging in vestry should be deducted from the total production requirement to determine the exact units in the production budget

Formula wise you can put the production budget in unit as follow:

Budgeted Production in unit =	**Budgeted sales in unit**	**+ Target Finished Goods inventory**	**- Begging Finished goods inventory**

The production budget for Gibe using the given information is prepared as follows

Schedule (2) Production budget

Budgeted unit sales	52,000
Add: Target Finished Goods Inventory	3,000
Total requirements	55,000
Less: Beginning FG Inventory	5,000
Units to be produced	**<u>50,000</u>**

After the sales and production budgets have been developed and the efforts of the sales and production groups have been coordinated, the next stage is the development of the production costs (direct material, direct labor and manufacturing overheads) at budgeted output level.

Step 3: Preparing the Direct Material Usage and Direct Material Purchase Budget

The number of units to be produced calculated in production budget Schedule is the key to computing direct materials in quantity and Birr. The direct materials budget ties the production to the Direct Materials that will need to be purchased in order to produce the estimated units. Direct materials purchases needed for the budget period are determined using this equation:

Required Material Purchase	=	**material to be Used in Production**	+	**Estimated ending materials inventory**	- **Estimated beginning materials inventory**

The direct material usage budget in our case is prepared as follows:

Schedule 3A: DM Usage Budget

	Lumber	Metal	Total
Physical Units Budget:			
Lumber: 50,000 x 9 board feet	450,000b.f		
Metal: 50,000 x 10 board feet		500,000b.f	
To be used in production	450,000b.f	500,000b.f	
Cost Budget:			
-Available from Beginning Inventory.			
Lumber: Br. 3.90 x 20,000	Br. 78,000		
Metal: Br. 5.80 x 25,000		Br. 145,000	
-To be obtained from purchases			
Lumber: Br. 4.00 x 430,000	Br. 1,720,000		
Metal: Br. 6.00 x 475,000		Br. 2,850,000	
DM to be used	***Br. 1,798,000***	***Br. 2,995,000***	***Br. 4,793,000***

Schedule 3B: DM Purchases Budget

	Lumber	**Metal**	**Total**
Physical Units Budget:			
Production Budget	450,000b.f	500,000b.f	
Add: Target End. Inv.	18,000b.f	22,000b.f	
Total requirements	468,000b.f	522,000b.f	
Deduct: Beg. Inv.	20,000b.f	25,000b.f	
Units to be purchases	448,000b.f	497,000b.f	
Cost Budget:			
Lumber: Br.4.00 x 448,000	Br. 1,792,000		
Metal: Br. 6.00 x 497,000		Br. 2,982,000	
Purchases	Br. 1,792,000	Br. 2,982,000	Br. 4,774,000

Sep 4: Preparation of direct manufacturing labor cost budget

This budget will show the number of employee and total hours required in producing the budgeted level of output along with the cost. The costs in this budget usually depend on wage rate, production method and human resource plan.

Schedule 4: DL Budget

	Laminating Labor	Machine Labor	Total
Labor-hours Budget:			
Laminating: 50,000 tables x 0.25Hrs.	12,500Hrs.		
Machine: 50,000 tables X 3.75Hrs.		187,500Hrs.	

Total DL Hrs. required	12,500Hrs.	187,500Hrs.	200,000Hrs
Cost Budget:			
Machine: Br. 25/Hr. x 12,500Hrs.	Br. 312,500		
ML: Br. 30/Hr. x 187,500Hrs.		Br. 5,625,000	
Total DL cost	Br. 312,500	Br. 5,625,000	Br. 5,937,500

Step 5: Preparing Manufacturing Overhead (MOH) Budget.

The Overhead budget shows the expected cost of all indirect manufacturing items. The total of these costs depends on how individual overhead costs vary with respect to the cost driver. Gibe Furniture treats both variables MOH and fixed MOH as inventorable costs.

Schedule 5: MOH Budget

At the budgeted level of 200,000 DL-Hours

Total variables MOH [Br.9.50 x200, 000]	Br. 1,900,000
Total fixed MOH	Br. 1,600,000
Total MOH	Br. 3,500,000

Gibe Furniture inventories MOH at the budgeted rate of Br. 17.50/DL Hr. [i.e. Br.3, 500,000/200,000Hrs.]. The budgeted MOH cost per table is Br. 70 [Br. 3,500,000/50,000tables].

Step 6: Preparing the Ending Inventory Budget

This budget is prepared for target ending raw material and ending finished goods inventory

Schedule 6A: Computation of Unit Costs of Ending Inventory of FG

	Cost/unit of Input	Input		Total
DIRECT MATERIAL:				
Lumber:	Br. 4 /b.f	9 b.f	Br. 36	
Metal:	Br. 6 /b.f	10b.f	Br.60	Br. 96.00
DIRECT LABOR:				
Laminating Labor	Br. 25 /Hr.	0.25Hrs.	Br. 6.25	
Manufacturing Labor	Br.30 /Hr.	3.75Hrs.	Br.112.50	Br. 118.75
MOH	Br. 17.5/Hr.	4.00Hrs.		Br. 70.00
Total				Br. 284.75

Step 7: Preparing Cost of goods sold (CGS) budget

The following are inputs to prepare cost of goods sold budget

- Direct material usage budget
- Direct labor budget

- Manufacturing overhead budget
- Ending and beginning finished goods inventory
- Ending and beginning working in process inventory

Schedule 7: CGS Budget

Beg. FG Inv., Jan1, 2006 (275 x 5000)		Br. 1,375,000
DM Used (sch.3A)	4,793,000	
DL (Sch. 4)	5,937,500	
MOH (Sch. 5)	3,500,000	
CGM		14,230,500
Cost of goods available for sale		15,605,500
Less: Ending FG Inv. (sch.6B)		854,250
CGS		Br. 14, 751, 25

Step 8: Preparation of None Manufacturing overhead Cost Budget

The non manufacturing cost budget include the marketing and administrative departments' costs required to operate the company at its projected level of sales and production and to achieve long term company goals. Unless there is a change in the organizations production and sales or level of activity, the nonmanufacturing cost budget is easily prepared by taking previous year's actual or budgeted result after making the necessary adjustment for price change and otter similar changes between periods.

Schedule 8: Operating Expenses Budget

Variable non-manufacturing costs: 13.5% X 20,384,000	Br. 2,751,840
Fixed non-manufacturing costs	1,400,000
Total Operating Expense	4,151,840

Step 9: Preparing the Budgeted income Statement

The last effort in operational budget development is pulling all the budget schedules prepared in all the above steps in to the income statement. The budgeted income statement, which can also be called Performa income statement show the revenue costs of production, operating cost and the resulting operational profit envisage in the budget period.

BUDGETED INCOME STATEMENT

Revenues (Sch. 1)	Br. 20,384,000
Less: CGS (Sch. 7)	14,751,250
Gross Profit	5,632,750
Less: Operating Expenses (Sch. 8)	4,151,840
Operating Income	**Br. 1,480,910**