CHAPTER - III

PRODUCTION AND MARKETING OF EGGS

Poultry keeping is an old art and as ancient as agriculture. Back yard poultry keeping was popular in the olden days. Now the poultry industry becomes one of the commercial occupations with the introduction of scientific methods and the principles of the modern poultry management. But a precise knowledge of this art is not well known to all. Hence an attempt has been made to study this.

PRODUCTION PROCESS

Production of eggs is the major activity in Namakkal District. There are about 4,47,19,000 birds which produce about 2,66,62,000 yearly average eggs a day. So the poultry farmers can attain success only when they have a thorough knowledge of rearing chick, which involves three stages, viz., chick stage, grower stage and laying stage.

CHICK STAGE

The first stage in egg production is buying a day old chick from hatcheries and rearing them in brooder houses. In the chick stage the following are the important aspects.

3.1. Buying Chick

The farmers buy a day old chicks; some-times demand for dav old chicks is so high that the poultry farmers have to wait for 1 to 3 months for delivery of chicks.

3.2. Use of Litter Material

The housing chicks are not directly fed with paddy husk or any rough litter material because they will die by taking too much of fibrous stuff. A chick paper is spread over the litter for the first 4 to 5 days till the chicks get accustomed to chick mash. Thus it helps avoiding mortality from indigestion of husk.

3.3. The First Feed

For the first 24 hours, chicks do not need feed. The first feed should be too fine and dusty chick mash. It is because it will clogg and kill the baby chicks. The first feed is given only on the second day. For this purpose, chick feeders are used. There is some feed wastage in this process.
3.4. Water

After brooding is arranged, water is served to chicks. In this process, tap water is not served directly to the chicks. It is because it will upset the chicks' health. A bucketful of water is kept, in brooder house before it is served to chicks especially during winter months. Cool water is served in summer when the tap water is too hot. These are some important practices under-taken during the first 7 weeks of chicks after which grower period starts.

3.5. Vaccine

For the better growth and as a preventive measure, the chicks are vaccinated. The poultry owner designs a programmer for his specific set of circumstances. The disease attacks chicks normally from zero to sixteen weeks. It is assumed that the day old chicks are vaccinated against marek's disease at the hatchery. Give the first dose with RD vaccine ('F' Strain and Lasota) at 5-7 days of age through intraocular and intranasal route. The second dose should be administered at 6-8 weeks of age through intranasal route. The third dose should be followed with R2 B vaccine (subcutaneously) at 6-8 weeks. A booster dose of R2 B vaccine should be administered around 17-1.8 weeks. Fowl pox vaccine should be given at 6-8 weeks and repeated at 16 weeks. Vaccination should be done in the cool hours of early morning or at night. Vaccination should be avoided around 20 weeks, least it may cause stress and interfere with the overall egg production.

3.6. Stress

Birds are always under stress of one kind or another in the modern poultry operation, but stresses should not be allowed to accumulate. Whenever possible, stresses should be preceded or followed by treatment to give "nature-full” assistance in restoring or adjusting the bird to normal health and function. Whenever possible, the cause of stress should be corrected, particularly those due to faulty management.

3.7. Labour

The poultry industry in nature requires huge employment of workers. For the success and scientific operation of the poultry unit mainly of the big size and medium size, both types of labour are needed i.e., the domestic and hired labour. Big farms and medium
sized farms cannot run and manage successfully without employing the needed labour. Thus we may insist that the industry needs both types of the labour services, the hired labour and the domestic one as well.

**GROWER STAGE**

Growing is a stage during which pullets are built to express their inherited potential for maximum, egg production during the laying period. If growing is poor, performance during the lay will also be poor, i.e., the number of eggs laid will be lower. Proper growth does not cost extra when poor growth grabs a part or entire profit. Growing stage starts from the 8th week. Generally, chick rearing and growing take place in the same house in Namakkal District. However, some farmers rear the chicks in a private house and move them into growing house after brooding is over.

Then three major practices are undertaken usually during this period. They are deworming, debeaking and feed restriction.

1. **Deworming**

   Birds are dewormed with any of the commercially available deworming drugs at least once in 3 months.

2. **Debeaking**

   This practice can be undertaken at an early stage, but is usually done during the period between the 2nd week and 15th week. It is recommended that all layers be debeaked to control feather picking cannibalism or bullying. It is usually carried out by means of electrocutory. It is important to remove, only one third of the upper beak, tacking care to depress the tongue. Debeaking should never be done with a penknife or the like. Feed and water depth in hoppers and troughs become more critical when layers are debeaked. Debeak all the birds. A single bird left over may be the killer bird.

3. **Feeding and Feed Restriction**

   Growers need specially prepared grower feed. It has low protein, moderate energy level with required amount of vitamins and minerals. Change of feed from chick mash to grower mash is to be gradual. For just 4 days, one part of grower mash and pails of
chick mash are mixed. In the next four days, half of grower mash and half of chick mash and in the last four days, three parts of grower mash and one part of chick mash are mixed.

In feeding growers, feed restriction is followed. The birds are offered only 80 per cent of their normal consumption. This producer helps to identify the weaker birds and cull them at an early stage. It is claimed that the feed restricted birds, consume relatively smaller amount of feed during their laying period when the feed is offered. The other advantages include persistency in egg production, increased egg weight and reduced at accumulation. As most of the weaker birds would have been culled or dead during growing period (8-18 weeks), the live ability during the laying period increases.

LAYING STAGE

This is the final stage and the grower is shifted from grower house to laying house. This is known as final housing. During this stage, lighting, feeding and egg collection are important. The most important factor controlling egg production is light. During laying period, total photo period, i.e., light period including sunlight required is 15 1/2 to 16 hours. It is preferable to give artificial light during 6 p.m. to 8 p.m. and 4 a.m. to 6 a.m. If the weather is cloudy, lights can be put on even during daytime. At the age of 20 or 21 weeks, it is advisable to increase the photo period by 1 hour a week till 15 1/2 to 16 hours to reach the total light period. The bulbs are evenly distributed in the house. Usually, the bulbs are fixed at 7 to 8 feet above the bird level and 11 to 12 feet apart.

1. Feed and Feeding

Feed quality plays a major role in covering or maximizing egg production. Properly balanced feed can increase egg production by more than dozen eggs per bird housed at no extra cost. A layer approximately consumes 1 kg feed per week. Table 3.1 shows the percentage of egg production and feed consumption.
TABLE 3.1

FEED CONSUMPTION OF LAYING BIRDS

<table>
<thead>
<tr>
<th>Egg Production Percentage</th>
<th>Feed Consumption (g/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>84</td>
</tr>
<tr>
<td>10</td>
<td>88</td>
</tr>
<tr>
<td>20</td>
<td>93</td>
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<td>30</td>
<td>98</td>
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<td>50</td>
<td>107</td>
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<td>60</td>
<td>110</td>
</tr>
<tr>
<td>70</td>
<td>120</td>
</tr>
<tr>
<td>80</td>
<td>125</td>
</tr>
</tbody>
</table>


It is seen from the table that when the percentage of production of eggs increases, the feed consumption also increases, that too many times.

2. Egg Collection

The laying house is used for a cage system. The layers start laying eggs from the 18th or 20th week. There are three sizes of eggs laid by the birds. In the first 20th to 25th weeks, the production of the egg is called bullet egg. Between 26th to 28th weeks the production of egg is of medium size eggs and after the 31st week till the end of production, the egg is called big egg. Between 29th to 30th weeks the production of egg is called export size eggs.

3. Culling

Personal enquiry reveals that a good hen gives about 280 eggs during its laying period, i.e., from 20 to 72 weeks. The number of eggs obtained from the layer steadily increases and reaches the peak production stage during the period of 60 to 65 weeks. After that, the laying capacity gradually decreases. Therefore, keeping layers becomes uneconomical. Occasionally, some birds do not lay eggs at all. Birds of this nature are
found out and removed for which culling is undertaken. Thus culling is the removal of poor layers and undesirable birds from a flock.

4. Marketing Practice

Having seen various aspects of the production process of poultry products, an attempt is made here to study the marketing practices undertaken for poultry products in Namakkal District. When laying of eggs attain sufficient growth, marketing activities begin. For a careful analysis of the marketing practices followed, it is better to understand the definition of marketing, as "the performance of business activities that direct flow of goods and services from producer to consumer or user". Marketing is a chain of processes carried out to link the producer and the consumer. In these processes a number of institutions and middlemen are involved. So it is better to examine the role of them in marketing.

ROLE OF TAMILNADU POULTRY FARMERS ASSOCIATION

Tamil Nadu Poultry Farmers Association is organised by the poultry farmers. All poultry farmers are members of the association. The poultry farmers sell egg and culled birds through the egg producer's association, which is fixing the price constantly. The agent buys the eggs and culled birds, on the production of receipt, which is issued by the association.

TAMIL NADU POULTRY DEVELOPMENT CORPORATION

Retail booths to sell eggs and related products at concessional rates have been set up in different states by Poultry Corporation which was formed in July 1973 with a view to expand the poultry development activities in the state. The Corporation is engaged in commercial ventures such as feed production, chick production, rearing of eggs and broiler chicks, marketing of eggs and culled birds, supply of medicines and poultry equipments and after sales assistance to the farmers.

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47 R.S.N. Pillai, and Bagavathi, Marketing, S. Chand and Company Ltd., Rain Nagar, New Delhi, 1997, P.8.
FUNCTIONS OF MARKETING OF EGGS

The sale of eggs which is the main source of the poultry men in Namakkal District involves various functions, viz., assembling, grading, packing, storing, transporting, financing and distribution through the channel as shown in diagram 3.1

DIAGRAM 3.1
FUNCTIONS OF EGGS MARKETING

Assembling, Grading, Packing, Storing, Transporting, Pricing, Financing, Distributing

Assembling

Assembling is the first process in marketing. Assembling means 'the seeking out at source of supply, buying wisely as to quantity, quality and variety and making commodities available when and where they are wanted".\(^{48}\) Assembling the concentration of goods of particular type in bulk is imperative especially in marketing of agricultural and agro-based goods. It is because of the fact that the production of eggs is naturally scattered in various places. Large numbers of farms are situated in Namakkal town, while others are scattered over the wide rural areas. Thus large quantity of marketable surplus needs to be collected into a biggest lot for their immediate distribution to consumption centers.

Assembling starts from the farm itself. Besides farmers, some market functionaries in Namakkal District undertake the assembling function as follows;

1) Collection at the farms by farm owners and
2) Country collectors and commission agents.

Collection at the Farms by Farm Owners

As soon as the eggs are laid, they are collected from different batches of a large unit or from a single batch in case of small units by the poultry owners. Eggs are collected twice a day in winter and four times a day in summer. Wire baskets or filler Oats are used

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for gathering and cooling eggs. Then eggs are taken to a moist place in trays with their small ends down. Thus, eggs in biggest lot are gathered at the farm itself.

**Country Collectors and Commission Agents**

Country collectors and commission agents are the middlemen mainly engaged by wholesalers in the assembling function. Their operations are largely confined to rural and suburban areas. This type of middlemen travel fairly a long distance in their process of collecting eggs from small farmers, who are widely scattered in rural areas. Transporting of eggs from rural areas to the wholesalers, sometimes, to big consumers like hotels, bakeries, hostels, canteens, etc., is done by these middlemen. The mode of transport commonly used by them is cycles. The amount of collection of these middlemen is influenced mainly by the capacity of vehicles they use and their financial position.

**Grading**

Careful grading is imperative, especially in discriminating markets. There is a justification in the edge that a package of seventy graded goods fetches more revenue than a package of hundred upgraded goods. A definition of grading can reveal the importance of it in the poultry products.

"Grading refers to the application of basic descriptive standards—such as size, colour or weight to the products of nature where growers or producers have very limited control over their products' physical specification". Grading generally involves the storing of products, awarding to quality, size and other factors that determine the relative value of the products. It aids orderly marketing by reducing waste, confusion and uncertainty with respect to quality values. The quality values are generally applicator and soundness of shell, size and colour. Classification is done according to weight greatly fazing of eggs in standard containers. Systematic grading with respect to eggs, was first introduced in India in 1937, under the Agriculture Produce (Grading and marketing) Act, prescribing the names Special, Grade A, Grade B and Grade C for Agmark eggs. The Act emphasizes that eggs should be candled for the determination of

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inferior quality and then graded according to their weight. Moreover reconditions were made that eggs and poultry meat should be brought under the Essential Commodities Act, 1955 and be administered by the Directorate of Agricultural Marketing, the agency that has an organization for giving inspection service. Indian standard of table eggs established as the use of the grades is voluntary; grading is done differently in Namakkal District. Before sending the eggs to the market, they are sorted as dirty and clean shelled eggs, and are further graded according to their size by the poultry owners. This process is purely manual. In Namakkal District poultry owners and wholesalers grade the eggs into bullet eggs, medium eggs and big eggs.

**Bullet Eggs**

These are eggs obtained from the layers in the early laying period. Normally the laying period starts from the 20th week. The eggs initially laid do not only lose weight but also are small in number. These eggs weigh about 38 to 45 grams. Approximately, the first two weeks the eggs laid by a layer fall under this category. These eggs are not in much demand when compared with other big or medium eggs. The price of these eggs ranges between 30 paise to 50 paise less than that of big eggs. The majority of the eggs are distributed to rural consumers and Noon Meals Schemes.

**Medium and Export Eggs**

These are neither bullet eggs nor big eggs. The weight of these eggs ranges from 48 to 53 grams. Next to bullets, medium and export eggs have much more demand. The price of these eggs varies between 5 paise to 10 paise. So it is clear that the price of medium and export eggs is 10 paise and 5 paise less than that of the big eggs. These eggs are mainly sold in Namakkal District.

**Big Eggs**

Big eggs are considered superior to bullet eggs in weight and quality. They are also profitable to wholesalers and retailers with respect to their size and price. The big eggs weigh more than the other two types. The weight of these eggs is more than 53 grams. Despite the crude forms of shading, most of the retailers sell all eggs at a uniform rate. Lack of awareness among consumers is largely responsible for the present state of grading. In short, bulk of the eggs sold in the market is upgraded.
Packing

After the eggs are graded, they are packed in more stable form. Packing is essential for the purposes of storage and transport.

Recently there have been more innovations in commercial packing and transportation of eggs. Filler flats, eggs cartons, collapsible cardboard boxes and plastic egg trays are being manufactured. One type of collapsible egg box made up of cardboard would contain 360 eggs in filler flats and the other one is meant for 210 eggs in 7 filler flats. Collapsible cardboard egg box for 210 eggs is found to be more suitable than the bigger one for transport by rails. In Namakkal District cardboard egg trays are used successfully. Almost all the poultry farmers have given up the use of plastic trays due to their cost and fragile nature.

Storing

In poultry marketing, very often production and consumption do not match one another because the farmers do not have control over production. Bulks of the eggs collected during the peak season i.e., in summer are demanded at a later stage. During winter the demand for eggs exceeds supply. Thus, the ever-equating demand and supply forces cause wide fluctuations in price at different times of the year. So eggs that are perishables could be stored for the profitable distribution need storage. In Namakkal District eggs are kept in trays in a room from where they are released for distribution. This storage has a limited usage i.e., eggs can be stored in this only for a week. Cold storage can be considered for a long term and also for large-scale storage. Unfortunately this facility is not available to all the poultry farmers due to high investment cost and heavy maintenance cost.

Transportation

Transportation is one of the important physical supply functions in marketing. It is used for the movement of goods for people from one place to another. As it overcomes the hindrance of distance, it has a unique role to play in the days of over expanding market. It assumes much “importance, especially in marketing of perishables like eggs. In egg trade, there are distant wholesalers and commission agents in Namakkal District. They make
regular business trips to poultries. "There are 198 wholesalers and 360 retailers in Namakkal District".50

Thus eggs are moved to local points as well distant consumption centres. This factor, in large measure, determines the modes of transport used. Another distinct feature is that arrangement of transport is very often made by buyers. The transport vehicles used in egg trade are tempo and lorries in Namakkal District.

**Pricing**

Price is the basis and critical factor responsible for generating returns on money invested in any business enterprise. Price can be defined as the amount of money paid by the buyers to the seller of a product or a service mutually agreed upon in a marketing transaction. The factors that influence price include cost of goods to the consumer, charges made by competitors for similar goods, nature and condition of demand, quality of service required and production pattern of the goods.

The purpose of fixing a price for eggs is to balance the cost, when it changes from the producer to the consumer based on demand and supply. Demand is regulated by the number of potential purchasers, their ability to purchase including their preference for eggs over similar food stuff. Concerning supply cost, it should be enough to cover the production cost and other expenses required to transfer the goods from the producer to the consumer. Therefore, the long term strategy should be that egg prices should be low enough to encourage consumers to prefer its purchase in quantities available on the one hand and high enough to ensure that the producers are interested to produce more and maintain the supply.

**Finance**

Raising finance is the very important function of the poultry farmer. Finance is needed by poultry farmers for various purposes. Capital investment in sheds, egg storeroom, equipments and other assets calls for a substantial amount of finance. Similarly, the poultry farmer has to meet the recurring costs which include the cost of chicks, feed, medicines, labour charges, electricity, water and other charges. For about six

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50 Register of Tamil Nadu poultry Farmers Association, 2011-12.
months, he has to meet the recurring expenses, though there is no yield from the poultry birds. For this working capital requirement, the farmers raise finance from various sources such as borrowing from money leaders, friend’s relatives and banks.

**Sales Techniques**

Selling is one of the most important and expensive operations of marketing in these days. More sales of less cost should form the norm. Without sales, production would be a waste. Selling or distribution of eggs involves cost to perform functions such as (i) physical removal of egg from the farm area to the point of consumption (ii) collection (iii) sales control advertising, sales promotion, market investigation, maintenance of records and consumer service.

Sometimes, all these put together touch around 40 per cent of the price that the consumer pays for an egg. Even with it, if the consumer is not satisfied, the distribution system fails, Therefore efficient distribution of eggs means a planned strategy to supply the right type of egg, in right quality at the right place, at the right time, under the right impression. All these in turn involve planning, coordination and timing of the marketing efforts or sales administration. Thus, sales administration or sales management deals with those activities and functions, which are concerned with distribution of products and services.

The sales management of egg and egg products has assumed a new dimension keeping in view the changed socio-economic structure in the country. The main factors responsible for the same are - (i) With the increase in the production of eggs, indirect pressure has built up for development of newer products for which market has to be planned to make the product available to the consumer without taxing too much the purse, (ii) Increased per capita income of the consumers has made them more quality conscious and selective in their buying plan, (iii) There is a steady increase in the demand for eggs in tile export market with opportunities for increased income through foreign exchange. (iv) Advancement in transport and communication facilities has brought in a new scope for rapid movement of goods in the trade channel. (v) Shift in dietary habits from vegetarian to the non-vegetarian side and elimination of doubts and fallacies concerning egg, has also increased the scope for demand and sale of eggs in the domestic market.
Channels of Distribution

The main function of marketing is to find out appropriate ways through which the goods are to be made available to the consumers. Consumers are usually scattered and the production is concentrated in a few centers. It makes the poultry owners depend on intermediaries for marketing their eggs. A marketing channel is defined as "a path traced in the direct and indirect transfer of title to a product as it moves from a producer to ultimate consumer". In a vast country like India, modern marketing is impossible without the help of intermediaries. Direct selling by the poultry owners is limited in the eggs trade, because it is not economical on the part of the poultry owners to have small-scale production. In the egg business, wholesalers and retailers are the intermediaries in the channel of distribution. When compared with other business, the intermediaries are very minimum due to perishable nature of eggs. Consumers' price is not influenced because of shorter channel.

Here, the functionaries in the channels are briefly accounted. The channels of distribution of Eggs are shown in diagram 3.2

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DIAGRAM 3.2

CHANNELS OF DISTRIBUTION OF EGGS

Poultry Owners

Wholesalers

Retailers

Consumers

Poultry Owners

There is not much problem for the poultry owners in selling. Wholesalers collect eggs at the farms on the basis of either NECC or Association rate. As stated earlier, the accounts are settled periodically. It is understood from the survey that majority of the poultry owners prefer to sell through wholesalers and not through TAPCO. According to them, the reasons are irregular procurement, delay in payment and strict terms of sales. Direct selling is also negligible. Regarding breakage, it constitutes only a small portion and these broken eggs are directly sold at a concessional price. Wholesalers procure eggs from the poultry owners irrespective of the quantum and hence there is absolutely no problem of unsold stock. Most of the poultry owners are aware of the existence of NECC
as a price fixing agency. Most of them are not interested in the affairs of NECC because of the elimination of wholesalers who are the big poultry owners. Besides, some of them do not have real interest in the NECC.

**Wholesalers**

The wholesaler is the first link connecting the poultry owners and the consumers. The researcher has interviewed, as stated earlier, Thirty wholesalers in Namakkal District through a schedule of which is given in appendix B. According to the wholesaler, egg business has developed gradually as the number of poultry farms has increased. The reasons responsible for such development are possession of poultry farms, engagement in allied business, profitability, unemployment and real interest in the egg trade. Some of the poultry owners, whose bird population increases, enter into the wholesale business. The quantum of eggs collected per day is between 1,00,000 to 1,80,000 eggs and they are sent immediately to various markets. Madurai, Tanjore, Sivakasi, Nagarkoil, Trichy, Coimbatore and Chennai are some of the important marketing places in Tamil Nadu. Trivandrum, Calicut, Palghat and Cannanur are some of the marketing places in Kerala. The wholesalers procure eggs either at association rate (NEDA) or at NECC rate. The selling price is determined in addition to the fixed rate, a marginal profit to transport cost based on distance.

The eggs are being sold both for cash and credit. Normally the credit period is one week. The practice is to receive a part of the payment, i.e., around 80 per cent immediately and the balance is settled in the subsequent consignment. By this way, a sizable amount is outstanding and this may be settled only when their dealing is stopped.

**Retailers**

Retailers are the last connecting link between the poultry owners and the consumers. The information is collected from fifty-four retailers through a schedule, which is given in Appendix C. The retailers include grocery shops, beeda stalls, hawkers and exclusive retail shops. They get their supplies either from the poultry farms or wholesalers. The wholesalers supply eggs at the doors of the retailers. Usually they purchase both for cash and credit. If it is for credit, the period is normally from, one day to fifteen days. The retailers sell eggs to household consumers, hotels, hostels, bakeries and canteens.
The price is fixed by the retailers on the basis of cost plus margin which is usually up to five paise per egg. It is the retailers who get a higher margin than the wholesalers. The credit period allowed by the retailers in lending is from one day to one month. The damages in the retailer shops are almost negligible. Even damaged or cracked eggs are sold out at concessional rate. It is significant to note here that the fluctuations in price lead to change in the supply of eggs to retailers. When the price is decreased, the retailers are forced to sell their stock even at a loss. When the price is likely to increase, the supplier either reduces the supply or delays it and vice-versa.

Channel of marketing would not be complete, unless a study on consumer is made. If a commodity has a substitute, it would be necessary to make an investigation for the purpose of assessing the consumers' preference. Since egg is the only commodity, which cannot be substituted, a study on the consumers' preference is not attempted.

Thus the study of production process and marketing practices of poultry products is carried out or followed by the respective people in the poultry trade.