CHAPTER -I
POULTRY INDUSTRY IN INDIA
- A HISTORICAL RETROSPECT

Poultry is one of the fastest growing as well as the ailing industry in India today. While the production of agricultural crops has been rising at a rate of 1.5 to 2 percent per annum, the production of eggs and broilers has been rising at a rate of 8 to 10 percent per annum. India is now ranked as the world's fourth largest egg producer and the eighth largest producer of broilers. Driving this expansion is a combination of factors - growth in per capita income, a growing population and innovative management practices. Despite growth prospects the industry faced a deep crisis in 1996, pushing many farmers to close down their operations. As a counter, some companies initiated integration strategy. Since then integration has become one of the hot topics for discussion in business circles.

EVOLUTION

The history of poultry in India is some 5000 years old. The poultry sector in India has undergone a paradigm shift in structure and operation. It has transformed from a mere backyard activity into a major commercial activity. This transformation has involved sizeable investments in breeding, hatching, rearing and processing. Farmers in India have moved from rearing non-descript birds to rearing hybrids such as Hyaline, Shaver, and Babcock, which ensure faster growth, good livability, excellent feed conversion and high profits to the rearers. The industry has grown largely due to the initiative of private enterprise, government intervention, and considerable indigenous poultry genetics capabilities, and considerable support from the complementary veterinary health, poultry feed, poultry equipment, and poultry processing sectors. India is one of the few countries in the world that has put into place a sustained Specific Pathogen Free (SPF) egg production project.
DEVELOPMENT MILESTONES

The milestones in the development of poultry industry are presented here.

1950's

- A Cottage/rural enterprise.
- Government backed massive grading program with supply of exotic cocks.

Late 1960's

- Support from world food programmes through supply of grains.
- Emergence of private sector hatcheries.
- Setting up of various institutes in the field of breeding and health.

1970's & 1980's

- Emergence of farms in the line with small scale industries (SSIs).
- Liberalized loans from banking sector.
- Emergence of support industries e.g. Feed and Pharmaceuticals.
- A shift from government to private sector with ever increasing dedicated entrepreneurial ventures.
- Beginning of integrated approach with entry of foreign technology.

1990's

- Emergence of corporate farms.
- Achievement of self-sufficiency in breeding operation.
- Emphasis on cost control and efficiency through automation in operation.
- Era of full-scale vertical integration coupled with entry into export world.
CONTRIBUTION OF GOVERNMENT

The government’s policy initiative under different five year plans (Table I.1) 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 government also supports the industry by extending technical expertise and loans through nationalized banks especially NABARD (National Bank for Agriculture and Rural Development) (Exhibit I.1)

Table I.1 Plan-wise Outlays on Poultry Sector

<table>
<thead>
<tr>
<th>Period</th>
<th>Total plan</th>
<th>Agri-sector</th>
<th>Animal husbandry sector</th>
<th>Poultry sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>First plan (1951-56)</td>
<td>19,600</td>
<td>2,900</td>
<td>1,600</td>
<td>NA</td>
</tr>
<tr>
<td>Second plan (1956-61)</td>
<td>46,20</td>
<td>5,490</td>
<td>334.7</td>
<td>28</td>
</tr>
<tr>
<td>Third plan (1961-66)</td>
<td>85,770</td>
<td>10,890</td>
<td>770.0</td>
<td>46</td>
</tr>
<tr>
<td>Annual plan (1966-69)</td>
<td>66,254</td>
<td>11,071</td>
<td>597.0</td>
<td>NA</td>
</tr>
<tr>
<td>Fourth plan (1969-74)</td>
<td>1,57,790</td>
<td>23,204</td>
<td>1,542.6</td>
<td>115</td>
</tr>
<tr>
<td>Fifth plan (1974-78)</td>
<td>121,765</td>
<td>19,997</td>
<td>2,087.7</td>
<td>NA</td>
</tr>
<tr>
<td>Sixth plan (1980-85)</td>
<td>1,092,917</td>
<td>136,203</td>
<td>8,025.1</td>
<td>NA</td>
</tr>
<tr>
<td>Seventh plan (1985-90)</td>
<td>2,202,163</td>
<td>279,611</td>
<td>12,805.0</td>
<td>602</td>
</tr>
<tr>
<td>Total (1950-90)</td>
<td>4,187,241</td>
<td>538,031</td>
<td>28,646.7</td>
<td>1572</td>
</tr>
<tr>
<td>Eighth plan (1992-97)</td>
<td>4,341,000</td>
<td>568,296</td>
<td>28,383.2</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Poultry India, October 2000- p. 21
While the State Governments were struggling hard with all resources at their command to push the poultry industry forward the Government of India team lead by the Animal Husbandry Commissioner gave their fullest support at a higher level in all aspects of the poultry industry thus providing confidence to field workers.

**Exhibit I.1 Role of NABARD**

National Bank for Agriculture and Rural Development (NAARD), as an apex institution in the country for all matters pertaining to policy, planning and operation in the field of agricultural credit, provides refinance assistance to banks for their lending to poultry sector. As part of its development role, NABARD conducts training programmes/workshops on project appraisal and monitoring for offers of financial institutions, prepares model/innovative schemes and circulates among banks, conducts studies and supports research projects of relevance from its R & D fund. The credit provided by banks along with refinance support extended by NABARD has played a pivotal role for the poultry development in the country. The cumulative refinance support provided by NABARD for poultry, sheep and pig sector upto 31 March 2001 was Rs. 1938 crore. NABARD refinance for investment credit to poultry sector declined from Rs 130.89 crore in 1995-96 to Rs 76.08 crore in 2000-01. The quantum of NABARD refinance was more in the states of Punjab, Haryana, Andhra Pradesh and Tamil Nadu.

NABARD has recently formulated a scheme for setting up of Agriclinics and Agribusiness centres by graduates in Agriculture and allied sector mainly to accelerate transfer of technology, strengthen extension services, supplement sources of input supply and also to provide self employment opportunities to the professionals. Under the scheme, banks can extend credit required for veterinary graduates to establish feed analytical laboratories, disease diagnostic laboratories, residual testing laboratories along with veterinary clinics. Ceiling on project outlay for individuals is Rs. 10 lakh and for a group of 5 professionals is Rs. 50 lakh. NABARD is providing interest free soft loan assistance to banks upto a maximum of 50% of the short fall in margin prescribed by the banks. A service charge of 3% p.a. is levied by banks on soft loan assistance NABARD also provides 100% refinance under the scheme to banks. NABARD is also implementing the Goal capital investment subsidy scheme for cold storages.

Banks invariably have financed for all segments of poultry industry viz., commercial broiler/layer farms, associate hatcheries with parent stock farms, pure line breeding farms, grand parent farms with hatcheries, processing plants, feed plants etc. in the past with active NABARD refinance support. However, in the post - WTO era, banks have to focus their attention on those investments which ensure production in line with global standards, reduction in cost of production in line with global standards, reduction in cost of production and improve production efficiency. Some such areas requiring specific attention of credit institutions are given below.
Technology upgradation / new technologies: Financing for upgradation of technologies to existing units or proven, new and cost efficient technologies to new units for improving productivity, eg. Automatic feeding & watering systems and environment controlled sheds to poultry farms.

Infrastructure: Establishment of cold storages with washing, grading, labeling and packing facilities for egg exports and dry godowns in production centres need the attention of banks.

Quality adherence: As adherence to international quality standards is essential for exports, banks have to finance for investments like residue testing laboratories, feed analytical laboratories, disease diagnostic laboratories, establishment of cold chain, etc. more in the coming years. While financing for processing activities, it is necessary to encourage the plants to get BIS certification and adopt Hazard Analysis Critical Control Point (HACCP) practices.

Value addition: Financing of units for manufacture of market demand driven value added products.

Contract farming: Strive for banks – industry – farmers linkage through contract farming for maize as this will help exporters to get assured supply of pesticide / chemical residue free maize for manufacture of poultry feed and maize farmers, better technology, quality inputs, increased production and assured market.

Integration of poultry industry: Modern large scale commercial poultry production requires very specialized management skills, large volume of finance and fine tuning amongst supply of timely, quality inputs and methods to dispose the outputs. In vertical integration system, different units/entrepreneurs (such as breeder, hatchery, feed manufacturer, farmer – producer, processing agency and marketing agency) are bound together by mutual contracts and performance guarantees as well as incentives. This system is well established in developed countries and has to be introduced in India if we have to take advantage of the export market thrown open due to implementation of WTO. Establishment of such vertical integration requires huge credit support from the banking system for various players and for ensuring quality output. Private sector initiatives in implementation of regional integrated projects for marketing of broilers also have to be extended necessary credit support by banks.

Working Capital: The studies conducted by NABARD on poultry units invariably revealed that the assessment of working capital requirements by banks is conservative. Hence banks should properly assess and provide adequate working capital for the agribusiness units. Export credit should also be extended liberally to exporters.

Improving systems and procedures: Simplification of procedures, provision of adequate sanctioning power to branch managers and reduction in time taken for decision making with regard to sanction of projects which require attention of the banks.

Capacity building: Continuous attention of the banks NABARD is required on capacity building of branch level officials of banks on appraisal of various types of projects.

Extension services: As awareness creation among poultry farmers about global markets, quality standards, bio-security norms and latest technology are important for accelerating poultry exports, banks should up of Veterinary clinics under Agriclinics and Agribusiness centres scheme to fill this gap.
**Regional Poultry Farms (RPF)**

To supplement the efforts in meeting the enormous requirements of exotic chicks the several Regional Poultry Farms of the Central Government were geared up all-round for mass production of exotic chicks. Some of the RPFs (Regional Poultry Forms) were able to produce layer stains with high production performance which proved their merit at the RST (Random Sample Test) centres. However, due to lack of dynamic salesmanship these could not enter the commercial circuit and largely survived by the patronage of Animal Husbandry Departments.

**Training Institute**

Training facilities were organized for technical staff from all states in all aspects of poultry development. These RPFs (Regional Poultry Forms) were already involved in producing some high yielding exotic layer strains based on imported germplasm and efforts in this direction were further intensified. In view of the need for coping up with enormous strain involved in training a large number of poultry specialists from all over the country, a Central Poultry Training Institute was set up at Bangalore with the best facilities. The Government of India was greatly helpful in providing training facilities abroad for a large number of poultry scientists with help from friendly countries, which was a great blessing. At Random Sample Testing centers, layer and broiler chicks from all commercial hatcheries are tested for different performance parameters.
GROWTH OF POULTRY INDUSTRY

A brief account of the growth in poultry industry in terms of production, employment, and consumption is given here.

(i) Production

Table eggs and broiler meat are the major end products of the poultry sector in India. Presently, production of eggs is estimated to number about 50 billion, that of broilers 450 million, and that of poultry meat 735,000 tonnes. The value of egg and poultry production in India during 1985-2010 is given in Table I.2. In addition, organized facilities have been set up over the years for the manufacture of egg powder and frozen, processed broiler meat essentially to cater to export markets and markets in the metropolitan areas of India.

In recent years, while the output of crops in the country is going up at the rate of 1.5-2.0 per cent, the output of eggs is going up at the rate of 4-6 per cent and broilers at 8-10 per cent per annum. According to some experts, the poultry industry in India is expected to grow into a Rs. 27,000 crore industry by 2005 due to increase in employment potential and income generation of rural poor and marginal farmers.

Table I.2. Poultry production

<table>
<thead>
<tr>
<th>Year</th>
<th>Human Population in India (millions)</th>
<th>Egg Production (tonnes)</th>
<th>Broiler Parent stock</th>
<th>Broiler Chick (million)</th>
<th>Broiler Chicken Meat (000 tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>767.9</td>
<td>774,317</td>
<td>1,042</td>
<td>100</td>
<td>52.5</td>
</tr>
<tr>
<td>1990</td>
<td>850.8</td>
<td>1,282,000</td>
<td>3,160</td>
<td>371</td>
<td>270</td>
</tr>
<tr>
<td>1995</td>
<td>929</td>
<td>1,500,000</td>
<td>4,800</td>
<td>396</td>
<td>350</td>
</tr>
<tr>
<td>2000</td>
<td>1006.8</td>
<td>1,845,250</td>
<td>8,975</td>
<td>800</td>
<td>665</td>
</tr>
<tr>
<td>2005</td>
<td>1082.2</td>
<td>2,355,000</td>
<td>15,000</td>
<td>1,335</td>
<td>1,10</td>
</tr>
<tr>
<td>2010 Estimated</td>
<td>1152.3</td>
<td>3,151,520</td>
<td>21,000</td>
<td>1,870</td>
<td>1,555</td>
</tr>
</tbody>
</table>

Source: 1) Poultry voice of India, September, 1998  
2) A-P. Poultry status – Vision 2020  
3) Poultry Fortune, October 2002
Note: * Average weight of table egg produced in India is 55 gm (International Egg Commission).

- Current world average expansion of egg production is 3 to 4% annually. However, with increasing demand from India's growing population and improving purchase power, these growth projections by POULTRY TIMES OF INDIA have taken a bigger rate of annual expansion of egg production. Forecast of egg output in the year 2000 is based on a cumulative annual production expansion of 4.23% during the 1995-2000 period.

- Forecast of egg output in 2005 is based on a cumulative annual production expansion of 5% during the 2000-2005 period. Forecast of egg output in 2010 is based on a cumulative annual production growth of 6% for the 2005-2010 period.


- Commercial broilers are grown to different weights in each production area, depending on market requirements. The average national live weight per broiler is 1.450 kg, grown in 35 to 45 days depending on feed quality. Average FCR (Feed Conversion Ratio): 2.1.

(ii) Employment

It is estimated that for every 1000 broiler birds sold per week there is an employment potential for 15 persons and actually there is an additional opportunity for 10% growth annually. Four decades ago, when egg and broiler production was 10 billion and 30 million, respectively, the total employment numbers in the poultry sector were not so encouraging. As income and employment in the crop sector started diminishing, the non-crop sector, which includes dairy and poultry, underwent a significant shift. With the demand for poultry increasing and production reaching 50 billion eggs and 450 million broilers. This sector now employs around 1.6 million people. At least 80 percent
of employment in the poultry sector is generated directly by these farmers, while 20 percent is engaged in feed, pharmaceuticals, equipment and other services required by the poultry sector. In addition, roughly 1.6 million personnel are engaged in marketing and other channels servicing the poultry sector.

(iii) Consumption

The consumption of the poultry products is less in India. Table 1.3 and Figure I.1 show the details. The per capita consumption of eggs in the country is only 36 eggs and poultry meat 850 gms against a recommended consumption of 180 eggs and 10.8 kg poultry meat per person per annum by the Nutritional Advisory Committee of India. Per capita consumption of eggs is only 7.7 per annum in rural areas compared with 17.8 per annum in urban areas. In seven states, per capita consumption is less than 3.5 per annum. Similarly, per capita consumption of poultry meat is 0.24 kg. in rural areas and 1.08 kg. in urban areas.

Table I.3 Consumption of Poultry Products

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Capita Annual Egg (No. of Egg)</th>
<th>Per Capita Annual Broiler Chicken (gms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>18.32</td>
<td>91</td>
</tr>
<tr>
<td>1990</td>
<td>27.4</td>
<td>317</td>
</tr>
<tr>
<td>1995</td>
<td>29.36</td>
<td>376</td>
</tr>
<tr>
<td>2000</td>
<td>33.32</td>
<td>660</td>
</tr>
<tr>
<td>2005</td>
<td>47.00</td>
<td>1,600</td>
</tr>
<tr>
<td>2010*</td>
<td>55.00</td>
<td>3,500</td>
</tr>
</tbody>
</table>

* Estimated

Source: *Poultry Voice of India*, September, 1998
(iv) Region-wise growth

There has also been a growing tendency for poultry units to be concentrated around urban areas because of the existence of ready markets for the end products of poultry production. The structure of India's poultry industry varies from region to region. Dividing the country into four regions, the growth of the industry is examined here.

(i) Northern region:

It is not a surprise to find that the northern region has the highest per capita production and availability of broilers over two times the national average. This is because of the higher income levels and a large proportion of people who prefer non-vegetarian food. Even the current demand can be stepped up, but the prevailing weather is hostile to the rearing of broiler parents with high summer and low winter temperatures.
(ii) **Andhra Pradesh & Maharashtra**

Andhra Pradesh is the only region having annual surplus of an estimated 18 million broilers, which mainly feeds the Bombay areas of Maharashtra. This region can produce a much larger number of commercial broilers on account of low production cost, if given proper financial and marketing support. It may well become the "chicken bowl of India complementing its role as the country's egg basket".

As regards per capita availability, Maharashtra ranks second in importance. Moreover this state leads the country in terms of modernization and sophistication of broiler production, processing and marketing. With a large-scale poultry processing plant here, a number of commercial ventures have come up that offer chicken based fast food. Also, the sale of dressed chicken is the highest here. Further, some of the largest broiler breeding and commercial farms are located in the Bombay-Pune-Nasik belt. Bombay, India's commercial capital, sustains an increasing, demand for all types of sophistication in food delicacies.

(iii) **Southern region**

Broiler consumption is evenly spread throughout the region. The major production centres are Bangalore- Mysore- Mangalore and Namakkal -Salem-Coimbatore belts. A number of industrial town ships dot the region. Bangalore has the unique distinction of being the fastest growing metropolis in the country. A number of fast food projects in this region are in different stages of implementation.

(iv) **Eastern region**

One highly deficit area in the country is the eastern region. Its percentage of non-vegetarian population is higher than even the northern region and hence the potential for growth is enormous. But it suffers from constraints of high cost of
production, inadequate long distance public transportation and strong trade union activities. Further, fish competes with the chicken in the region and scores over it, when parity in retail prices exists. The vast hinterland of Assam and other eastern states cannot be served because of poor transport links. Kolkatta is the Mecca of all markets in the eastern region, but tends to develop transport bottleneck in the absence of adequate linkages with hinterland it serves.

(v) Central region

The region is most disappointing with almost half of the country's population, it accounts for less than 10 per cent of the total broiler production. With easy availability of feed ingredients and low labour costs, this region has an enormous scope to meet the deficit of broilers in the neighboring areas mainly in the north and in the east. Moreover, the number of towns with population above one million in this region would be 14 – Bihar four, Gujarat, Madhya Pradesh and Uttar Pradesh three each and Rajasthan one. In the coming decades, this region promises to see a spectacular growth.

Table 1.4 presents egg production in India region-wise during 2003-04. The four southern states - Andhra Pradesh, Karnataka, Kerala and Tamil Nadu - account for more than 50 percent of the country's egg production, with a per capita consumption of 57 eggs and 0.5 kg of broiler meat. The eastern and central regions of India account for about 20 percent of total egg production, with a per capita consumption of 18 eggs and 0.13 kg broiler meat. The northern and western regions of the country record much higher figures than the eastern and central regions with respect to per capita availability of eggs and broiler meat.
Table – 1.4

Poultry Industry Differences: Region-wise

<table>
<thead>
<tr>
<th>Aspect</th>
<th>West</th>
<th>East</th>
<th>North</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry meat consumption (in mn kg)</td>
<td>175</td>
<td>325</td>
<td>325</td>
<td>520</td>
</tr>
<tr>
<td>Dominant meat</td>
<td>Mutton, poultry</td>
<td>Fish</td>
<td>Mutton, poultry</td>
<td>Poultry</td>
</tr>
<tr>
<td>Concentration of industry</td>
<td>Around Pune</td>
<td>No concentration</td>
<td>No concentration</td>
<td>Coimbatore and parts of Andhra Pradesh</td>
</tr>
<tr>
<td>Integration</td>
<td>Some</td>
<td>Only one player (Arambagh)</td>
<td>No full integration</td>
<td>Fully (75%) and semi integrated control 95% of the market</td>
</tr>
<tr>
<td>Variables costs Rs/kg of live bird</td>
<td>Rs. 26</td>
<td>Rs. 28.29</td>
<td>Rs. 29.30</td>
<td>Rs. 25</td>
</tr>
</tbody>
</table>


**Small producers and large integrators**

While independent and relatively small-scale producers account for the bulk of production, integrated large-scale producers do account for a growing share of output in some regions. Integrators include large regional firms that incorporate all aspects of production, including the raising of grandparent and parent flocks, rearing day old chicks, contracting production, compounding feed, providing veterinary services, and wholesaling.
(vi) **Exports**

Exports of poultry products from India comprise table eggs, meat, live birds and value-added products such as egg powder and frozen yolk. According to APEDA, the major markets for poultry exports are as under:

- Live poultry: Sri Lanka (50%), Bangladesh (32.5%), Nepal (8.2%)
- Hatching eggs: UAE (38%), Oman (26.8%), Kuwait (5.4%)
- Table eggs: UAE (72.8%), Kuwait (8.3%), Oman (8.3%)
- Egg powder: Japan (16%), Poland (14.5), UAE (8.9%); Belgium (5.54%)
- Frozen eggs: UAE (83%), Oman (5%), Kuwait (3.9%)

India's share in the poultry exports is very low, accounts for only 2% of the world market.

**Scale of operation**

The growth of the poultry sector in India is also marked by an increase in the size of the poultry farm. In earlier years broiler farms had produced on average a few hundred birds (200-500 chicks) per cycle. Today units with fewer than 5,000 birds are becoming rare, and units with 5,000 to 50,000 birds per week cycle are common. Similarly, in layer farms, units with a flock size of 10,000 to 50,000 birds have become common. Small units are probably finding themselves at a disadvantage because of high feed and transport costs, expensive vaccines, and veterinary care services and the non-availability of credit. Some small units are reported to be shifting from layer to broiler production because output in broiler units can be realized in six weeks.

**STRUCTURE OF INDUSTRY**

The Indian poultry industry is a mix of myriad types of units engaged in poultry farming. It can be divided into five levels as follows.
**Five Levels**

Poultry industry in India can be divided into five distinct levels. These levels, with different product and product form, can be termed as a vertical market stage. Independent establishments operate at different levels; receiving input in general from a lower level, giving the value added output to subsequent level. The flow ultimately ends at consumers of eggs and chicken.

Most of the renowned organizations in the industry practice forward and backward integration with branches in one or more levels supporting each other. Individual farmers are also going for horizontal integration by promoting contract farms.

**LEVEL – I**

This is the ground level and is characterized by establishments like:

- *Institutional Breeding Units:* Maintained by Universities. Research stations, State Poultry corporation etc.
- *Commercial Breeding Units:* Maintained and managed by private organizations, which are either indigenous or collaboration with foreign group.

The prime activity of this level consist of genetic manipulation of pure lines, continuous evaluation of their performance and production of parent stock, hatching egg of broilers, layers or improved dual purpose desi birds for direct marketing to hatcheries. At this stage, there is also export of broiler and layer hatching egg. The profitability/survivability of level-1 producer also depends on a replacement market of parent stock.

Hatcheries (Establishment of level II) are to go for repurchase of parent stock at regular interval, with previous stock is becoming unproductive or commercially unviable.
LEVEL-II

The establishments under this level includes:

(a) Hatcheries under integrated operation of renowned groups.

(b) Franchise hatcheries mostly having farms raising parent birds. Input of these farms is the day old parent stock, which is procured from respective level-I producer (brand owner) under a franchise agreement.

(c) Independent hatcheries which are not in any agreement with producers of level-I, (they may or may not have parent farms) getting their input of parent bird/hatching egg from open market.

Hatcheries usually have their own marketing network, with sales force convincing farmers towards their respective offerings (commercial Day old Chick). There exists fierce competition especially in broilers, as hatcheries in this segment use to concentrate around major production belts. Hatcheries, particularly belonging to less producing zones viz. Eastern Zone suffers from a difficulty of fixing number of chick and hatching date as well as date of procurement of hatching egg (where required). This is due to the fluctuating demand pattern prevalent in these regions. Independent agents are also active in many areas. The primary activity of these agents includes supply of chick/feed to interior areas at premium and supporting contract farms.

LEVEL – III

The establishments under this level includes

(a) *Commercial farms under private sector*, with farm sheds belonging either to the farmer or rented ones.

(b) *Commercial farms under integrated operation*, receiving chick from own hatcheries. Production of these farms is usually aimed at meeting the demand of processing plants under the same integrated operation.
(c) **Contract farms:** Large farmers, agents, and SPCs (State Poultry Corporations) usually promote these farms. The contract grower is supplied with chick, feed medicine free of cost. The promoters also lift the birds or eggs for marketing, giving the contract grower a share of his involvement based on mutually agreed criteria e.g. FCR (Feed Conversion Ratio).

(d) **Government farms and farms under State Poultry Corporation:** Developed as model farms to encourage entrepreneurs, many of these farms lately suffered huge losses owing to inefficient management.

(e) **Institutional farms:** Developed mostly as instructional/research farms, these are maintained by Agricultural/Veterinary Universities, research establishments and other institutions. Produce of these farms is mostly for institutional consumption and they seldom enter commercial market beyond their respective institutional boundaries.

(f) **Back yard and Non conventional farms in unorganized/organized sector:** As reported in World Bank document (1996), there are about 1,00,000 farms with *desi* birds in unorganized sector. These farms are scattered throughout the rural areas of the country. They practice more extensive production system in back yard farming ranging from 25 to 250 birds.

Organized farming with genetically improved *desi* bird is successfully tried in Karnataka. Such farms, though at present limited in the country, are likely to grow more at commercial level in the years to come. Farming with unconventional birds e.g. Ducks, Quails, Turkey and Emu, though not so common is also prevalent in India. However, it can be anticipated that with numerous government schemes active in this line, there will be a change in the scenario in near future. The produce of this level is egg, live broiler chicken, culled hens, cockerel etc. Together these account for the largest marketing network involving thousands of intermediaries across the country. There is no government control over production. However, NECC (a national level farmer's
body) through its sister marketing concerns play an active role in case of marketing of eggs.

LEVEL IV

This is the level of intermediary operations between farmers and general consumers of egg and chicken. Technically, they do not contribute any product, for value addition at higher level. However, owing to size, complexity and influence they deserve to be treated as an integral part of vertical market stage. Besides numerous wholesalers and retailers, the self-financing farmer's associations as well as wings of organizations like NECC (National Egg Coordination Committee) also characterize this level. In an attempt to have say over the market prices, these group quote farm gate prices through local dailies.

LEVEL V

Processing sector represents this level. Establishments under this sector are mostly sister concerns of parent integrated groups. A range of notable product/product group like Whole Egg Powder, Albumen powder, Yolk powder, Lysozyme (an enzyme extracted from egg albumen), Frozen packed ready to cook chicken products, etc., are the produce of this sector.

TOWARDS INTEGRATION

In 1996, the broiler industry in India experienced the worst recession in its 30 years history. Automation was just starting to develop in an organized way and the potential for growth was considered limitless. Unfortunately, as events will show, too many entrepreneurs took this literally. By late October 1996, when the recession showed no signs of lifting it became obvious that the industry was in deep trouble. The recession continued unabated till the end of the year. There were two major factors that led to the crash of 1996. These were compounded by other factors that combined to make it so severe.
Uncontrolled Expansion

Expansion of the broiler industry at all levels, from the GP pureline projects down to the small farmer, has been totally uncontrolled and uncoordinated. The growth of the broiler industry has been at a compounded annual rate of 20% for the past few years. All the big players in the industry based their growth plans on 20% in an attempt to keep up with the expected market growth and increase their market shares. The newer grand parent (GP) operations in the country carved out a market for themselves, while the older ones threatened by this competition, tried to maintain and increase their growth by sheer force of numbers.

Farmers, who had received profitable end prices for their products were happy to expand their operations. The larger farmers producing over 50,000 broiler/month, keen of bigger slice of the cake, set up small hatching operations, which brought hatching eggs from breeders. These hatcheries catered to their captive requirements and the surplus chicks were supplied to small and neighboring farms. This surplus slowly and insidiously increased. By mid 1996, it is estimated that there were over 600 broiler hatcheries in the country producing broiler chicks far in excess of the demand.

In an attempt, to recover, at least direct costs, breeders started discounting hatching egg prices and hatcheries, chick prices. A stage was reached when hatching eggs and chicks sold at lower than 50% of their normal prices. Credits were given to broiler farmers in order to avoid destruction of day-old chicks. This added to the surplus on the market. Feed suppliers, not faced with the problems of flocks in lay eggs in incubators, cut off credit supplies of feed to farmers and the situation turned into an unalloyed mess. It is estimated that broiler farmers have lost up to Rs 10.00 (28 cents) per kg of live broiler weight produced by them during this period.
In the meanwhile, the layer industry in India had been through a slump since late 1995. Many layer farmers decided that egg production was too risky and decided to shift to the safer broiler growing. This produced an unaccounted far extra growth in the broiler-farming sector. When breeders in the country finally got together in November 1996 to try and remedy the situation it was discovered that the collective broiler parent stocks placed in India was 50% higher than anybody's individual estimates.

It was realized that if the number of broiler chicks being put into the market continued, it would spell certain disaster for the industry. In a rare demonstration of concerted action, breeders and hatchery men alike immediately curtailed production of hatching eggs and chicks.

_Middlemen tyranny_

For marketing of their products most of the broiler farmers have to depend on some middlemen who act like marketing agents and market the live broiler birds with lump sum margin. In some areas, sometimes the feed-chick suppliers themselves became the marketing agent who either sell through their own retail outlets or sell the birds to the big traders. In lieu of that they adjust the cost of the feed and day old broiler chicks, which had been supplied to the farmers on loan basis. Middlemen (traders) create less demand artificially in the market and farm gate price falls even below the production cost of a kg. of broiler meat. As broilers are perishable goods, when it has attained the marketable age, it should be marketed as early as possible, otherwise the farmer has to sustain a heavy loss for not marketing it. Since farmers cannot retain the broiler in his farm he will sell at the prevailing low price. However, the retail market price, which is paid by an end customer, remains unchanged. Hence the lion share of the profit margin goes to the middleman trader, depriving the farmer. The farmer on his part, being unable to lower down the production cost finds no other way than to stop his business.
This condition aggravates in case there is any catastrophe in the form of disease outbreak, accidental loss, vaccine failure etc., which a broiler farmer may frequently face during the tenure of his farming.

Under such circumstances the supplier (hatcheries) tries his best to keep the farm running by supplying the farmer fresh lots of day old chicks and feeds with the hope to recoup or realize the money from the farmer in future by selling the products, in order to save himself from the loss of money already incurred due to supply of chicks and feed on crédit to the farmer. In this way, the chain runs and ultimately the farmers gain nothing, despite having all the necessary inputs, infrastructure facilities like shed, water, power, labour and spending lots of money toward his broiler farming. The pressure ultimately goes to the hatchery that produces broiler chicks which is purchased by the farmer. Due to this crisis, the hatchery men are also bound to reduce the price of day-old chicks even much below the production cost, in order to dispose of the large number of chicks already produced.

Similar is the situation in egg markets and the egg-producing farmers are also losing. In the poultry industry the middlemen terror has become rampant and the worst sufferers of this are the hatcheries and farmers. For instance, the entire northern market is controlled by Delhi. The broilers are grown for the mandiwalla, the middlemen. Middlemen traders, both wholesales and retailers, control the broiler marketing in Mumbai. Exhibit I.2 presents a media report on exploitation.
### Exhibit I.2 Exploitation by middlemen

Indian express described the way middlemen make money without value addition. The story goes like this: Money and muscle power determine prices at the mandi. Express Newsline tracked the 'average' route of a bird weighing 1kg from farm to kitchen. The farmer sold the one-kg bird for Rs. 24 to a commission agent. The commission agent sold it for Rs. 39 to a whole-saler, a mark-up of Rs. 15. The wholesaler sold it to the retailer for Rs. 59, a mark-up of Rs. 20. The retailer sold it to the consumer for Rs. 76, a markup of Rs. 11.

So the commission agent, whose value-addition to the product is nil, creams off Rs. 15 on product that costs Rs. 24, or a margin of more than 60 percent. The wholesaler creams off Rs. 20, thereby adding more than 80 per cent of the cost of the product. The retailer's margin adds another 46 per cent and, hey presto, the 1kg of chicken ends up costing the consumer Rs. 70.

All roads lead to Ghazipur at 4 a.m. every day for four hours of action-packed wheeling and dealing. Nearly 80 per cent of the farmers are from Haryana. They say this is the only mandi of its kind in the region. Sometimes farmers even come here all the way from Rajasthan.

The price, of course, is the ultimate determinant. In fact, the money game starts well before the crack of dawn, when the bigger farmers make urgent phone calls across the region to find out the price of the day.

There is often no need to come to the Ghazipur mandi at all. For, if the farmer hears of a better deal elsewhere, he will naturally gravitate to that area. On other occasions, buyers approach the farmers directly. While these cases are rare and resorted to only by the wealthier farmers – who have a lot more money at stake – it helps them save on additional costs like transport, labour, commission agents and mandi fees. Costs, which only serve to hike the price by the time it reaches the consumer.

There is risk factor for those who don't go to Ghazipur. The Jama Masjid Poultry Association that runs the mandi challans all those who sell their products elsewhere.

Everything is arbitrary in the poultry market, where around 200 trucks come every morning loaded with approximately 90-100 crates, each of which is turn have 8-15 birds, depending on their size. The initial cost is determined by an auction. Bidding currently starts at a low of Rs. 25. For tandoori chicken – the smaller variety and hence more expensive – the bidding starts at around Rs. 35. This is where the price first starts rising.

Both farmers and suppliers say that the auctioneers have their own agenda and the price solely depends on the equation one has with them. "There is such a monopoly here. The big farmers even have their own symbols to indicate to the auctioneer when to stop, when to wait,
when to stagger bidding. Everything depends on the auctioneer’s whim, which in turn is determined by the cut he has been promised,” says one disgruntled farmer.

The chicken is ultimately sold to the supplier for between Rs. 36-45. The 72 commission agents take Rs. 3 and 12.5 paise for every Rs. 100 from the farmer. But the buyer also pays a price: One per cent is the market fee taken by the association from the supplier. This is the second instance where the price rises.

The commission agent is King at Ghazipur, and no matter how bad the situation in the market, they always make the maximum profit. Farmers say that even though the commission is supposed to be fixed, it never really is. The larger farmers work out their own deals with the agents. And it is at this stage that the price increases by astronomical proportions. One farmer says: “We try and pit the auctioneer against the agents, as we have to make our profit. But even when we try and control the auction, the agents manage to extract most of the money from us. We are at their mercy.”

As one commission agent, Raees Ahmed, says “We have our own rates, so we never suffer. It’s the small farmers and suppliers who are always complaining. It is they who lose most money. And of course the people like you”.

Implications

The implications of the crash of 1996 due to IBDC (Infection Bwestal Desire) Gambaro in the broiler industry in India were severe and far-reaching. The negative effects are:

- Closure of a large number of farms and other broiler-related companies.
- Loss of employment to about 100,000 persons
- Severe losses to every organization serving as an input supplier to the industry.
- Losses to financial institutions and other creditors from non-payment of loans and interest.
- A general slowing down or stagnation in the growth of the industry

On the reverse side of the coin, the “Crash of ‘96” produced some beneficial effects on the industry both tangible and intangible. Recessions in the
past have tended to clean up the industry. This had resulted in a 'clean sweep' which left the survivors in 1997 wiser, more aware and certainly more efficient.

- The clean-up of the market set the stage for the establishment of the major integrated broiler projects of the organized sector, which had been in the planning stages over the past year.
- Multinational companies planning joint ventures in India saw it an opportune time to invest in the industry as it is now expected to be better organized and more efficient.
- The crash spurred broiler farmers and cooperative organizations to speedily implement their plans to set up marketing operations for broiler chicken that would give the broiler farmer in India a much better deal.

**Strategies**

Measures taken by firms included the following:

- Some intelligent producers (farmers) have managed to open their own retail outlets (wet market) where they sell their products directly and enjoy the profit of margin which has a gulf of difference between the production cost and the price given by the end consumers.
- Some corporate companies have entered into integration activities by taking the help of the farmers. They provide the farmers with day-old broiler chicks, feed, medicines and technical know-how. They pay charges for rearing broilers on contract farming under the system of integration irrespective of profit and loss to the corporate companies.
- The farmers had united to form a strong society/association/co-operative by themselves with the mission "Self help is the best help". The most glaring example of such co-operative is in Madhya Pradesh which is running successfully in the broiler market. In south India the growth in the broiler market has been encouraged by creating a line of bromark shops (Exhibit 1.3) This is a new initiative where the farmers have been able to do away with
middlemen by putting the farmer and the retailer in direct touch. Another initiative was formation of National Broiler Council (Exhibit I-4).

- The government is urged to set up Marketing Federation to control prices (Exhibit I-5)

Exhibit I.3 BROMARK

Bromark, is a brain child of Late Padmasri Dr. B. V. Rao, Chair man V. H. Group. BROMARK was registered under the Multi State Cooperative Societies Act in 1994.

Objectives:

The objectives of the BROMARK are to promote broiler industry by ensuring remunerative price to broiler birds produced by the farmers and also a fair price to the consumers promoting the consumption of chicken meat by creating awareness among people about its nutritive values.

Operations:

Price Control:

The objectives are met first by bringing farmers, associations and groups on to one platform under Bromark and allowing to declare farmers own price for their produce and second, stream lining the marketing & distribution system, to distribute Bromark Chicken throughout the city. As an antidote to highly-price-elastic chicken meat, Bromark has been minimizing the root cause the gap between farm and gate prices. Bromark has setup retail outlets through which chicken meat is made available to the customers at reasonable prices.

It has been observed that the consumption of chicken will come down, if the chicken price goes beyond Rs. 60 per kg and the consumer will look for an alternative or will cut down the required quantity. To safeguard the margins and interests of the industry a committee comprising breeders, farmers, traders and retailers will be formed for declaration of price regularly in coordination & consultation with the team. Because there has to be a co-relation between the farm gate price and consumer price. Such committees were also proposed to be established in different zones in the State to declare prices at the zonal level. For fixation of the end-price, the margins of the wholesalers were fixed at Rs 4 per bird and that of a retailer at Rs. 9 per bird. According to him, on the lines of NECC, the Bromark would like to have 24 zonal committees in the country.

Outlets:
The organization has a target of patronizing some 2000 chicken outlets. A strong nearly 200 Bromark Centres are being patronised by the society for easy availability of Bromark Cobb Chicken to the consumers. Bromark is planning to add more number of outlets in twin cities for the consumers to get good quality & hygienic chicken. Bromark has a wide network across the country with 216 outlets in Hyderabad, 82 outlets in Pune, Mumbai has just started with 20 outlets and Bangalore with 10 outlets. Efforts are on to start Bromark in Chandigarh and Coimbatore.

Awareness

Awareness is created through advertisements and free-schemes. Bromark Cobb Chickens have very high nutritional values. Chicken meat is highly recommended for pregnant women, heart patients and growing children. Based on the above qualities, Bromark launched an awareness camp, in tandem with every day price declaration advertisement in local newspapers with outlet details. Recently, Bromark has a scheme in Hyderabad and gave 6 eggs free on purchase of one kg. chicken meat, which received good response. Over 70 per cent of consumers in the twin cities are aware of Bromark.

Hygiene:

A matter prime concern for Bromark, is hygiene and it is why it has been able to retail the serpentine consumer list. Bromark is educating the existing outlets to follow the right procedures to give clean and good hygienic chicken to the customers. Bromark would conduct work shops to educate retail chicken outlets on clean and hygienic conditions to be maintained in chicken outlets.

Mechanized slaughter system:

Bromark was also encouraging to set up mechanized facilities for slaughter and so far 24 outlets in Hyderabad, two in Guntur and two in Chittoor had taken up the offer. It would cost about Rs. 13 lakh and could be paid in easy instalments. Banks has also agreed to provide loans for the purpose.

Expansion:

Bromark has more than 25 outlets at Visakhapatnam zone. Bromark was patronizing more than 280 outlets in the State on zonal basis for chicken promotion, but nearly 240 of them were in Hyderabad. Therefore, the need was felt to expand its activities to other parts of the State. Vizag had been identified as the next potential area. Bromark had stipulated stringent
norms for the outlets to follow and maintain clean, hygienic slaughtering practices.

Bromark operations, which are currently confined to Andhra Pradesh (Hyderabad) and Maharashtra (Pune) would also be extended to Tamil Nadu and Karnataka in the next six months. It would declare price at Karimnagar also, which will cover Telangana districts in Andhra Pradesh.

**Bromark Dealership:**

**Conditions:**

Retail chicken outlets adhering to the norms laid down as given below will be issued Bromark licence.

- Strict adherence to the Bromark declared price
- Prices are declared with adequate (reasonable) margins for all the trade participants
- Strict compliance to the established hygiene standards
- Size of the shop should be a minimum of 200 sq. feet.
- Interiors of the shop should be tiled
- Should use an exhaust fan, to remove the odour at the storage place and processing place.
- Sell world No.1 Vencobb Broiler chicken only
- Birds will be supplied by Venkateshwara Hatcheries Ltd. from its own sources

**Support:**

We carry out promotional activities from time to time to boost the sales of chicken as well as during the slack season such as:

- 4 or 6 eggs free on 1 kg chicken scheme, ¼ kg chicken on 1 kg chicken etc.
- Education of consumers through newspaper advertisements
- Creating confidence in customers by enabling the retailers maintain hygiene by providing uniforms, good quality carry bags, semi automatic dressing equipment on lease, etc.
- Glow-sign boards and road signages are placed at the outlets to attract customers in the locality
- Standard interior design will be given to the outlets and shutter painting is done with the Bromark logo to enable the customers recognize the shop even when closed.
- Bromark price boards will be placed at the outlets to create confidence in the customer about the reasonability of the selling price.

**Exhibit I.4 National Broiler Council**
A new, national organization, the “NATIONAL BROILER COUNCIL” (NBC) was formed with its Headquarters in Mumbai. All segments of the poultry industry, such as poultry farmers, poultry traders, hatcheries, feed manufacturing companies, poultry health care product manufacturers, etc. joined hands and formed an independent, unbiased – NATIONAL BROILER COUNCIL (NBC).

The National Broiler Council (NBC) started working with the following aims and objectives:-

To devise promotional activity to promote chicken.

- Providing free recipe books/handouts.
- Hoarding at prime centers & chicken vans/tempos/trucks;
- Jingles at radios, cinema slides & cable slots;
- With the help of Media (on Satellite Network);
- Arranging chicken festivals at various places with a priority to explore take levels;

Attractive prices during slack seasons & not too high prices during season; Proper arrangements to provide cold storage facility; Creating awareness among consumers/doctors/medical institutions, (more stress on nutrition);

Opening of more sale counters like Aarey in major railway stations and prime places (fast food type); Obtain major hygiene/cleanliness at retail outlets.

- To act as the representative body of the broiler industry with local, state & national level authorities,
- To register the council for the promotion of broiler – nationally as well as internationally,
- To devise means for lowering production cost of broiler through imports of inputs and through representation to the Government for rationalization in duties & taxes levied on inputs.
- To provide a platform for all segments of the Indian poultry industry connected with broiler business.
Various meetings have been held to solve the broiler price muddle which has been causing a lot of bad feelings among traders on one hand, and also between traders and broiler farmers. However, a solution has not been found as yet.

Some traders are suggesting that the price actually paid to the farmers be the price advertised, others say we cannot pay the price published because the broiler live weight, the distance between the farm and the marketing centre, shrinkage and morality, and terms of payment for broiler purchases have to be taken into account.

Also, it has been said that the consumer is not getting the benefit of lower prices. The trade practice of paying Rs 2 to Rs 4 less has now been replaced by wider margins between published prices and some traders are paying the farmers as much as Rs 8 to Rs 12 less than the advertised rate. Some traders are selling at below the published rates.

There is also the question of long time gap between the time the broilers are lifted and the date on which the actual payment is made for those broilers to the farmers. At a recent meeting, it was suggested that only trading price be advertised and that all trade be linked to that price. However, opinion on this issue, also, has remained divided. To solve these problems, setting up of a Broiler Marketing Federation is sought.

This Federation should be given powers by government to control all trading in live chicken. Licensing of all traders, wholesale and retail should be compulsory. No trading should be allowed by those without a license. A control on prices and trade practices by the federation will smoothen out the disputes.

The practice of deduction of any charges on the published price minus must go. Certain traders are publishing higher than actual prevailing market prices only to help those parties who are supplying dressed chicken to 5-star hotels and other institution buyers on terms linked with the rate advertised in the newspapers. For the benefit of these very few people, the entire broiler farming community is paid much lower prices than they should be getting as per true demand and supply related conditions. The whole trade is thereby getting the blame for paying the farmers a poor price.

The Marketing Federation to be set up under a government order can control trade practices, with its power to cancel the license of those indulging in wrong trading practices. The Federation will lay down fair trade practice rules. The Federation will take up complaints from farmers and traders, regarding supply commitments payments, etc. Membership of the Federation will be compulsory for all traders. The volume/value of trade that can be undertaken by each trader will be approved by the Federation according to his financial capacity. This trading volume/value may be revised every year at the time of trading.
As the financial requirements for trading in chicken are quite substantial, and there are new traders without the capacity to pay who are known to enter the market, the license should be issued only after complete financial assessment of the trader.

The enrollment fee to join the Federation should be about Rs. 1 lakh. Enrollment should be compulsory to be eligible to obtain a trading license. An annual license fee of Rs. 10,000 should be fixed.

All market arrivals of broilers will be registered with the Federation. Details of the number, weight, and broiler farmer who has sold the chicken, to whom the birds have been sold, must be compulsorily sent to the Federation. The traders' selling price will be the price declared by the Federation, plus Rs. 3 or Rs. 4. After the state government makes an announcement about the formation of the Federation, a time limit will be set and all traders must register with the Federation and obtain license by this date. Those holding the Chicken Trading License will be able to sell, assign or transfer it. The Federation will charge a fee for transferring the Poultry Trading License.

As a statutory body, the Federation can be representative body of the entire live poultry trade. It will take up the cause of the trade with animal welfare organizations like the SPCA, with municipal corporations and market authorities.

If one trader stops supplies to a retailer because of non payment of dues, the Federation will inform all traders.

IMPORTANCE AND PRESENT STATUS

Poultry is now recognized as one of the most progressive and innovative field among the agricultural industries of the country. The primary business of poultry keeping has given rise to a number of supporting and allied industries like poultry processing, compound feed, equipment, pharmaceuticals and biological units with a turn over of more than Rs. 100 billion.

The poultry sector contributes for growth in the following areas:

- To combat malnutrition and ensure balanced and cheapest diet to the masses;
- To generate large-scale rural employment opportunities;
- To increase export of poultry products and earn foreign exchange; and
To increase usage of agri by-products which are unfit for human consumption and convert into nutritional products

The sustained development of poultry industry by translating modern technology into commercial application has not only enabled the country to emerge as a leading player in the international poultry scene, the country become 22nd largest meat producer in the world having a turn over of 750 million. There are over 0.1 million organized poultry farmers in the country today and incidentally India is the only country of its kind in the world to have 125 pureline research and breeding centres to cater exclusively to this sector. Both the government and private sectors made a significant progress towards the last few years in their R & D centres to produce quality eggs and poultry meat through increased availability of high quality chicks and infrastructure facilities such as storage, marketing, balance feed, health care etc. The 750 million Indian Poultry Industry providing employment to 1.5 million people started growing at a rapid pace of 8 to 10 percent for egg and 15-20 per cent for broilers.

Presently, the poultry industry employs capital of about Rs. 7500 crores and accounts for a turnover of around Rs. 95 billion at the retail level. It produces about 50 billion eggs and 450 Million broilers. It accounts for 3% of the total GNP and 10% of the total GNP attributable to livestock products. At present, just four states, Andhra Pradesh, Mahârashtra, Punjab and Tamilnadu account for more than 50 per cent of the total output of eggs and broilers in the country. With the present low per capita consumption of eggs (36 eggs per person per year) and poultry meat (850 grams per capita consumption) in India, expansion in consumption would throw open a huge market. Table 1.5 highlights the scenario.
Table 1.5 Indian Poultry Industry—Present scenario.

<table>
<thead>
<tr>
<th>Production of eggs</th>
<th>50 billion annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production of Broilers</td>
<td>450 million annually</td>
</tr>
<tr>
<td>Per capita availability of eggs</td>
<td>36</td>
</tr>
<tr>
<td>Per capita availability of poultry meat</td>
<td>850 gms</td>
</tr>
<tr>
<td>Contribution of Poultry Industry to GNP</td>
<td>7500 crores</td>
</tr>
<tr>
<td>Employment provided by Poultry Industry</td>
<td>1.6 million persons</td>
</tr>
<tr>
<td>Growth Rate (Broiler industry)</td>
<td>15-20%</td>
</tr>
<tr>
<td>Growth Rate (Layer industry)</td>
<td>8-10%</td>
</tr>
</tbody>
</table>


**STATEMENT OF THE RESEARCH PROBLEM**

Conceptually, integration is the best choice for achieving economies, quality control and control over bio-security. It will cover the activities of breeding farms, hatching, feed production, contract farming for production of maize / soya, processing and marketing. Total integration will help in production of eggs and meat at a lowest cost with higher margins. However, it requires heavy investments. Financial institutions have to come forward to extend liberal lending, (Rosario, 1997; Sehaiah, 2002 and Krishna Rao, 2003).

As experience shows, operationally integration is not without problems. Even the integrators with financial back up and high production capacities are not able to influence the selling price either during the high or low demand periods, whereas the middlemen always enjoy a cost plus benefit throughout the year. (Ramaswamy, 2004 and Desai, 2003). This throws a challenge to integrators to take steps to stabilize the market price in such a way that the price is always at least marginally above the cost of production for most part of the year so that business operations are profitable.
RESEARCH ISSUES

The present study seeks to examine the integration strategy adopted by companies in India with special reference to Andhra Pradesh with the following issues in focus.

- to identify the specific reasons that have led to integration,
- to know how the integration strategy is put to work,
- to find what outcomes are secured,
- to learn what problems are faced and what measures are taken to overcome the problems, and
- to identify what can be done further to improve the bottom line of these integrators.

PLAN OF THE STUDY

The study is organized into six chapters.

Chapter 1 provides a short review of the poultry industry in India - how it has grown over the decades, the structure of the industry, growth and problems. Also it states the research problem.

Chapter 2 presents literature survey, the objectives and scope of the study, along with methodology adopted.

Chapter 3 describes poultry industry in Andhra Pradesh and integration efforts of two leading companies.

Chapter 4 explains the perceptions of farmers on integration and related aspects.

Chapter 5 compares the views of farmers with those of executives in select organization.

Chapter 6 provides a summary of the findings and outlines suggestions.
REFERENCES


10. B. V. Rao, If only Government support, India can really become a major force not only in Asia but the world, *Poultry Fortune*, June 1991, p.17-19, 30.

12. Dr. V. Balakrishnan, Development in the Indian Feed and Poultry Industry, Internet.


