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**AN ANALYSIS OF OPPORTUNITIES AND CHALLENGES IN POULTRY SECTOR IN GLOBAL AND INDIAN PERSPECTIVES**

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**ABSTRACT**

The Poultry Industry has emerged as the fastest growing segment of the livestock sector both globally and in India. As the world human population grows, expected to reach 9.5 billion by 2050, consumption of livestock products is also increasing. Influenced by various other consumption drivers, diets are changing in favour of products of animal origin, particularly the poultry products. Both USDA and OECD indicate that both India's and global per capita consumption of poultry meat is growing, and chicken is India's preferred non-vegetarian protein source.

The poultry sector offers opportunities in various poultry products (from eggs as well as from poultry meat). Global Poultry meat consumption is projected for 47% increase in 2022 compared to the average of 2003-13 which shows that the market is growing very fast. More than 50% of India's current population is below the age of 25. Coupled with the slow but gradual shift from vegetarianism to non vegetarianism, people in this age group are high potential consumers. India is one of the countries in the world which can guarantee non-GMO chicken to the customers in European Union. However, the various challenges, threats and weaknesses of the sector including: diseases, high feed costs, poor marketing infrastructure, regional imbalances in production, among others should be diligently addressed and the strengths of the sector well exploited so as to harness the opportunities. Otherwise, the poultry sector offers a bright future. A future right in our hands to shape.

**Keywords: Poultry, Global, Opportunities, Consumption**

## Introduction

Poultry is a name given to domesticated birds kept by humans for the eggs they produce, their meat or feathers. It includes chickens, ducks, pigeons, turkeys, guinea fowls, geese, quails and other birds kept by humans. Poultry is very often used as synonymous to chicken as they are more commonly found and are of great importance for meat and eggs. Poultry contributes to improved human nutrition and food security by being a leading source of high quality protein in form of eggs and meat. It acts as a key supplement to revenue from crops and other livestock enterprises, thus avoiding over dependency on traditional commodities with inconsistent prices. It has a high potential to generate foreign exchange earnings through export of poultry products to neighbouring countries.

The Poultry Industry has emerged as the fastest growing segment of the livestock sector both globally and in India. Today, the poultry/chicken sector is not only vibrant but also one of the best in the world. As the human population increases, the poultry industry continues to grow to meet the demand for poultry products in the world markets. *Delgado et al. (1999)* projected that per capita consumption of livestock products will increase by about 50 percent from 1993 to 2020, with most of the increases attributed to developing countries, as a result of population growth, urbanization, and rising incomes.

In addition to contributing to improved human nutrition and food security by being a leading source of high quality protein, poultry/chicken is of Economic, Social and Cultural significance in small societies. (*FAO, 2010*). In the past, poultry farming involved raising chickens in the back yard for daily egg production and family consumption. However, poultry farming today is a huge business that is split into several operations including hatcheries, pullet farms for meat production, or farms for egg production.

This paper focuses mainly on chickens, because of the importance attached to them. The major objectives of this paper are as mentioned below:

- ▶ To explore the scenario of the poultry sector on a global and Indian perspectives.
- ▶ To give a brief insight of the importance of poultry in providing livelihoods.
- ▶ To discuss the Opportunities and challenges in the poultry sector.
- ▶ To carry out a SWOT Analysis of the Poultry Sector.
- ▶ To suggest some strategies to meet challenges.

The study was approached through a review of various poultry literature sources. Information was collected, sorted and compiled from various internet websites, books, journals, reports and publications. Analysis of cases was made and inferences were drawn.

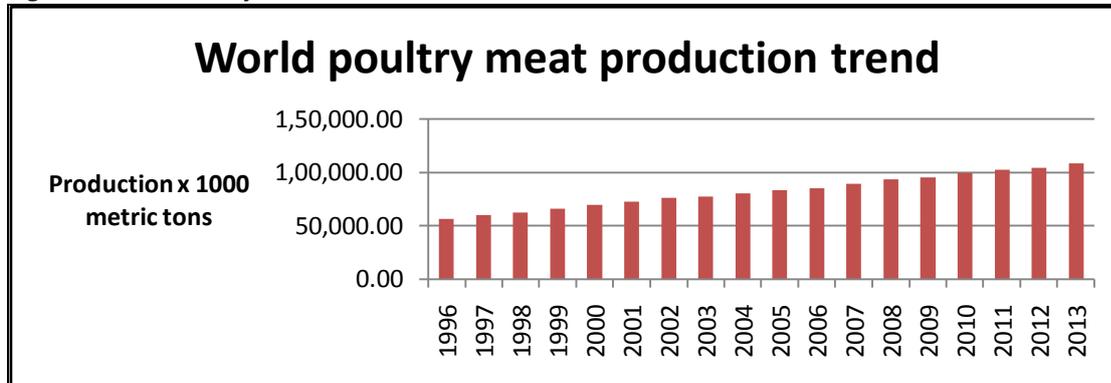
## POULTRY SECTOR: AN OVERVIEW

### THE POULTRY SECTOR: GLOBAL AND INDIAN PERSPECTIVES

Poultry production is the most dynamic livestock sector worldwide. There has been a continuous rise in the global poultry meat production. World's total production of poultry meat during 2011 was approximately 101.6 MMT and was projected to be approximately 108.4 MMT in 2013 (Fig. 1). Chicken represents the biggest share of poultry produced, accounting for 87% of world poultry meat production (Fig. 2). Egg production is also growing both in India and globally. According to Rabobank's global poultry ranking, the world's top poultry producing companies are as indicated in Fig. 3. Topping the list for 2012 was Tyson Foods, in the U.S., followed by JBS Pilgrim's, Brasil Foods and Marfrig, all in Brazil.

Chicken is one of India's preferred non-vegetarian protein source. Diets are changing in favour of products of animal origin. India is one of the world's top producers of hen eggs, ranking 3<sup>rd</sup> behind China (1<sup>st</sup>) and the U.S. (2<sup>nd</sup>) in 2011 (**FAOSTAT**). The Indian poultry sector has a 7.3% growth, and the high growth has placed India at 5<sup>th</sup> position after USA, China, Brazil and Mexico (**CARI VISION, 2030, 2011**). Overall, Tamil Nadu accounts for maximum egg production in India (**APEDA**).

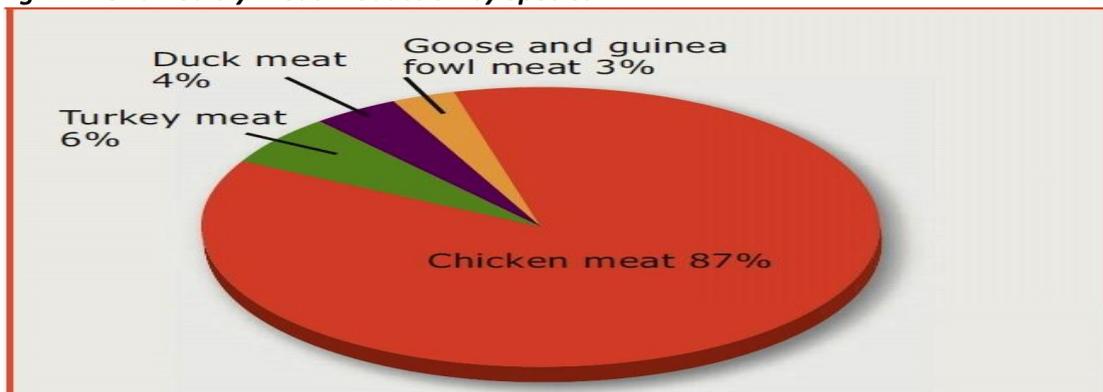
**Fig. 1: World Poultry Meat Production Trend**



(Poultry meat production expressed as ready-to-cook)

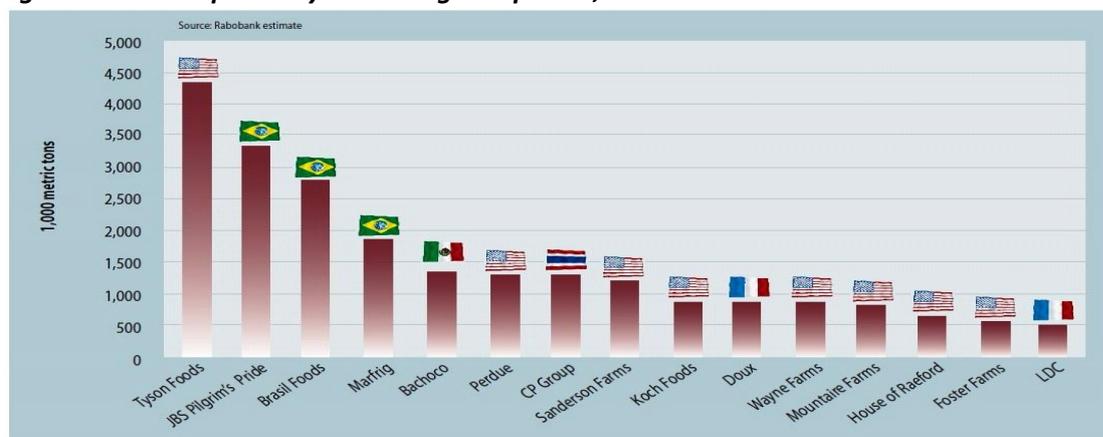
Source: OECD-FAO Agricultural Outlook 2013-2022

**Fig. 2: World Poultry Meat Production by Species**



Source: WATT Executive Guide to World Poultry Trends, November 2011

**Fig. 3: World's Top Poultry Producing Companies, 2012**

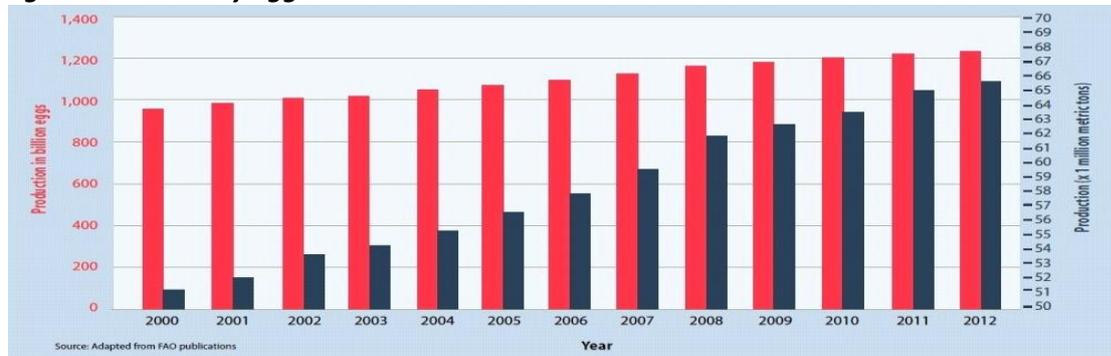


Source: Rabobank as cited in WATT Executive Guide to World Poultry Trends, 2012

### Global Egg Production

Between 2000 and 2012, world egg production increased by 28.4 percent on an average rate of 2.4 percent per year (Fig. 4). In 2012, almost 1,230 billion eggs were produced from a laying flock of approximately 6.8 billion hens (*WATT, 2013*).

**Fig 4: World Poultry Eggs Production Trend**



Source: *WATT Executive Guide to World Poultry Trends, 2013-Adapted from FAO Publications*

Global growth in egg uptake has been remarkable, from less than 20 MMT per year in the 1960s and 1970s to around 40 MMT by the 1990s, and reaching about 63 MMT in 2010 of which over 60% is contributed by Asia alone. In 2010, Netherlands, Spain, Germany and China were the important exporters of hen eggs, whereas Netherlands, USA, Germany and Spain were the major egg importers with a total share of over 51% of the world’s egg imports. (*Sudipto H. and Dinesh T. B., (2012)*).

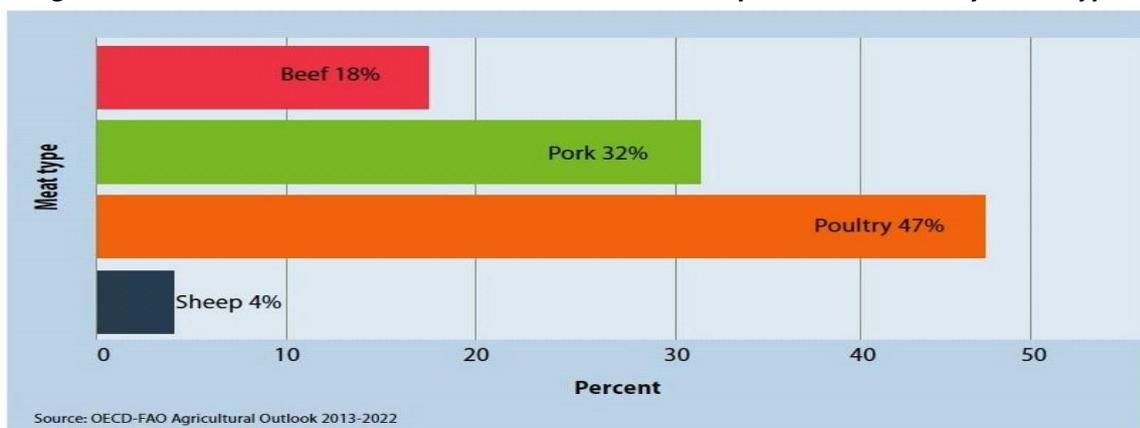
### Opportunities in Poultry Industry

According to *USDA/FAS (2013)*, the poultry sector offers opportunities in various poultry products (from eggs as well as from poultry meat).

### Global Perspective

- The market for poultry meat is growing faster than that of any other meat product, and is projected to maintain this position in the coming decades. (*Delgado et al., 2001*).
- Poultry meat is projected to account for 47% increase in percentage share of meat consumed globally in 2022 compared to the average of 2003-13 (Fig.5) (*OECD, FAO*)

**Figure 5: Percent Increase in Meat Consumed in 2022 Compared to 2003-13 by Meat Type**



- The driving forces include:
  - Increasing share of animal products in human diets.
  - Income growth and economic prosperity.
  - Population growth: expected to reach 9.5 billion in 2050 (*OECD, FAO*)
  - Growing urbanization.
  - Growing Poultry Trade.
  - Health and Nutrition: Poultry meat is lean.
  - As a source of protein, poultry products offer value for money compared to other protein sources.

### Opportunities- Indian Perspective

- ✓ India is one of the countries in the world which can guarantee Non-GMO chicken to the European Union (*Ricky Thaper*).
- ✓ India has favorable factors to take on poultry business, including:
  - **Good climate** which favours low cost poultry housing.
  - **Low cost of labour**, that is available throughout the country.
  - **Inland feed ingredients** (corn, soybeans)-produced locally.
  - **Integrated production**.
- ✓ Several other key factors are driving the recent growth of the Indian poultry sector. i.e.
  - **Income Growth**.
  - **India's population**: More than 50% of India's current population is below the age of 25 and this age group is of high consumers.
  - There is a slow but **gradual shift from vegetarianism to non-vegetarianism** mostly among the youth (*Priya Esselborn, 2013.*)

### Contract Farming in Poultry

Today's poultry industry is characterized by vertical integration (also known as contract farming) whereby a single company owns the facilities and controls the breeding, hatching and/ or processing of broilers but contracts with private poultry farmers for the raising of the chicks. It is estimated that at present 36.7% of broiler production in India is under contract farming out of which about 78 % of the contracts are concentrated in Southern India (*Rajajwani, 2012*). The key players in this sector in India are Venkateshwara Hatcheries, Suguna, Godrej, Shanti, Taffa, Arumbagh, Skylark, etc.

### Process of Contract Farming

The process of contract farming can be described as under:

- Integrator supplies the 'raw-material' which in this case are the day old chicks (DOC).
- He also supplies the feed, medications, veterinary supplies and implements that may be required (E.g.: Water dispensers, feeders etc).
- The contract farmer provides his services (labour) and space for the shed and other related services or equipment that may be required.
- The integrator also bears the marketing responsibility (risk) and the expense involved in transportation (to and from the farm).
- Since the major chunk of the expense (working capital) is borne by the integrator-he is the absolute owner of the moveable stocks (broiler) on the farm.
- The farmer's role is like that of a 'care-taker' who gets a pre determined wage which is listed in the contract.

- This wage paid to the farmer is linked to various parameters such as the 'Feed Conversion Ratio'(FCR) or in other words the quantum of feed consumed by the bird to produce the weight, percentage of birds dead etc.
- A farmer is rewarded for surpassing the set standards and penalized if any of the agreed criteria is not met.
- This penalty is deducted by calculating the loss incurred per bird and deducting that amount from the money to be paid (wage bill).

### **Advantages and Disadvantages of the Contract System for Growers**

#### **Advantages**

- Reduced management responsibilities.
- Less risk for production and less risk for loss of income.
- Relatively fixed income; some insulation from price changes.
- Less operating capital necessary.
- Opportunity to participate in poultry production.
- Opportunity to obtain additional income from the farm.

#### **Disadvantages**

- Possibility of limited opportunity for growth. New building and expansion are dictated by integrators' plans.
- High fixed investment. Broiler houses with modern equipment currently cost in excess of \$120,000 each.
- Pressure to keep up with technological changes in management, housing, and equipment.
- Possible lack of bargaining power.

### **CHALLENGES**

The poultry sector is faced with many challenges, and common ones are as indicated below:

#### **Challenges-Global Perspective**

- High and fluctuating costs of feeds and additives.
- Diseases.
- Antibiotics verses consumer demands and health.
- Animal Welfare and its Consequences.
- Unfavourable Environmental conditions - affect production.
- Global Poultry Market Barriers- like trade barriers, standards.
- Meeting consumer preferences/tastes.
- Competition.

#### **CHALLENGES-INDIA'S PERSPECTIVE**

Some of the specific challenges the Indian poultry sector is faced with are as follows.

- ✓ Rising Feed and raw material prices-increased production costs.
- ✓ Emerging and Re-Emerging Poultry Diseases (**B. Ganesh et al. (2008)**).
- ✓ Regional Imbalances in Poultry Production-low production.
- ✓ Declining Share of Backyard/Small Scale Poultry.
- ✓ Poor Poultry Marketing Infrastructure.
- ✓ Limited acceptance of processed poultry products in the domestic markets.
- ✓ Human Resource Needs.
- ✓ Threatening competition with poultry imports.

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SWOT ANALYSIS OF THE POULTRY SECTOR

**Strengths**

- Poultry requires less land than crop agriculture and other livestock enterprises. This is particularly beneficial for peri-urban and urban commercial farmers.
- Good source of income for disadvantaged women in efforts to emancipate marginalise women.
- Poultry enterprises are environmentally friendly.
- Poultry requires relatively smaller capital investment in comparison to other livestock subsector investments.
- The poultry sub-sector has a higher feed conversion rate than any other livestock. Research indicates that it takes 2 kg of feed to produce 1 kg of poultry meat compared to 7 kg of feed to produce a kg of beef.
- Poultry has short generation intervals and, therefore, quicker returns on investment. Broilers are ready for market within 6 to 8 weeks. Layers start producing eggs at 19 to 23 weeks of age.
- High potential demand for poultry and poultry products. Available local and growing regional and international markets.
- Breeder animals from top breeders across the globe.

**Weaknesses**

- Chicken flock are highly susceptible to disease outbreaks especially airborne diseases.
- Lack of sensitisation of the potential of poultry as an income generating activity.
- Poor distribution network of input suppliers including feed and drug suppliers.
- Local breeds have low productivity in terms of egg production and weight gain due to genetic limitations.
- Feeds are costly and their availability and quality fluctuates seasonally.
- Few trained, knowledgeable, and skilled technicians and extension workers. This constrains productivity at all levels of the value chain.
- Constraints in access to finance. This is an acute challenge especially for the smaller scale commercial farmers.

**Opportunities**

- Maximising of production to take advantage of economies of scale.
- Processing to add value to chicken products.
- Poultry can be used as a tool to alleviate poverty while also ensuring food security.
- Crossbreeding between local chicken and exotic breeds can result in improved breeds with improved productivity.
- There is a potential for profitable investment in quality animal/poultry feed manufacturing to mitigate the deficiencies present in the sector.
- There is a high demand for Day Old Chicks (DOC), which makes a commercial hatchery a good viable business venture.
- There is a potential for slaughterhouses/processing units to produce hygienically packaged dressed chicken whose demand is growing.
- Export potential to neighbouring provinces.

### Threats

- Disease outbreaks like avian influenza (bird flu) and other epidemics.
- Severe droughts and climatic hazards affecting production of feeds.
- Flooding the market with cheap imports.
- Human competition for inputs into feeds.
- Failure by authorities to enforce quality standards in feeds production.
- Protectionist laws in neighbouring countries hindering export.
- Unwillingness of financial institutions to offer financing to commercial poultry farmers.
- More competition.
- High feed ingredient prices.
- Animal welfare issues.

### STRATEGIES TO MEET CHALLENGES

#### Global Perspective:

- ▶ Minimise tariffs on feeds and barriers to global trade.
- ▶ Disease prevention through vaccination, strict quarantine measures.
- ▶ Transparency and commitment by all the parties involved in the process of food production, including governments, to ensure safe and healthy poultry products.
- ▶ Environmental Conservation.

#### India`s Perspective:

- ▶ Strong marketing network to set the industry free from the clutches of middlemen.
- ▶ Government support to public poultry educational and R&D institutions.
- ▶ Building infrastructure to meet the growing manpower demand of the poultry sector.
- ▶ Promote both mass production as well as production by masses.
- ▶ Support and promotion of the processing sector.
- ▶ Insurance against losses.
- ▶ Provision of subsidies, and credit.

### CONCLUSION

The Poultry industry has emerged as the fastest growing segment of the livestock sector both globally and in India due to a number of favorable reasons. Chicken represents the biggest share of poultry produced. Given the social, cultural and economic importance that poultry offers in supporting livelihoods and contributing to national GDPs, the future growth and promotion of the poultry industry should be enhanced. Promotion of the processing sector, especially processed product sector and expanding domestic and international market bases, including the hitherto untapped rural areas would be the way to go. The challenges affecting the sector should be addressed on a case to case basis. The exportable poultry products must meet prescribed quality requirements, which are internationally recognized and accepted on a large scale. The sector offers a bright future. A future right in our hands to shape.

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