CHAPTER V

ANALYSIS OF COST STRUCTURE AND MARKETING PROCEDURE OF EGGS
CHAPTER V
ANALYSIS OF COST STRUCTURE

INTRODUCTION

The poultry industry has some special factors such as domination of middlemen, low composition of eggs, less campaign for balanced diet, lack of pre-grading and poor market information. Now the production efficiency is of special importance and hence the cost effectiveness achieved in the sample units are analyzed in this chapter.

The production efficiency depends upon various factors such as cost of initial capital investment, cost of chick, selection of right breed, efficient management, economical feeding and effective disease control measures. In this chapter the production efficiency of small, medium and large farms are compared. The internal efficiency in egg production is studied with reference to the various elements of costs. Before the analysis the composition of cost structure is to be studied.

PRODUCTION COST ANALYSIS

The production cost in poultry farming is divided into three major categories.

1. Cost of investment in assets.
2. Cost upto the point of lay (0-22 Weeks);
3. Cost during the period of lay (22-74 Weeks);
It is to be noted that the investment in assets are fixed in nature and are classified as fixed investment for the purpose of calculation. The poultry farms normally have fixed assets like Incubators, Hatchers, Automatic or normal breeders or Linear brooders, standard Round feeder, chick drink, Automatic or normal bell drinker, nipple dripper, vaccinators, weighing scales, care washers, Flame gum, mops, buckets, brooms, hand brushes, litter, scrapper and hand sprayers. For this purpose farms have to invest at the initial stage. The depreciation is charged on these assets and interest is calculated for the amount of investment in fixed assets.

The next category that is cost upto the point of lay. From 0 to 22 weeks, chick are rearing in nature and it is continuous. It includes cost of chicks, feed during the period upto the point of lay and medicinal expenses. In this period there will be only expenses and no return from the birds. Hence there is permanent impending of the expenses in this stage. These expenses are recurring in nature and the entire amount is to be added to calculate cost of production.

The third category is the cost during the period of lay that is, from 22 to 74 weeks; and during this period there is income from sales, hence, the cost in this period is fully added for calculating the cost of production.
The following production cost function is used for analysis of data.

Production Cost = (A + B + C + D + E) - F

A = Interest on fixed asset initial capital,

B = Depreciation on fixed assets

C = Cost up to the point of lay (0-22 weeks)

D = Interest up to the point of lay (as there is no return in this period)

E = Cost during the period of lay

F = Returns by sale of culled birds, manure, gunny bags etc.

The total cost of production is arrived at by using the above function. The number of eggs produced or calculated with reference to each size of farms. Then the total cost of production is divided by the number of marketable eggs to arrive at the production cost per 100 eggs.

It is also to be noted that mortality losses are also considered and hence this factor may not induce any deviation in analysis. Similarly the breakages are calculated while computing the number of eggs produced and hence the data will not affect the estimation of costs and may be treated as “adjusted” cost after mortality and breakages.
PECULIARITY OF PRODUCTION PROCESS

Any industry needs capital to start with, some industries are labour intensive; some are capital intensive. The poultry industry is a genetic industry which requires some equipments and plants, if carried out in a large scale. However, some of the equipments needed are brooding shed, brooding equipments, land, buildings, equipments, automatic watering and feeding system, bag closing machines brooders, feeders, nests, crates, egg chandlers, egg trays, feed plants high pressure jet cleaners, identification tags, roofing sheets, shed curtains, thermometers trap nests, vaccinators, water purifiers, wielded mesh etc.

Namakkal district consists of 4540 poultry farms as on 31.12.2007 and they are categorized as small, medium and large according to the number of birds. The small poultry farms which have an average of 30,000 birds and they have less than birds 50000 in number and a sample of 250 respondents from small poultry farm were taken for this study. There are about 50000-100000 medium size farms which have an average of 100000 birds. A sample of 150 farms are selected for this study. Among the large farms, which have an average of more than 200000 birds out of which a sample of 50 is taken. Stratification is done according to their size and then random sampling is done for this study.
The secondary data are collected from sample farm respondents. The data are tabulated and compiled to get appropriate results for this study.

i) **Brooding shed:**

Brooding is the time period in which supplemental heat is supplied to broilers to help them to maintain body temperature and grow at a more optimal level. Supplemental heat for broilers is normally supplied by a hover-type brooder that has the heat unit covered with a rounded piece of sheet metal to deflect the heat downward. These brooders are usually suspended from the ceiling with light cable and pulleys so they can be raised and lowered and drawn up out of the way after brooding.

Several types of brooders are available to equip broiler homes. Flat-top or pancake-type hovers are popular. They utilize a special burner that produces radiant heat. They are about 48t (3.6m) in diameter and for broodings are suspended about 28t above the litter. Usually 500 to 750 chicks are placed per brooder. Catalytic brooders are also available that use a catalyst to produce a chemical reaction for heat production.

**Brooding methods:**

In recent years higher costs for all fossil-based fuels have resulted in higher brooding costs. Since broiler houses are curtain sided much of the brooder heat produced is lost. In an attempt to lower brooding costs several
innovative methods of easily brooding of early brooding have been
developed, such as “end room brooding”, “Partial house brooding”, and
others. Regardless of the name, the goal is to brood broiler chicks more
economically. For example, during the first 3 weeks of brooding the chicks
are housed in only a portion of the house so less space is heated and some
heat generated by the chicks themselves is used. Later, the chicks are allowed
to migrate to other sections of the house. Potential house brooding can save
considerably on the brooding expenses but requires good management and
proper ventilation to prevent ammonia buildup and wet litter.

ii) LAYER SHED AND LAYER CAGES

Layer sheds are needed for the poultry farms and are to be constructed
as per the specific need of poultry farming. These sheds are used to keep the
birds during laying period. Scientifically it is stated that 2.2 sq. feet is needed
per bird. However, it does not mean that all the farms are following the same
norms. The unit investment is according to their ability for layer shed and
layer cages to accommodate the birds during the laying period. These sheds
should be clean, free from infection and well lighted. There should be fresh
and cool air circulation in these places. The amount invested in the layer
sheds and layer cages differ from unit to unit.
iii) FEED PLANT AND EGG ROOM

These are plants and equipments for the feed to be given to the chicks and birds. The feed is different during the first few weeks and then differ after specific intervals. Feed plants are important investments in the poultry industry. Scientifically it is estimated that 1.0 square feet is required per bird in the feed plant. The data relating to the amount invested for feed plant are collected and analyzed.

Egg rooms are also important investment in the poultry units. Scientists say that 0.02 square feet is needed per bird for the egg room. Investment for the egg rooms differ with the size of the farms and the technology used.

iv) WATER TANK, WATERER, FOGGER

The poultry farms use pure drinking water for the chicks. Without pure drinking water the chicks cannot yield to the expectations of the farmer. The water should be free from infections, fungus and bacteria. It should be colourless and odorless. It should be clean, cool and free from sand or sand particles. All farms have water tanks, waterbeds, foggers in their farms.

There will be normally unclassified miscellaneous expenses in every farm. They are non-recurring in nature and the farms have not given any specific heading for these expenses. These expenses may be the expenses met
in connection with starting the farm, incidental charges paid or some know-how, entertaining expense in connection with starting the firm.

CONSOLIDATION OF INVESTMENTS

After evaluating the components of fixed investments in the small, medium and large farm the various heads are consolidated to calculate the overall investment in fixed assets in these farms. The consolidated data of the investment in various components such as brooding shed, brooding equipments, layer shed, layer cages, feed plant, egg room, plant and machinery, labour quarters, water tank, waterbeds, fogger etc. are compiled and shown in Table 5.1.
### TABLE 5.1

**CAPITAL INVESTMENT**

(In Rupees)

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Small farm &lt;50,000</th>
<th>Mediumfarm 50,000-100,000</th>
<th>Largefarm &gt;100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30,000 Birds PER Bird Rs</td>
<td>100,000 Birds PER Bird Rs</td>
<td>200,000 Birds PER Bird Rs</td>
</tr>
<tr>
<td>1</td>
<td>Brooding Shed 30,00,000 100</td>
<td>95,00,000 95</td>
<td>2,20,00,000 110</td>
</tr>
<tr>
<td>2</td>
<td>Brooding Equipment - -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>3</td>
<td>Layer Shed 42,00,000 140</td>
<td>1,30,00,000 130</td>
<td>2,70,00,000 135</td>
</tr>
<tr>
<td>4</td>
<td>Layer cages 21,00,000 70</td>
<td>70,00,000 70</td>
<td>1,40,00,000 70</td>
</tr>
<tr>
<td>5</td>
<td>Feed Plant 570000 19</td>
<td>18,00,000 18</td>
<td>40,00,000 20</td>
</tr>
<tr>
<td>6</td>
<td>Egg Room 1,68,000 5.60</td>
<td>5,00,000 5.00</td>
<td>10,00,000 5.00</td>
</tr>
<tr>
<td>7</td>
<td>Plant and Machinery 1,20,000 4.00</td>
<td>3,50,000 3.50</td>
<td>8,00,000 4.00</td>
</tr>
<tr>
<td>8</td>
<td>Labour Quarters 2,10,000 7.00</td>
<td>7,00,000 7.00</td>
<td>14,00,000 7.00</td>
</tr>
<tr>
<td>9</td>
<td>Water Tank Fogger 1,50,000 5.00</td>
<td>5,00,000 5.00</td>
<td>10,00,000 5.00</td>
</tr>
<tr>
<td>10</td>
<td>Miscellaneous 45000 1.50</td>
<td>150,000 1.50</td>
<td>400,000 2.00</td>
</tr>
<tr>
<td></td>
<td>Total Production Cost 1,05,63,000 352.10</td>
<td>3,35,00,000 335</td>
<td>7,16,00,000 358</td>
</tr>
</tbody>
</table>

Source: Compiled from the records of Poultry units

Evaluating the components of fixed assets the various heads are consolidated to calculate the overall investment in fixed assets in these farms.

The consolidated data of the investment in various components such as

- Brooding Shed
- Brooding Equipment
Layer shed
Layer cages, fogger
Feed plant
Egg room
Plant & Machinery
Labour Quarters
Water tank and fogger etc.

are compiled and shown in Table 5.1

It is seen that the small farms with an average of 30,000 birds spent Rs 1,05,63000 as capital assets investments, medium farms Rs 3,3500,000 for 100,000 birds and large farms Rs 7,16,00,000 for 200,000 birds.

While calculating the investment per bird the small farms have invested Rs 352.10, medium farms Rs 335 and large farms Rs 358 in assets investment in their farms. On the whole the average capital investment in assets amount to Rs.348 per bird.

From the above it can be inferred that while taking into consideration the total investment in assets alone, the medium farms are lower economical than small farms and large farms. Further the initial investment cost is high in the large farm.
COST UPTO THE POINT OF LAY

This cost comes under the second category. There are variable expenses which are met during the period 0-22 weeks of the chicks. The important components during this period are the cost of chicks, mortality of chicks, feed, mash and grower, medicine and vaccination, electricity, salary and wages, insurance and other overheads. This period is a crucial period as the productivity depends on the growth of chicks, their efficiency and laying capacity. Hence maximum care is taken to preserve the chicks during the period. There are well-laid scientific procedures to take care of chicks during the period.

CHICK PRICE

The price of chicks are not fixed ones. They vary according to demand, seasons etc. The chick prices paid by the sample respondents are collected and compiled and shown in Table 5.2 for further analysis. Mortality is an important aspect to be studied. The actual “mortality of chicks” is calculated with the data provided by the farms.

The mortality expenses are “adjusted” expenses as shown by farmers and being a usual one, they do not affect the calculation. The mortality depends on season, breed, and various reasons. However, the data given are collected after adjusting the cost factors upto the date of mortality and hence
they are treated as reasonable. Further they are collected for the entire period of 74 weeks and hence they do not vary significantly.

CHICK FEED, MEDICINES AND VACCINES

The important cost and a fluctuating cost to be studied in the poultry industry is the cost of chick feed. There are many reports that the feed prices are increasing in an alarming manner. However, for the purpose of this study, the amount spent by the farms towards feed is classified and compiled.

The productivity of the chicks depend on the medicines, breed and vaccination. These medicines and vaccination save the chicks from various diseases including death. The chick diseases are sometimes more fatal and may affect the entire industry, in a particular area. Hence, maximum care is taken to preserve the chicks by administering medicine and giving vaccination. The data relating to amount spent for medicines and vaccination are collected and shown in Table 5.2 according to the size of the farms.

The poultry farms have to use products like Aurofac, cycostat, Sodium sulphadimethyl, pyrimidine and Arotan. The normal feed include kardi extraction, groundnut cake, GN extraction, Rice bran, fish meal, chick mesh, grower mash etc.
ELECTRICITY, SALARY AND WAGES

The poultry farms may have to meet the expenses towards electricity, salary and wages. Lighting is needed for the chicks scientifically. Laborers may be employed in the arms. Almost all the large and medium farms have employed persons and only a few small farms have not employed persons.

The electricity and salary and wages are same in small and medium farms and are high in large farms up to the point of lay. This may be due to the fact that the electricity expenses in large units may be in higher rate slab and the large farms are employing skilled labour in their farms.

INSURANCE AND OTHER OVERHEADS:

The poultry farms do insure their chicks to minimize the loss due to fatal diseases. They insure their chicks and the expenses are proportionately divided. The small, medium and large farms select their own insurance companies and pay premium.

CONSOLIDATION COST UPTO THE POINT OF LAY (0-22 Weeks)

The expense incurred by farms up to the point of lay i.e. up to 22 weeks is analyzed factorwise in the earlier tables. They are consolidated and presented in Table 5.2 for further analysis.

The factors such as chick price, mortality, chick feed, medicine, vaccination, electricity, salary and wages, insurance and other overheads are shown in Table 5.2 for a comparative study.
### TABLE 5.2
COST UPTO POINT OF LAY (0-22 WEEKS)

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Item</th>
<th>Small farm &lt;50,000</th>
<th>Medium farm 50,000-100,000</th>
<th>Large farm &gt;100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>30,000 Birds</td>
<td>100,000 Birds</td>
<td>200,000 Birds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PER Bird Rs. P.</td>
<td>PER Bird Rs. P.</td>
<td>PER Bird Rs. P.</td>
</tr>
<tr>
<td>1</td>
<td>Chick price</td>
<td>5,58,000</td>
<td>18.60</td>
<td>18,40,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18.40</td>
<td>36,40,000</td>
<td>18.20</td>
</tr>
<tr>
<td>2</td>
<td>Mortality Adjusted 5%</td>
<td>27,900</td>
<td>0.93</td>
<td>92,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.92</td>
<td>1,82,000</td>
<td>0.91</td>
</tr>
<tr>
<td>3</td>
<td>Feed chick mash and Grower</td>
<td>26,36,250</td>
<td>92.50</td>
<td>85,97,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90.50</td>
<td>1,74,80,000</td>
<td>92.00</td>
</tr>
<tr>
<td>4</td>
<td>Medicines and vaccines</td>
<td>2,85,000</td>
<td>10.00</td>
<td>9,50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.00</td>
<td>19,00,000</td>
<td>10.00</td>
</tr>
<tr>
<td>5</td>
<td>Salary and Wages</td>
<td>57000</td>
<td>2.00</td>
<td>1,90,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.00</td>
<td>3,80,000</td>
<td>2.00</td>
</tr>
<tr>
<td>6</td>
<td>Electricity</td>
<td>57000</td>
<td>2.00</td>
<td>1,90,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.00</td>
<td>3,80,000</td>
<td>2.00</td>
</tr>
<tr>
<td>7</td>
<td>Insurance</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>8</td>
<td>Other overheads</td>
<td>1,14,000</td>
<td>3.00</td>
<td>3,80,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.00</td>
<td>8,55,000</td>
<td>4.50</td>
</tr>
<tr>
<td>Total</td>
<td>cost upto point of lay</td>
<td>37,09,950</td>
<td>129.03</td>
<td>1,22,39,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>127.80</td>
<td>2,48,17,000</td>
<td>129.60</td>
</tr>
</tbody>
</table>

Source: Compiled from the records of Poultry units

The expense incurred by farms up to the point of lay i.e. up to 0-22 weeks is analyzed. The factors such as chick price, mortality, chick feed, medicine, vaccination, electricity, salary and wages, insurance and other overheads are shown for comparative study. Table 5.2 shows that the total...
cost upto the point of lay i.e from 0 to 22 weeks is Rs 37,09950 for small farms, Rs 1,22,39,500 for medium farms and Rs 2,48,17,000 for large farms. The cost upto the point of lay per bird in small farms is Rs 129.03, medium farms are Rs 127.80 and is Rs 129.60 in large farms. The overall average cost per bird is Rs 128.90 upto the point of lay.

This shows that the cost upto the point of lay is the lowest in medium farms than small and large farms. It is noted that among the factors upto the point of lay. The cost of feed is the highest and it has certain impact on the cost of eggs.

**CATEGORY OF COST DURING THE LAY PERIOD**

The initial cost for commencement of the farms are studied as the category. The cost upto the point of lay is studied in the second category. The cost during the period of lay is to be studied as the third category. This is the period during which the birds lay eggs and the farm owners sell the eggs in the market. The income starts generating and the owners have to meet the expenses during this period. The normal bird commences laying egg in its 22 week and stops laying egg during its 74th week. The expenditure during this period can be classified as feed consumption expenditure, medicines, electricity, salary and wages, insurance and other overheads. These factors or components are classified in broad categories.
FEED CONSUMPTION AND MEDICINE

It is already seen that the feed cost is an important factor in deciding the cost of production. The poultry feed prices are said to be rising high and the farms have to use feeds in an economic manner. Scientifically it is stated that over feeding is dangerous and it will have only adverse effect in the capacity of birds in laying eggs. Similarly poor feeding results in poor production in quantity or quality. Hence the feed should be as recommended by the experts in the field.

Medicines are also to be given to prevent any outbreak of disease. They protect the birds during the infection season and keep the birds in healthy condition. The medicines are to be administered as per the prescription of veterinary doctors and there are standardized medicines. The cost incurred during the period of lay for medicines is also collected from the sample farms.

ELECTRICITY AND SALARY AND WAGES

Normally the farms have to spend for the electricity, salary and wages during the period of lay. The chicks require heat, light, water etc. During this period and the expenses vary according to the size of the farms.

INSURANCE AND OTHER OVERHEADS

The expenses towards insurance and other overheads are studied. The insurance expenses vary according to the size of farms and the farms prefer their own insurance companies and pay premium. The other overheads related
to miscellaneous expenses met during the period of lay and they cannot be classified under any other specific heads. These expenses are unavoidable and they have some impact in the cost of production.

**CONSOLIDATED COST DURING THE LAYING PERIOD**

The third category cost i.e. during the period of laying is studied comparatively in the earlier tables. They are the feed cost, medicines, electricity; salary and wages; insurance and other overheads. These costs are compiled and shown in Table 5.3.

**TABLE 5.3**

**COST DURING THE PERIOD OF LAY (52 WEEKS)**

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Small farm &lt;50,000 (30,000 Birds)</th>
<th>Medium farm 50,000-100,000 (100,000 Birds)</th>
<th>Large farm &gt;100,000 (200,000 Birds)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PER Bird Rs</td>
<td>PER Bird Rs</td>
<td>PER Bird Rs</td>
</tr>
<tr>
<td>1</td>
<td>Feed consumption 1,49,62,500</td>
<td>4,94,00,000</td>
<td>9,93,70,000</td>
</tr>
<tr>
<td>2</td>
<td>medicine 57,000</td>
<td>3,80,000</td>
<td>1,90,000</td>
</tr>
<tr>
<td>3</td>
<td>Electricity 57,000</td>
<td>3,80,000</td>
<td>1,90,000</td>
</tr>
<tr>
<td>4</td>
<td>Salary and wages 1,42,500</td>
<td>9,50,000</td>
<td>4,75,000</td>
</tr>
<tr>
<td>5</td>
<td>Insurance Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>6</td>
<td>Overhead 1,14,000</td>
<td>7,60,000</td>
<td>3,80,000</td>
</tr>
<tr>
<td></td>
<td>Total cost 1,53,33,000</td>
<td>5,06,35,000</td>
<td>10,18,40,000</td>
</tr>
</tbody>
</table>

Source: Compiled from the records of Poultry units
It shows that the total cost during the period of lay is Rs 1,53,33,000 in small farms, Rs 5,06,35000 in medium farms, and Rs 10,18,40000 in large farms. The cost during the period of lay per bird is Rs 538 for small farms, Rs 536 in medium farms and Rs 533 in large farms. The overall average cost during the period of lay is Rs 535.60 per bird.

It can be inferred that during the period of lay the cost is the highest in the small farms than in large and medium farms. Further it is to be noted that the cost of feed has impact on the cost of production of eggs.

**OVERALL COST**

As stated earlier the cost of production is calculated as follows:

\[
\text{Cost of production} = \text{Interest on capital (in fixed assets) plus interest on capital during the period of lay plus Depreciation on Capital (assets) plus cost upto the point of lay plus cost during the period of lay minus sale proceeds of culled birds manure and gunny bags.}
\]

The statement of cost for small, medium and large farms are shown in Table 5.4 and Table 5.5. The interest on capital is calculated as shown by the sample respondents and 10 per cent depreciation is charged for the fixed asset on investments.
### TABLE 5.4

**CONSOLIDATED FIXED COST**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Capital Investment</th>
<th>Cost upto point of lay</th>
<th>Depreciation 10 per cent</th>
<th>Interest on Capital 14 per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,05,63000 35210</td>
<td>37,09950 12,355,50</td>
<td>10,56,300 3521</td>
<td>19,48,213 6666.70</td>
</tr>
<tr>
<td>2</td>
<td>3,35,00,000 33500</td>
<td>1,22,39,500 12,239,50</td>
<td>3,350,000 3350</td>
<td>64,03530 6403.53</td>
</tr>
<tr>
<td></td>
<td>7,16,00,000 35,800</td>
<td>2,48,17,000 12408,50</td>
<td>9,64,17,000 48,208,50</td>
<td>1,34,98,380 6749</td>
</tr>
</tbody>
</table>

Source: Compiled from the records of Poultry units
Table 5.4 and 5.5 show a clear picture of costs incurred up to 74 weeks i.e. life span of the birds. It is seen that on the depreciation is Rs 3521 for small farms, Rs 3,350 for medium farms and Rs 3580 for large farms per 100 birds.

The interest on capital is Rs 6660.70 in small farms, Rs 640.53 in medium farms and Rs 6749 in large farms per 100 birds.

The cost upto the point of lay per 100 birds is Rs 12,355.50 in small farms, Rs 12,239.50 in medium farms and Rs 1248.50 in large farms per 100 birds. The cost during the period of lay is Rs 51,110 in small farms, Rs 50,635 in medium farms and Rs 50,920 in large farms per 100 birds.
The average cost upto the end of period of lay is Rs 1,53,33,000 in small farms, Rs 5,06,35000 in medium farms and Rs 10,18,14000 in large farms. It can be said that the total cost upto the end of period of lay is the highest in small farms than in medium farms and large farms per 100 birds.

INCOME FROM CULLED BIRD, MANURE AND BAGS

The income of poultry farms is through the sale of eggs, sale of culled birds, manure and gunny bags. The manure is used as the best fertilizer in agriculture sector and in many agricultural fields. The gunny bags are the bags got by the purchase of feed for chicks and birds during the period.

Culled birds are those birds which cannot lay eggs further and they are sold out for meat purposes. The farms have to sell them to the consumers or through wholesalers, retailers or agents. Similarly the manure is sold to the customers. The gunny bags are also sold or returned to the suppliers.

The data collected from sample poultry units are compiled and shown in Table 5.6. They are the income from sources as sale of culled birds, manure and gunny bags.

It can be said that the income from sale of culled birds, manure and gunny bags is more in large farms than in small and medium farms.
### TABLE 5.6

**INCOME FROM CULLED BIRDS, MANURE AND GUNNY BAGS**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Small farm &lt;50,000</th>
<th>Medium farm 50,000-100,000</th>
<th>Large farm &gt;200,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30,000 Birds</td>
<td>PER Bird</td>
<td>100,000 Birds</td>
</tr>
<tr>
<td>1</td>
<td>Sale of culled Birds</td>
<td>8,55,000</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Manure</td>
<td>1,42,500</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Gunny Bags(50Kg)</td>
<td>3,70,500</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>13,68,000</td>
<td>48</td>
<td>48,45,000</td>
</tr>
</tbody>
</table>

Source: Compiled from the records of Poultry units

It is seen that the Table 5.6 the income from sale of culled bird is Rs 8,55,000 in small farms Rs 30,40,000 in medium farms and Rs 66,50,000 in large farms. The income per bird by sale of culled bird is Rs 30 in small farms, Rs 32 in medium farms and Rs 35 in large farms. The overall average income by sale of culled birds is Rs 32.30 per bird.

The income from sale of manure is Rs 142,500 in small farms, Rs 5,22,500 in medium farms and Rs 11,40,000 in large farms. The overall income by sale of manure is Rs 5 in small farm Rs 5.50 in medium farms and in Rs 6 in large farms. The overall average income from sale of manure is Rs 5.50.
Income by sale of used gunny bags is Rs 3,70,500 in small farms, Rs 12,82,500 in medium farms and Rs 26,60,000 in large farms. The average income from sale of gunny bags is 13.50 per bird.

On the whole the income from sources such as sale of culled birds, manure and gunny bags is Rs 13,68000 in small farms, Rs 48,45,000 in medium farms, and Rs 1,04,50000 in large farms. The overall average income through the above sources is 51.30 per bird. It can be said that the income from sale of culled birds, manure and gunny bags is lower in small farms than in medium and large farms.

MARKETING PROCEDURE OF EGGS – ANALYSIS

The purpose of production is consumption. Effective Consumption depends on the economical marketing process. So after the study of cost structure of various farms and marketing procedures of eggs comes into focus.

The choice of marketing channel for a perishable product is always more complex. The channel cannot be too long but the product should go wider and reach quicker. So the channels of marketing selected by various size of farms need analysis for understanding the marketing efficiency.
These are analysed with two variables. They are:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sub Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Farm Size</td>
<td>i. Small Farms</td>
</tr>
<tr>
<td></td>
<td>ii. Medium Farms</td>
</tr>
<tr>
<td></td>
<td>iii. Large Farms</td>
</tr>
<tr>
<td>II. Marketing Cost Elements</td>
<td>i. Packing</td>
</tr>
<tr>
<td></td>
<td>ii. Transport</td>
</tr>
<tr>
<td></td>
<td>iii. Breakage and Spoilage</td>
</tr>
</tbody>
</table>

MARKETING

Marketing is the process whereby the consumer gets the product of his choice; the product reaching the consumer with minimum hindrance. The marketing of eggs is an important aspect to be studied carefully with more precautions. The product is neither durable nor a shopping goods. There are difficulties in packing and transporting.

The special problem is marketing of eggs is that most of the poultry units are situated in rural or semi urban areas; but their prospective market is in urban areas where there is a problem of risk in transportation and hence the marketing management acquires significance. There is also the need for market segmentation for this product, but as there is no specific branding aspect, the only aim to reach the target consumer is as quickly as possible.
The geographic variables and demographic variables also affect the marketing process. However, the immediate need is to analyse the various prime elements involved in marketing of eggs i.e., cost of packing, cost of transportation, breakage and spilage.

PACKING

Packing is the process of covering, wrapping, or creating goods into a package. This is done for the purpose of delivering the articles to the consumer or for the purpose of transport.

Packing is another aspect. The product is neither square in shape nor rectangle in shape. Further it is neither possible to keep “all the eggs in one basket” nor it is desirable. They cannot be packed in gunny bags or tin boxes or put into the bundles. Hence a separate container is needed or tray is needed for packing.

TRANSPORTATION

Transportation is a necessary function of marketing because most of the markets one geographically separated from the areas of production majority of manufacturing plants one far away from their most important markets because of various factors. All goods are not utilized at the place of their origin. They require some kind of transport to create place utility.
Marketing of poultry farm eggs have various channels in distribution. There are producers who produce the goods and carry to their shops. The wholesalers buy the eggs on the wholesale price and sell to retailers. The retailers inturn, sell the products to the consumers.

There are few consumers in the neighbourhood who procure at the farm gate itself. They may procure it for 2 or 3 days and again they come and buy the eggs at the farm gates. For the purpose of this study the price of eggs sold by producers to consumers is taken as existing during the period of study and is fixed as Re.1.00 per egg after consulting the farmers of all size of firms.

But before selling the eggs at farm gates the producers pack the eggs and make it ready for transportation. The share of sales at farm gate is very minimum. The producer’s cost at the sale place is taken as inclusive of packing cost and transportation cost. Most of the producers have their outlets in the nearby semi-urban or urban places.

The cost of transportation of eggs from the poultry gate to the place of sale of the producer is studied. The eggs are transported in vans, mini-lorries and lorries to the place of sale. The expenses met by the producer towards transportation.
BREAKAGE AND SPOILAGE

There are breakages and spoilages while collecting the eggs or transporting the eggs. There may be spoilages and this type of expenses are unavoidable. They can only be minimized. The quality of eggs depend on the shell strength and the weight increases with the strength of the shell. The shell strength differs according to the breed, season, feed and other aspects. The breakages are mainly due to weak shells, careless handling and bad road conditions while transporting. Spoilages may be due to delay in collection, poor feed, diseases or long duration of storage. The farms try to minimize the breakages and spoilages. The data relating to spoilage and breakage expenses are collected “qualitatively”.

**TABLE 5.7**

**MARKETING COST**

<table>
<thead>
<tr>
<th></th>
<th>Small Farm &lt; 50000 Birds</th>
<th>Medium Farm 50000-100000 Birds</th>
<th>Large Farm &gt; 200000 Birds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eggs</td>
<td>Per 100 Eggs</td>
<td>Eggs</td>
</tr>
<tr>
<td>1. Packing Cost</td>
<td>364800 4</td>
<td>1216000 4</td>
<td>2432000 4</td>
</tr>
<tr>
<td>(Per Egg 0.04P)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Transportation Cost (0.08P)</td>
<td>729600 8</td>
<td>2432000 8</td>
<td>4864000 8</td>
</tr>
<tr>
<td>3. Breakage and Spoilages 5%</td>
<td>866400 5</td>
<td>3040000 5</td>
<td>6080000 5</td>
</tr>
<tr>
<td>Total Cost</td>
<td>1960800 17</td>
<td>6688000 17</td>
<td>13376000 17</td>
</tr>
</tbody>
</table>

Source: Compiled from the records of Poultry units
It is seen from the table 5.7 that the producers have to incur packing cost, the cost of packing differs in relation to the size of the farm. The small farms spend Rs.364800 for packing 9120000 for Eggs. The medium farms spend Rs.1216000 per packing 30400000 for Eggs and the large farms spend Rs.2432000 for packing 60800000 for Eggs. The average cost of packing per 100 Eggs is Rs.4.00 in small, medium and large farms.

As regards transportation cost, the small farms incur an expenses of Rs.729600 for 9120000 Eggs, the medium farms Rs.2432000 for 30400000 Eggs and in large farms Rs.2432000 for 60800000 Eggs. The average cost of transportation per 100 Eggs in Rs.8 in small, medium and large farms.

There is breakage and spoilage in all types of farms. The breakage and spoilage in small farms for 9120000 Eggs is Rs.866400, in medium farms for 30400000 Eggs is Rs.3040000 and in large farms for 60800000 Eggs is Rs.6080000. The overall breakage and spoilage cost is Rs.5 per 100 Eggs in small, medium and large farms.

Similarly, the packing cost, transportation cost and breakage and spoilage cost is high in large farms to that of small and medium farms.