Unit 18

Costing and Pricing

General Objective

After studying this Unit, you should be able to help participants in your training session to provide an overview of costs involved in setting up an enterprise and process involved in arriving at the final price of a product.

Specific Objectives

This Training Unit will help you to enable trainees to:

- Calculate the cost of their products and services;
- Find out the breakeven point and quantity; and
- Determine the price of products.

Planning

Time : Two hours thirty minutes

Training Methodology : Case studies, exercises, group discussion,

Training Materials : Case study on Shanta Jutties

Trainer's Preparation : Preparation of calculations of costs. Preparation of several charts for presentation of various factors to be considered while determining the price. Encouraging participants to bring their own examples for calculation of various costs.

Background Material

Introduction

In any economic activity it is important for women to understand financial planning, analysis and record keeping. This gives them control over the activity leading to their empowerment. This activity, many a times, is left to the NGO officials or other external support systems, as the understanding and skills of women are limited. However, it is necessary that women take on the task of financial management themselves, as they will then be in a position to take decisions on how much money is required, and in the later stages of the economic activity, contribute towards creation of facilities and supportive services for the members of their groups, like child care facilities, skill training, health care etc.

Costing

When something has to be produced, whether it is a commodity (like a bamboo basket, pickles, spice powder etc.), or a service (like cleaning, labour in field), a number of inputs are required for producing it. These may be raw materials, hours of labour or other efforts. All these inputs involve some kind of expenditure. Therefore, "cost" refers to a measure, which estimates the total value of these inputs in terms of money. For example, while arriving at the cost of growing vegetables the following costs will have to accounted for.

Cost of growing vegetables involves money spent on:

- purchase of seeds, fertilizers, pesticides;
- obtaining water to irrigate the plot of land;
- labour used to plough the soil, plant the seedlings, water, and look after the plants;
- fencing, protection of land; and
- selling the vegetables.

Therefore, costing involves keeping a systematic record of expenditure incurred, which will assist in the computation of the actual cost of the product/ service.

Costing is an important tool to:

- Determine cost price;
- Determine selling price;
- Control costs; and
- Determine profit and loss.

Types of Costs

All costs incurred in running any economic activity can be classified into two types:

1. Fixed Costs
2. Variable Costs

Fixed Costs

Once women decide to initiate an economic activity they have to incur some expenses. It is immaterial whether they produce one bamboo basket or 100 baskets, these costs have to be borne by them. For example in the case of "Shanta Jutties" – which will be discussed later, a work shed or room to make the jutties has to be rented or bought. Even if Shanta is not producing a single juttie, she will still have to pay for the room. This is a Fixed Cost.

Variable Costs

These costs are those which vary in proportion to the number of products produced. Again, in the Shanta Jutties case, the cost of leather, or the cost of labour, or even the cost of thread used for stitching would depend on the number of jutties produced. It is, however, important to remember that the cost per unit would fall as more and more units are produced. So if Shanta is making 100 jutties her cost per juttie would be less than if she were to make only 10. This is so because, the fixed costs get distributed over many units thus bringing down the cost per unit.

However, it must also be remembered that the fixed costs do not remain fixed forever. They are fixed for only a certain level of production. For example, if Shanta decides to make five thousand jutties, she will have to hire another workshed, and will have to pay more rent. So the fixed costs would go up.

Hidden Costs

Many times we find that in women's economic activities we tend not to include costs of certain facilities/services/products received by women as donations. These are known as hidden costs. For example, bamboo is available to women at a subsidized rate. So, do we take into account the value of the subsidy when arriving at the cost of the product?

Or, a piece of land is donated to the women's SHG by the panchayat. Women grow vegetables on this plot of land. When determining the cost of vegetables do we include the value of the land?

Often we tend to ignore these costs as they are not visible. However, it is important to include these costs. Otherwise economic activities would never be self-sustaining.

Costing is a process through which we calculate the total cost required in manufacturing and selling a product or service.

Pricing

Pricing is the process through which a producer or service provider determines how much to charge from the customers or users of the service.

Pricing is one of the key elements in marketing, one of the 4 P's, other P's being Products, Place and Promotion. Pricing is determined on the basis of cost of production, price of the same products or substitutes in the market and extent of profit that the producer wants to make by selling the products. Both costing and pricing are used to decide the minimum that can be charged in order to optimize profit without driving customers to competitors.

Once the producer women have calculated the costs incurred in producing the product, they have to decide at what price to sell the product. The difference between the selling price and cost price is called the **margin.**

Work Plan for Your Training Session

Group Exercise 1

In a village, a rich farmer donated 4 acres of wasteland to the Mahila Mandal. The women members decided to take up agriculture. They cleaned the plot, and fenced it, developed the land, planted mulberry saplings, and dug a well for irrigating the saplings. They incurred an expenditure of Rs. 70,000/-. They bought equipment for Rs. 3,000/- and hired a room for rearing silk worms for Rs. 1,000/-. When it was time to harvest the mulberry leaves, women bought 1000 patches of eggs @ Rs. 900/- per 100 patches. Four women were involved in picking leaves, cutting them and feeding the silk worms. For each crop the feeding lasted 2 weeks for which each woman was paid Rs. 30/- per day as labour. The woman irrigating the fields was paid Rs. 100/-. Other miscellaneous expenses incurred were Rs. 150/-.

You, as the trainer, can ask the participants to list the:

- Fixed Costs;
- Variable Costs; and
- Hidden Costs.

Group Exercise 2

Procedure

The whole session can be divided into three parts.

1. The first part will deal with costing.
2. The second part will focus on break-even point.
3. The third part will try to determine the process of calculating price.

Step 1

The trainer asks the participants to discuss the need for costing.

Likely responses are:

- To be able to determine selling price of the product;
- To be able to estimate profits;
- To be able to assess the capital requirement for running the enterprise;
- To be able to control the cost of production, cut down overheads, expenses and wastage etc.

After going through this process, the participants are given the case of "Shanta Jutti" and asked to go through it. Participants are encouraged to go through the case carefully and try to get answers for the following questions:

1. How much does a pair of jutties cost Shanta?
2. How to estimate the cost of a pair of jutti?
3. What factors are to be included in estimating the cost?
4. Does the sale price cover the costs and earn Shanta some profit?

Possible answers show that participants often forget to calculate the cost of their labour and omit that while calculating the cost of the products. You can help the participants to calculate and include such costs while doing the costing of a product. All the costs enumerated by the participants can be listed under two categories, fixed costs and variable costs. You can then explain the concept of fixed cost and variable costs to the participants.

Fixed costs: They are the overhead costs which are fixed for a certain amount of production whether there is full capacity utilization or part of it. It does not vary with scale of production. Cost of machinery, rent, and interest on loans are expenditures that are constant irrespective of the scale of production and hence they are called Fixed Costs.

Variable costs: They are directly related with production and vary as the scale of production increases and decreases. The cost of raw materials, transportation costs and piece rate wages vary as the production quantities vary, hence they are called Variable Costs.

Based on the information given in the case on Shanta Jutti, participants in the training session are assisted to estimate the following:

1. The fixed cost
2. The variable cost
3. The unit variable cost
4. The total cost and
5. The cost per pair of juttis.

For practice the costs estimate are done at two levels of production i.e. for 10 and 20 pairs of jutties per month. They are asked to remember the factors that are considered for calculating fixed and variable costs. They should also learn to compute per unit variable cost, total cost and per unit total cost, cost per month and profit if the products are sold at a price of Rs. 126.

Step 2

After understanding the method and process of costing, participants may like to know the method of estimating the minimum and maximum price or volume of production necessary to earn profit. This is possible if one learns the process of estimating “point of no profit and no loss” commonly known as **break-even point**.

You can explain that ‘income’ is that amount which entrepreneurs receive by selling the products.

If the total income is greater than the total cost, the entrepreneur earns “profits”.

Contrary to this, if the total income is less than total cost the unit incurs loss.

When the total income is equal to total cost that point is the point of no profit and no loss or the break-even point.

Using the case participants are encouraged to find out the break-even point. Participants calculate total cost, profit and loss at various levels of production. This is done for 10, 12, 14, 16, 18 and 20 pairs of jutties per month. You can display these estimates on a chart.

Pairs of jutties produced	Variable Cost	Fixed Cost Rs. 640/-	Total Cost	Total Income (Unit Price Rs. 126/-)	Profit or Loss (Total Income minus Total Cost)
10	860	640	1500	1260	Loss
12	1032	640	1672	1512	Loss
14	1204	640	1844	1764	Loss
16	1376	640	2016	2016	No profit no loss (Break Even Point)
18	1548	640	2188	2268	Profit
20	1720	640	2360	2520	Profit

From the table it is evident that when Shanta is producing 16 pairs of jutties and selling at a price of Rs. 126 per pair, she is just breaking even. This means she is at a point where she is neither making profit nor incurring loss. But at the same price when the production level is less than 16 pairs she is incurring loss and if the production goes beyond 16 she starts earning profit.

Break-even point can also be calculated with the help of a formula, which is:

Break-even Point = Fixed Cost divided by Selling Price – Unit Variable Cost

$$\text{i.e. BEP} = \frac{640}{126-86}$$

$$= \frac{640}{40}$$

= 16 pairs of Jutties

This shows for ensuring profit at this sale price (Rs. 126/- per pair). Shanta has to produce and sell more than 16 pairs of jutties in a month.

Step 3

In a business it is not enough to break-even or make no loss. It is also necessary to generate enough profits to reinvest in the business and get some surplus.

One way of doing this is by increasing the turnover. As illustrated in the case of Shanta Jutties where loss gets converted into profit by raising production from 10 to 20 pairs per month.

The other way is to adjust the price of the product. Price must be adequate to generate a surplus margin, at the same time being competitive in the market.

Price of a product is the amount, which a customer should pay to buy it. Pricing decisions are extremely important since they directly influence the profitability of an enterprise. Some of the factors that should be taken into account while determining the price of a product are:

1. What price are other producers selling the same products?
2. What is the total cost of the product?
3. How are people buying the product?
4. How much profit does the producer want to earn?
5. Is it a seasonal product?
6. Would the producer like to offer a special price to some selected customers?

Methods commonly used for fixing price of a product/service are:

Market rate method

This is adopted when all producers are charging more or less the same price. The price is guided by the prevailing market rate. The advantage of this method especially for new microenterprises, is that they get some immunity from the vagaries of price fluctuation. The method is common in services like tailoring, barber or automatic repair shops. Also practiced by microenterprises dealing with products not very different from those of competitors like vegetables and grains.

Cost plus pricing

This is done considering the total cost of the product and the extent of profit the producer wants to earn. Total cost is the sum of variable cost and fixed costs attributable to one unit of output. A margin of profit is then added to determine the price.

Discount Pricing

Most companies adjust their price lists and give discounts and allowances for early payment, volume, purchase and off season buying.

Some of the methods used for pricing discount are:

1. *Cash discount:* A cash discount is a price reduction to buyers who pay their bills promptly. A typical example is 2/10, net 30" which means that the payment is due within 30 days and the buyer can deduct 2 per cent by paying the bill within 10 days.

2. *Quantity Discounts:* A quantity discount is a price reduction to those buyers who buy large volumes. Quantity discount must be offered equally to all customers and must not exceed the cost saving to the seller associated with selling large quantities.

3. *Seasonal discounts:* A seasonal discount is a price reduction to buyers who buy products during the off seasons.

Processing

Processing is to be done at the end of each step. After completing the first step, you should help participants to remember all types of costs that are to be considered either as fixed or variable cost. They should be further assisted to calculate per unit variable cost, total cost and per unit total cost.

At the end of second step they should be assisted to understand the need and importance of break-even point. They should be able to see the relationship between cost, price and volume of production. They should also be able to understand how the change in any one affects the break-even point.

At the end of the third step, participants must learn to use various methods and processes of determining the price.

SHANTA JUTTI

(Shanta Fancy Footwear for Ladies)

Shanta Devi of Chaksu village in Rajasthan, belongs to a family engaged in making Jutti – fancy footwear for ladies. Male members of the family are involved primarily in shaping, cutting and stitching. Female members are responsible for cleaning, washing and processing of leather and doing colourful embroidery on shoe uppers. Shanta's father-in-law, being the eldest in the joint family, kept an account of the income and expenditure.

About a year ago, her father-in-law died and the family got separated. Shanta Devi and her husband decided to take up Jutti making as their main occupation. They had the skill. Shanta was very good in designing and doing colourful embroidery on shoe uppers. Besides, during family partition they had got the tools worth Rs. 500/- as their share. To begin with, they started making 10 pairs of Juttis per month. For that they used leather of Rs. 500/-, fancy thread for embroidery or Rs. 100/-, oil for leather of Rs. 50/-. They also experienced that for procuring raw materials like leather, threads etc. they had to go to the town. Each trip to town would cost Rs.10/-. For selling jutties they hired a small room on rent of Rs. 600/- per month.

Jutties produced by Shanta used to be very attractive and sold quickly on an average price of Rs. 126/-. People started demanding and referring to her jutties as "Shanta Jutti". Shanta started jutti making with the money she got by selling her silver jewelry. This provided the capital for purchasing raw materials, which however never lasted for more than 5 days in a month. Initially she had thought she would be able to save from the profit and increase production. But her last six months experience showed her that she was not in a position to save beyond Rs. 20/- per pair, which she kept as their wages.

She could not understand the reason for not making savings. In her own way she calculated the expense on raw material for one pair of Jutti as not more than Rs. 65/- (Rs. 50/- for leather + Rs. 10/- for thread + Rs. 5/- for oil), which was much less than the sale price (Rs. 126/-) per pair. Inspite of this she could not understand why she was not in a position to add to her savings.

Attracted by the demand and reputation of Shanta Jutti, a local organization contacted Shanta and discussed details about Jutti making with her. The representative of the local VO suggested that she should do proper costing and price the pair of Juttis accordingly. In order to get regular and real profit she should know the minimum price and minimum volume of production of her product. The representative further suggested that there was a trader in the city who, impressed by the quality and demand for Shanta Jutti, was ready to buy atleast 20 pairs of Shanta Jutti every month. Also agreed to advance 80% of the total price, provided she ensured monthly supply.

Shanta got motivated and decided to join a short training (II phase of GMT) arranged by the representative to learn about the marketing management, particularly the process and methods of costing and pricing to ensure profit. After the training she started producing 20 pairs of juttis and supplying them to the trader. By the end of the year she employed two more workers and doubled her production.

Table Illustrating Types of Costs to be considered for Costing

Types of Cost	Cost at the production level of 10 pairs of Jutti is per month	Cost at the production of 20 pairs of Juttis per month
1. Fixed Cost Rs. 600 pm	Rs. 600	Rs. 600
a) House Rent @ Rs.600 pm, Depreciation 8% of Rs. 500 (Price of tools)	Rs. 40	Rs. 40
Total Fixed Cost	Rs. 640	Rs. 640
2. Variable Cost		
a) Raw Materials		
i) Leather	Rs. 500	Rs. 1000
ii) Fancy Threads	Rs. 100	Rs. 200
iii) Oil	Rs. 50	Rs. 100
b) Labour Wage	Rs. 200	Rs. 400
c) Selling Transportation Expenses	Rs. 10	Rs. 20
Total Variable Cost	Rs. 860	Rs. 1720
Unit Variable Cost	Rs. 86	Rs. 86
3. Total Cost	Rs. 1500	Rs. 2360
4. Unit Cost (per pair of Juttis)	(1500 by 10) Rs. 150	(2360 by 20) Rs. 118
5. Total Revenue	(10X126) Rs. 1260	(20X126) Rs. 2520
6. Total Profit or Loss	(Total Revenue 1260 – Total cost 1500) Loss of Rs. 240	(Total Revenue 2520 – Total Cost 2360) Profit of Rs. 160

Table showing Break–Even Point

No. of pairs of Jutti to be produced	Variable (Unit Variable Cost (Rs. 86)	Fixed cost (Rs. 640)	Total cost	Total income (Unit Price Rs. 126)	Profit or Loss (Total Income minus Total Cost)
10 pairs	Rs. 860	Rs. 640	Rs. 1500	Rs. 1260	Loss
12 pairs	Rs. 1032	Rs. 640	Rs. 1672	Rs. 1512	Loss
14 pairs	Rs. 1204	Rs. 640	Rs. 1844	Rs. 1764	Loss
16 pairs	Rs. 1376	Rs. 640	Rs. 2016	Rs. 2016	No Profit No Loss Break Even Point
18 pairs	Rs. 1548	Rs. 640	Rs. 2188	Rs. 2268	Profit
20 pairs	Rs. 1720	Rs. 640	Rs. 2360	Rs. 2520	Profit