
UNIT 1 GENERAL INTRODUCTION OF POULTRY INDUSTRY

Structure

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1.0 OBJECTIVES

After reading this unit, you will be able to :

- compare the status of the Indian Poultry industry with the world poultry status;
- describe the major components of an integrated poultry industry;
- observe the general trends in consumption of poultry meat and eggs in India;
- highlight the recent issues concerning the growth of poultry industry in India; and
- state the Government's policies and incentives for improvement of poultry industry.

1.1 INTRODUCTION

In recent years, poultry industry-broiler as well as layers is making rapid strides in India. Poultry meat and egg production are useful for providing nutrition to malnourished people as well as providing jobs to the growing unemployed population including educated youth. It is well known that poultry have shorter life cycle, are prolific than larger live stock and output can be expected more easily and rapidly. This unit will discuss world poultry status, Indian poultry industry, poultry processing and marketing, the government policy and institutes, export potential, threats, barriers and recent issues relating to poultry industry.

1.2 POULTRY INDUSTRY

The growth of poultry industry is fast and from a back yard venture it has turned to a dynamic industry. The poultry industry in India is now well organized on scientific

lines and progressing well for modernization. The development includes increase in egg and broiler production, integrated approach, automation and compounded feed manufacture. The commercial sector obtains birds from imported purelines and grand parents. The commercial hatcheries in and around the city and surroundings produce day old broiler and layer chicks for the need of poultry farmers. Back yard poultry farming forms 40 per cent of total poultry production from indigenous chicken which fetch better price due to native flavour of eggs as well as for meat. The indigenous birds are more resistant to diseases compared to exotic chicken.

Ducks, quails, turkey, geese and guinea fowl are also reared in small numbers. Exotic chicken have faster growth, better feed efficiency and are competitive in price as well as in quality. Exotic broiler and layer chicken could meet the requirements of a vast majority of Indian population to combat protein deficiency and malnutrition specifically for growing children and expectant mothers.

The annual growth rate of industries is around 7 per cent in egg production (for layers) and 15 to 18 per cent in broiler production. The topmost egg producing states in India are Andhra Pradesh, Tamil Nadu, Maharashtra, Punjab and Haryana. In broiler production the leading states are Tamil Nadu, Andhra Pradesh, Maharashtra, Punjab, West Bengal and Karnataka.

Periodic change in broiler supply and depressed rate of broiler and egg leads to close down of many broiler and layer farms particularly of small and marginal farmers. Therefore, proper coordination and production of broilers and eggs are needed to overcome such unfortunate situations.

Poultry farming can also be combined with other kinds of farming. The land and capital investment to start a poultry enterprises in scientific way are not much. However, intensive commercial systems of layer and broiler production are comparatively expensive, when integrated with hatchery and feed mill. An integrated commercial system of layer consists of the following components:

- 1) Hatchery
- 2) Raising of day old chick in brooder house (8 weeks)
- 3) Grower housing (9 – 18 weeks)
- 4) Layer housing (19 weeks till end of laying period 72 weeks)
- 5) Feed mill
- 6) Marketing of egg

An integrated commercial system of broiler production consist of the following components:

- 1) Hatchery/Procurement of one day old chicken from a hatchery
- 2) Raising of day old broiler chick upto 6 – 8 weeks
- 3) Feed mill
- 4) Poultry Processing
- 5) Marketing

i) Hatchery: Integrated system of raising layer and broiler chicken comprise of hatchery – to hatch fertile eggs to produce a day old baby chick. Incubators of commercial type are manufactured in India as well as are imported. The capacity of incubator varies according to the need of entrepreneur. Commercial incubators have more than one lakh egg hatching capacity. Hygiene and sanitation

of hatchery is very important to produce clean, disease free chicks specifically free from salmonella organism. Alternatively you can buy a day old chick from a reputed firm. It takes 21 days to get chicken egg hatched and 27 days for duck eggs. Hatchery operation is a specialized operation and the hatchery is normally situated away from the poultry house.

- ii) **Feed Mill :** To get good quality layer/broiler feed, you have to establish feed manufacturing plant of your own if possible or you can get your feed manufactured at a custom feed mill by buying good quality feed ingredients and get it mixed as per approved suitable formulation. You may get the feed prepared for your daily/weekly or monthly requirement and store it at a convenient place free from rats and insects.

You will study about the poultry processing Unit in next block of this course.

1.2.1 World Poultry Status

The Poultry industry has emerged as the most dynamic and rapidly expanding segment of our livestock economy. The poultry meat production in the world is 72 million tonnes in 2002 and it is expected to grow to 94 million tonnes by 2015. In the year 2000, developing countries produced 3 million tonnes more than developed countries. Consumers have shown a clear preference for poultry over other meats. The result accomplished in the past several decades by the poultry industry are surprising and the picture looks especially bright when we compare poultry growth to that of other protein segments.

Table 1.1: World Poultry Status 2002

| | |
|---|---|
| Total No. of Layers in the World | 5 Billion |
| Total No. of Eggs Produced in the World | 50 Million Tonnes |
| Projected Egg Production in the World for 2015 | 72 Million Tonnes |
| Projected World Production of Poultry Meat in 2015 | 94 Million Tonnes |
| Total Poultry Meat Production in the World | 71.7 Million Tonnes |
| Average World Egg Consumption in the Developed Countries | 227 Eggs Per Capita |
| Average World Egg Consumption in the Developing Countries | 188 Eggs Per Capita |
| Total Chicken Slaughtering in the world in 2002 | 41,500 Million |
| Main Consuming Countries of Poultry Meat in the World | USA, China, EU & Brazil |
| Main Exporting Countries of Poultry Meat in the World | USA (46%) , Brazil (20%), EU (8%), China (7%), Thailand (6%) |
| Main Importing Countries | Hongkong, China, Japan, Singapore, EU, Middle East, Former Soviet Union |

| | |
|--|---------------------|
| India's Total Poultry Meat Production | 1.00 Million Tonnes |
| India's Total Poultry Meat Consumption | 1.00 Million Tonnes |
| India's Total Egg Production | 37 Billion Eggs |
| Total World Poultry Exports in the Year 2002 | 7 Million Tonnes |
| Share of Poultry Meat Production in Developing Countries | 36.3 Million Tonnes |
| Share of Poultry Meat Production in Developed Countries | 33.2 Million Tonnes |
| Consumption Per Person of Poultry Meat in Developing Countries | 7.2 Kgs |
| Consumption Per Person of Poultry Meat in Developed Countries | 24.8 Kgs |
| Average Global Consumption of Poultry Meat | 11.6 Kgs |

1.2.2 Indian Poultry Industry

In terms of international ranking, India is fifth in production of eggs and nineteenth in broiler production (Year-2000). Indian Poultry industry is growing rapidly at a rate of 15 to 20 per cent during the last two decades. With the growth of poultry in India, there has been a sharp rise in the availability of egg and broilers. The production of eggs and poultry meat is given below:

Table 1.2: State-wise Production of Eggs in India (2001-2002 to 2005-2006)

| States/UTs | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 |
|-------------------|---------|---------|---------|---------|---------|
| Andhra Pradesh | 133151 | 148622 | 149928 | 158040 | 164534 |
| Arunachal Pradesh | 86 | 86 | 88 | 90 | 73 |
| Assam | 5067 | 5095 | 5138 | 5216 | 5359 |
| Bihar | 7416 | 7370 | 7402 | 7894 | 10012 |
| Chhattisgarh | 7704 | 7790 | 8091 | 8795 | 8875 |
| Goa | 1145 | 1151 | 1145 | 146 | 146 |
| Gujarat | 3701 | 3848 | 4443 | 5031 | 5775 |
| Haryana | 10855 | 12509 | 12802 | 14816 | 15125 |
| Himachal Pradesh | 823 | 828 | 840 | 811 | 753 |
| Jammu & Kashmir | 6065 | 6220 | 6370 | 6105 | 6320 |
| Jharkhand | 6150 | 6619 | 6445 | 6980 | 6970 |
| Karnataka | 20274 | 19927 | 17277 | 17719 | 18348 |
| Kerala | 20016 | 13468 | 12778 | 11974 | 11956 |
| Madhya Pradesh | 6107 | 7844 | 8962 | 9023 | 9414 |
| Maharashtra | 31942 | 32950 | 33755 | 34362 | 35227 |
| Manipur | 717 | 736 | 794 | 822 | 835 |
| Meghalaya | 902 | 943 | 936 | 946 | 973 |
| Mizoram | 289 | 304 | 307 | 317 | 326 |
| Nagaland | 540 | 681 | 682 | 755 | 868 |
| Orissa | 8372 | 9096 | 9311 | 12160 | 12787 |
| Punjab | 29613 | 31306 | 30681 | 36800 | 35200 |
| Rajasthan | 6022 | 6359 | 6722 | 6932 | 7029 |
| Sikkim | 97 | 103 | 129 | 140 | 146 |
| Tamilnadu | 42242 | 36222 | 37836 | 63948 | 62225 |
| Tripura | 607 | 995 | 1005 | 1071 | 1100 |
| Uttar Pradesh | 8056 | 7476 | 8740 | 9018 | 9228 |

| | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Uttaranchal | 894 | 909 | 1842 | 1866 | 1873 |
| West Bengal | 27101 | 27490 | 28204 | 28877 | 29637 |
| Andaman & Nicobar Islands | 562 | 568 | 600 | 530 | 477 |
| Chandigarh | 171 | 218 | 249 | 280 | 280 |
| Dadra & Nagar Haveli | 18 | 16 | 15 | 50 | 48 |
| Daman & Diu | 34 | 38 | 40 | 9 | 11 |
| Delhi | 372 | 263 | 264 | 264 | 196 |
| Lakshdweep | 82 | 85 | 110 | 120 | 124 |
| Pondicherry | 95 | 93 | 100 | 102 | 105 |
| India | 387288 | 398228 | 404031 | 452009 | 462307 |

Source : Ministry of Agriculture, Govt. of India

Table 1.3: Production of Poultry Meat in India

| Year | Meat@ (Million Tonnes) |
|-----------|---------------------------|
| 1998-99 | 1.9 |
| 1999-00 | 1.9 |
| 2000-01 | 1.9 |
| 2001-02 | 1.9 |
| 2002-03 | 2.1 |
| 2003-04 | 2.1 |
| 2004-05 | 2.2 |
| 2005-06 | 2.3 |
| 2006-07** | 2.3 |

Note : ** Anticipated Achievements.

@ from Recognized Sector.

Source : Ministry of Agriculture & Govt. of India.

Table 1.4: State-wise Total Poultry in India (2003)

(in '000)

| States/UTs | 17th Livestock Census 2003 | | | | | |
|-------------------|----------------------------|-----------|----------------|-------------|-----------------|---------------|
| | Total Cocks | Total Hen | Total Chickens | Total Fowls | Total Duck etc. | Total Poultry |
| Andhra Pradesh | 6319 | 34964 | 60702 | 101985 | 293 | 102278 |
| Arunachal Pradesh | 1117 | 0 | 0 | 1117 | 60 | 1177 |
| Assam | 1831 | 4126 | 6456 | 12413 | 5336 | 17749 |
| Bihar* | 4556 | 0 | 1143 | 5699 | 528 | 6227 |
| Chhatisgarh | 1519 | 2761 | 3725 | 8005 | 176 | 8181 |
| Goa | 47 | 141 | 377 | 565 | 1 | 566 |
| Gujarat | 1031 | 3246 | 3792 | 8068 | 66 | 8135 |
| Haryana | 531 | 6330 | 6748 | 13610 | 9 | 13619 |
| Himachal Pradesh | 102 | 424 | 430 | 957 | 1 | 957 |
| Jammu & Kashmir | 920 | 1911 | 3498 | 6329 | 1779 | 8109 |
| Jharkhand | 2540 | 3954 | 6717 | 13211 | 962 | 14173 |
| Karnataka | 2411 | 10050 | 13114 | 25576 | 17 | 25593 |
| Kerala | 1951 | 6143 | 5178 | 13272 | 1788 | 15059 |
| Madhya Pradesh | 1997 | 3757 | 5924 | 11677 | 28 | 11705 |
| Maharashtra* | 4834 | 13509 | 16321 | 34663 | 74 | 34737 |
| Manipur | 352 | 696 | 1335 | 2383 | 557 | 2941 |
| Meghalaya | 477 | 867 | 1417 | 2762 | 59 | 2821 |
| Mizoram | 149 | 257 | 708 | 1114 | 11 | 1125 |
| Nagaland | 464 | 592 | 1617 | 2673 | 228 | 2900 |
| Orissa | 2361 | 4757 | 9767 | 16886 | 724 | 17610 |
| Punjab | 638 | 2719 | 7415 | 10773 | 6 | 10779 |
| Rajasthan | 6134 | 0 | 0 | 6134 | 0 | 6134 |
| Sikkim | 49 | 69 | 89 | 207 | 1 | 208 |
| Tamil Nadu* | 3992 | 7322 | 24478 | 35792 | 719 | 36511 |
| Tripura | 401 | 804 | 1066 | 2271 | 786 | 3057 |
| Uttar Pradesh* | 3042 | 4017 | 4472 | 11531 | 438 | 11969 |

| | | | | | | |
|----------------------|--------------|---------------|---------------|---------------|--------------|---------------|
| Uttaranchal | 266 | 943 | 757 | 1967 | 17 | 1984 |
| West Bengal | 7514 | 17618 | 18568 | 43700 | 16955 | 60656 |
| Andaman & Nicobar | 924 | 0 | 0 | 924 | 0 | 924 |
| Chandigarh | 6 | 120 | 26 | 152 | 0 | 152 |
| Dadra & Nagar Haveli | 126 | 0 | 0 | 126 | 0 | 126 |
| Daman & Diu | 5 | 12 | 11 | 28 | 1 | 29 |
| Delhi | 359 | 0 | 0 | 359 | 0 | 359 |
| Lakshadweep | 10 | 72 | 49 | 131 | 17 | 148 |
| Pondicherry | 18 | 43 | 132 | 193 | 37 | 230 |
| India | 58995 | 132225 | 206034 | 397254 | 31676 | 428929 |

Note : * data from all the districts are not available

Source : 17th Livestock Census 2003, Department of Animal Husbandry & Dairying, Ministry of Agriculture, Govt. of India.

Annual per capita consumption of egg and meat in the country is low in the range of 42 eggs (Year: 2004-2005) and that of poultry meat around 1 kg. In urban areas the per capita consumption is 100 eggs and 1200 gms of poultry meat per annum while in rural areas it is 15 eggs and 150 gms per annum. But with increase in income at disposal, per capita consumption is expected to rise. NECC has set a target of increasing per capita consumption to 180 by 2015.

Poultry in Rural India

Backyard poultry keeping is practised by the rural people since the ancient days. As on now, around 40 per cent of the total chicken population is in the backyards. The birds are usually low producers with high resistance to diseases. Though the eggs produced by the rural poultry are not in significant proportion with the total production, it helps the rural masses in self-employment and caters much needed animal proteins. The need to adopt commercial exotic crossbreeds has been much over-emphasized in the name of development that, the rural people with scarce resources take to practicing commercial poultry in the backyard.

1.3 POULTRY PROCESSING AND MARKETING

Industry has been actively talking about chicken processing in India from ten years now but still processing industry continuous to be at an infant stage. A mere 6% of production of poultry meat is sold in processed form. Of this, only about 1% undergoes processing into value added products (Ready-to-eat/ Ready-to-cook). Till middle of 1999, there were only three processing plants operating in India, two based near Pune and third one at Hyderabad. But scenario is changing fast. With political stability and growth oriented industrial outlook, processing industry is all set to take-off. Government has now recognized the poultry industry as one of the growth engines for Indian economy.

Some of the general trends observed in consumption of poultry meat across the country are:

- Both eggs as well as the meat of chicken/duck is marketed and consumed in fresh form.
- Urban population accounts for around 75% of the total poultry consumption in the country.
- Egg consumption is largely in the bakery sector, confectionery sector and also in egg eating households.

- Egg powder manufacturers consume around 1% of the total egg production in the country.
- Per capita consumption of egg is around 42 eggs per annum and that of poultry meat is 1 Kg per annum.
- Internationally WHO recommended per capita consumption levels as 180 eggs and 1.9 Kg meat per annum.
- Poultry meat consumption constitutes around 22% of the total meat consumption in the country.

Concerns today in the Meat & Poultry Industry

In the rapidly changing world scenario, the importing countries have been insisting on better quality of the product. Under the sanitary and phytosanitary agreements, the importing countries have the right to take measures necessary for protection of human, animal or plant life or health.

In this connection, a number of meat delegations from importing countries are regularly visiting India for inspection of abattoirs and meat processing plants. These delegations have insisted on introduction of strict quality control measures to improve the quality of Indian meat and introduction of HACCP (Hazard Analysis and Critical Control Point) etc.

Agricultural and Processed Food Product Export Development Authority (APEDA) is encouraging the units to implement HACCP and extending financial assistance under its plan scheme.

Among the main concerns for the poultry industry in India is the need to organize the industry and bring in the general awareness about the need for hygienic practices. The fact that it is still largely unorganized, makes it most uncontrolled or unmonitored. This is especially true in the Northern states although in South India the broiler industry has become highly integrated.

Here also the problem of unorganized rearing and slaughtering at the shop premises makes the product highly susceptible to contamination. Most of the consumers here buy these poultry which may fail even the basic tests of safety.

Throughout the country, the layer industry remains un-integrated. Periodic and apparently cyclical gluts in broiler supply regularly contribute to depressed market conditions that have led to the exit of many small and inefficient players.

The feed for poultry industry is facing the problem of high cost, which is increasing disproportionately to meat industry. Though maize is an important ingredient in poultry feed, the production of this grain has not matched the growth of the poultry industry. The India egg powder industry has faced the problems of SPS measures in the form of residue in EC countries.

Government of India through Export Inspection Council has conveyed to EC the standards for export of egg powders enacted and notified under the EIC Act, 1963 which till date has not been given equivalency by the EC Countries, though, these standards are a replica of EC standards only. SPS Agreement establishes equivalency as a principle which is not being followed to the egg powder standards.

1.4 GOVERNMENT POLICY AND INSTITUTES

The government's policy initiative under different five year plans have generally helped this transformation in the poultry sector, but cannot claim to have propelled the poultry industry to the heights, where it is today.

The government funds research activities related to the sector either through research organizations like Agricultural Universities/Indian Council of Agricultural Research or through trade regulatory bodies – APEDA (Agricultural and Processed Products Exports Development Authority). The Export Inspection Council is apex organization to monitor the quality of the poultry exports eggs and chicken meat products and to provide registration, certification, laboratory and consulting support for the same.

The government also supports the industry by extending loans through nationalized banks especially NABARD (National Bank for Agriculture and Rural Development) and technical expertise. However, the Indian poultry industry is dominated by the private sector.

Inspite of propaganda raised by organizations promoting vegetarianism and inspite of threat of salmonella and cholesterol, world poultry industry is expanding, as the population is increasing. Per capita consumption is also increasing. Not only that, many countries which are not traditionally poultry – growers are giving incentives to their poultry industry. Indian Government is also giving incentives to small poultry farmers as well as poultry industry in organized sector as poultry industry generates employment and provides proteins to masses.

SCHEME FOR DEVELOPMENT OF POULTRY & EGG PROCESSING

Objectives

Development of processed poultry and egg products for both domestic and export markets, with assured quality and health standards and also for effecting necessary technological improvement of processing units.

Pattern of Assistance

| | | |
|-------------------------------|---|--------------|
| NGOs/ Cooperatives | 50% of the cost of capital equipment and technical civil works upto Rs. 75 lakhs in general areas and 75% of such cost upto Rs. 100 lakhs in difficult areas. | Grant |
| PSUs/Joint Sector | 75% of the cost of capital equipment and technical civil works upto Rs. 100 lakhs in difficult areas. | Grant |
| Private Sector | 25% of the cost of capital equipment and technical civil works upto Rs. 50 lakhs in general areas and 33.33% upto Rs. 75 lakhs in difficult areas. | Grant |

1.5 EXPORT POTENTIAL

Export markets are on the way of opening, as subsidies on agricultural products are phased out internationally under WTO agreements. By making the quality and cost

of eggs and poultry meat competitive, the Indian poultry sector is expected to capture a significant share of the export market currently dominated by the US, Brazil, Netherlands and Thailand. India has already started exporting processed poultry meat & shell eggs to gulf countries and egg powder to E.E.C. and Japan. India also exports large quantities of hatching eggs to Bangladesh, Singapore, Maldives, UAE, Saudi Arabia and Oman and specific pathogen free eggs to EU for pharmaceutical purposes.

The total volume of international trade in the year 1999 for poultry products was to the tune of US\$ 4,277 million (Rs 19,465 cr). Of this, India's share was approximately Rs. 75 cr. which is negligible. Though the cost of production for poultry products is on par with other developed countries and further having geographical advantage of nearness to major importing countries in Middle East/Gulf, we are unable to compete with developed countries because of various hidden subsidies offered by competing exporting countries.

Given below are the rates of subsidies given by USA/EU countries on export of poultry products.

However, once the subsidies are phased out, following WTO agreement, we will be in a position to compete with them and increase the exports substantially.

Constrains in egg processing and exports

- Egg powder was being exported to European Union, Japan, Thailand, Hong Kong, Argentina and Switzerland. Of late, there is down turn in sales to the European Union due to stringent quality standards imposed by EU, high import duties levied by EU and dumping by USA/EU processors.
- Competition from European because of freight and other subsidies offered by their Governments to make their eggs cheaper, less price realization for our exports because of quality difference (2-3 US\$ less per carton of 360 eggs than the eggs from USA and EU) and unpredictable domestic prices are some of the hurdles for accelerating our egg exports.
- Besides, there is a decline in demand from Japan.
- Hence, Indian egg powder exports declined sharply.
- At present only 5 egg powder plants are in operation and they are operating at 1/3rd capacity.

1.6 THREATS, BARRIERS AND RECENT ISSUES CONCERNING THE INDUSTRY

A peculiar feature of the poultry industry in India is that it is highly fragmented. There are several thousand independent poultry producers. There is little or no promotion of brands either in the egg or chicken meat sector.

The domestic poultry industry is facing a number of problems in recent years.

First, the industry has been facing a severe shortage of its major feed ingredient, namely maize. Feed cost amounts to nearly 75 per cent of the cost of production of eggs and broiler; and maize constitutes 50 per cent of feed rations. Therefore, even a small increase in the price of ingredients can wipe out the profits.

Second, poultry being a livestock sector need certain vital infrastructure facilities that can facilitate storage, distribution, marketing, and exports. There is an acute

shortage of refrigerated road transport and an efficient cold chain, which makes widespread distribution difficult and expensive. The country does not have a proper testing system; presently issues like pesticide residue, antibiotic residue, and hormonal residues are creating enormous problems while exporting.

Third, though poultry is an integral part of agriculture and treated at par with livestock in India, it faces restrictions on use of agricultural land, attracts higher electricity tariffs and sales tax than that of agriculture, pays tax on income earned from poultry farms, and is subjected to different land/labour laws including the minimum wage act.

While some of the traditional economic problems are still not resolved, new areas of concern have cropped up. The foremost is the reported move of the government to open up the domestic poultry sector for import competition. For long, the domestic poultry sector has remained protected because its import was subject to Quantitative Restrictions (QRs). Most of items were imported after obtaining licenses.

Import Threat

Even though the costs of meat production is lower in India than most countries, the price of maize, which is the main chicken feed ingredient, is lower in USA and Brazil as compared to India. Large portion of maize is now being diverted to other industries like manufacturing of starch, corn flakes etc. Import of maize as a short term measure and introduction of a scheme to 'grow more maize' backed by incentive prices for farmers has to be taken up as a long term measure to reduce the cost of maize for poultry farmers. Simultaneously, to protect our maize farmers, steps have to be taken for reducing their cost of production by increasing productivity, improving technology, supply of quality inputs, awareness creation, etc.

One way to overcome the problem of shortage of maize for poultry industry is to encourage contract farming as this will help exporters to get assured supply of pesticides/chemical residues – free maize for manufacture of poultry feed.

In developed countries, huge subsidies are given to the poultry industry, which gives them unfair price advantage over developing countries. For e.g. in USA the export of poultry meat is subsidized to the extent of 394.74 US \$ per ton (approximately Rs 18 per kilo). Similarly in case of European Union, the export of poultry meat is subsidized to the extent of 295.17 US dollars per ton (Rs 13.50 per kilo).

Eggs are subsidized to the extent of 30 per cent of export price. Apart from this, USA is subsidizing the poultry products in the form of deficiency payments (difference between market price and Government determined target price) to protect the producer. Production and other liberal subsidies to maize farmers are also being given in USA.

To protect our poultry industry from cheaper imports, Government of India has increased bound rates on imported poultry meat to 100 per cent, even though the demand from the industry is 150 per cent.

Employment

As per a recent estimate presently, poultry sector provides direct/indirect employment to approximately 2 million persons. At least 80 per cent of employment in the poultry sector is generated directly by the farmers, while 20 per cent is engaged in feed, pharmaceuticals, equipment and other services required by the poultry sector. Additionally, there may be a similar number of people are engaged in marketing and other channels servicing the poultry sector. Further it is estimated that an increase of

one egg in per capita consumption will provide additional employment for 26,000 persons. Based on this, increased production in both eggs and an increase of per capita consumption of 50 gms of poultry meat will do the same.

Check Your Progress 1

- 1) Poultry farming in India has grown from a backyard venture to a dynamic industry. Justify the statement.

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- 2) Explain the role of hatchery and feed mill in an integrated poultry industry.

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- 3) List four govt. bodies which are concerned with the growth/quality of produce of poultry in India.

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- 4) What is the per capita consumption of eggs and poultry in India compared to WHO recommendations.

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- 5) Comment on the recent trade issues concerning the poultry and egg industry.

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1.7 LET US SUM UP

The Indian poultry industry has recorded extraordinary growth during last two decades. Poultry farming in India has grown from a backyard venture to a dynamic

industry. Demand for poultry products has also been found to be steeply rising. Government should provide infrastructure facilities such as cold-storage, egg grading, Lab, diagnostics and quality certification, inspection etc., at different parts of the country near to production centers. This would help streamline the export operations to a maximum extent. The Industry players should initiate Indigenous Genetic Research & Development to develop the local breeds suitable for Asian Tropical Environment.

1.8 KEY WORDS

| | |
|------------------------|---|
| Broilers | : Birds reared for the purpose of meat production. |
| Brooder House | : A heated enclosure in which baby birds are raised after hatching. |
| Cold Chain | : System adopted to keep food items at desired low temperature [either chilling or freezing temperature]. |
| E.C | : European Community |
| E.E.C | : European Economic Community |
| E.I.C | : Export Inspection Council |
| Exotic Chicken | : Imported chicken breeds |
| E.U. | : European Union |
| Feed | : Food for birds/animals |
| Feed Efficiency | : Ratio of feed intake and growth rate. |
| G.O.I. | : Government Of India |
| Glut | : Surplus or excess production i.e., to flood (a market) with an excess of goods so that supply exceeds demand. |
| HACCP | : Hazard Analysis and Critical Control Point |
| Incubator | : An equipment for brooding bird's eggs in order to hatch them. |
| Layers | : Birds reared for the purpose of egg production. |
| Malnutrition | : Under nourishment |
| NECC | : National Egg Coordination Committee |
| N.G.O | : Non government organization |
| Processing | : Technique involved in the conversion of raw material (livebird) into intended finished products. (dressed chicken, kababs, egg powder etc.) |
| Pureline | : Original breeds of chicken. |
| S.P.S Measures | : Sanitary and Phytosanitary measures. |
| S.S.P. | : Special Safe guard protection Sanitary and Phytosanitary : Cleanliness for human health, plants and animals. |

| | |
|----------------|---|
| Subsidy | : Financial assistance |
| TRQ | : Tariff rate quota |
| U.A.E | : United Arab Emeritus |
| U.S.A | : United States of America |
| W.T.O | : World Trade Organisation |
| WHO | : World Health Organisation. It is an international organization of the United Nations. |

1.9 Some Useful Books/References

Handbook of Poultry Farming and Feed Formulations (2005). Delhi, Engineers India Research Institute

www.dahd.nic.in

www.indiasat.com

www.mofpi.nic.in

www.fao.org

1.10 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

- 1) Your answer should include the following points:
 - Give data for the production of eggs and broiler meat in India.
 - The poultry industry is now well organized on scientific lines.
 - Integrated systems which include hatchery, feed mill raising the bird. Modern poultry dressing plants, eggs powder plants are components of the Indian poultry industry.
 - HACCP and ISO 9000 are implemented in the poultry industry.
- 2) Your answer should include the following points:
 - Hatchery is an important component where fertile eggs are hatched to produce a day old baby chicks. The chicks are produced under hygienic conditions.
 - Efforts are taken to produce disease free chicks.
 - A feed mill is used by the poultry farmer to produce feed for the birds according to required formulation.
 - Good quality feed ingredients may be used to get maximum output in either weight gain of the birds or production of eggs.
 - The poultry farmer may produce feed using locally available raw material.
 - The poultry farmer has control over quality of day old chick and feed in an integrated system.

- 3) Following bodies are concerned with growth/quality of produce of poultry in India.

Ministry of Agriculture, Dept. of Animal Husbandry and Dairying

NECC : National Egg Co-ordination Committee

APEDA : Agricultural and Processed Products Export Development Authority

EIC : Export Inspection Council

MFPI : Ministry of Food Processing Industries

- 4) Per capita consumption of eggs is around 42 eggs per annum and that of poultry meat is 1 kg per annum.

WHO recommended per capita consumption levels are 180 eggs and 1.9 kgs poultry meat per annum.

- 5) Recent trade issues concerning the poultry and egg industry:

- The government is to open up the domestic poultry sector for import competition. For long, the domestic poultry sector has remained protected because its import was subject to Quantitative Restrictions.
- It is difficult for the Indian poultry industry to face import competition, as the cost of production in India is high compared to other countries where farmers are given subsidies from their government and thereby their cost of production is very low.
- Feed cost in India is high.
- More cold chain systems are required.
- More testing laboratories for pesticide residue, antibiotic residue and hormonal residue's are required.
- The Indian egg powder industry has faced the problems of SPS measures in the form of residues in EC countries.