# DEVELOPING A DYNAMIC COSTING MODEL FOR PRICING THE CHICKS IN VENKATESHWARA HATCHERIES PRIVATE LIMITED

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of

**MASTER OF BUSINESS ADMINISTRATION**

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# DECLARATION

I, hereby declare that this project report entitled as **"Developing a Dynamic Costing Model for Pricing the Chicks in Venkateshwara Hatcheries Private Limited"**, has undertaken for academic purpose submitted to Anna University in partial fulfillment of requirement for the award of the degree of Master of Business Administration. The project report is the record of the original work done by me under the guidance of Mr. A.Senthil Kumar during the academic year 2007-2008.

I, also declare hereby, that the information given in this report is correct to the best of my knowledge and belief.

Place: Coimbatore ……

Date: (M.SRIISOUBARNIKAA)

**DEPARTMENT OF MANAGEMENT STUDIES**

## KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE

## BONAFIDE CERTIFICATE

Certified that this project report titled **"**DEVELOPING A DYNAMIC COSTING MODEL FOR PRICING THE CHICKS IN VENKATESHWARA HATCHERIES PRIVATE LIMITED**"** is the bonafide work of Ms**.**M.SRIISOUBARNIKAA (71206631052) who carried out the research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

Faculty Guide Director

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**Evaluated and vice-voce conducted on ……**

**Examiner I** **Examiner II**

# EXECUTIVE SUMMARY

Production of chicks is an on going process and spread over a period of 72 weeks to complete an economic life cycle of a Laying Breeder flock. Thus, it is difficult to obtain the per chick cost for a particular period and moreover the existing costing model in the organization is not dynamic and up to date to address the decision making problems related to pricing in the fast changing world. Objectives of this study are:

**Primary objectives:**

- To study and create a dynamic costing model for making decisions on pricing.

**Secondary objective:**

To make decisions on the following:

- To produce or outsource
- To have own facility or lease\rent the facility
- To develop an effective incentive system for the farm
- To continue\discontinue a production line when the market faces any unexpected changes.

The costing model that was developed determines the per chick cost. The chick costs are determined by its Feed, Medicine and Vaccine consumption and other expenses incurred in each stage of the Breeder hen. This study covers the functioning of various departments in the organization, and focus on the costing aspects of the same.

The indirect expenses are apportioned on relevant denominator such as capacity, the number of layer birds in the particular flock or total number of chicks produced etc. and direct expenses are directly accounted under the flock costing.

The data collection is from the primary sources ie. the employees of the organization, records of the organization etc.

In view of the above considerations, in the study, an attempt has been made to create a costing model and calculate per chick cost of layer birds of VENKATESHWARA HATCHERIES PRIVATE LIMITED and the findings and suggestions are given and the role of the various departments in this exercise are also given.

## ACKNOWLEDGEMENT

It is inevitable that thoughts and of other people tend to drift into the subconscious when one feels to acknowledge helping derived from others. I acknowledge to all those who have helped me in the preparation of this project work.

I wish to express my deep gratitude to the principal Prof. Joseph V. Thanikal for his guidance and encouragement to complete my project work.

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# CHAPTER 1

# INTRODUCTION

## 1.1 BACK GROUND:

Our ancient history bears witness to the fact that the people of India were quite familiar with fowl, duck, quail, partridge and Turkey, about 3,200 years B.C. but then the chick was considered neither a food nor an “egg machine” but something of an entertainer. Quail or cockfight provided as thrilling a source of fun and frolic to our people, right from pedestrians to princes and Nawabs, as bullfight was to everyone in Spain. The famous Indian breed Aseel was prized for its “marital qualities”, never for meat. Arranged fights between two sturdy male Aseel and a crowd of enthusiastic spectators cum-supporters around the “ring” were a common scene of yesteryear’s Indian streets.

It is really difficult to lay hands precisely on a year in history and says, “Well, from here onwards men realized the importance of poultry and started relishing eggs and chicks”. But one can perhaps say with some certainty that a beginning in poultry farming however crude and loathsome was made by the Romans. And soon other European countries started doing exactly what the Roman was doing in Rome.

Before Columbus set his foot on the American soil, its original inhabitants, the Red Indians and some tribals, were said to have already domesticated the wild fowl, but for and altogether different purpose, as a “morning alarm clock”.

With the advent of the white race in the American sub-continent the idea of poultry farming borrowed from Europe, soon struck deep in the alien soil with an alacrity and speed that soon overtook and outwitted its European masters. Today North America tops the list in the development of impressive high yielders of excellent performance.

If the Romans in the Europe could be given the credit of being the first to appreciate eggs and poultry meat, the Filipinos (inhabitants of the Philippines) were the first in Asia to put some semblance on poultry farming for egg and meat.

**India the gifter**

All said for Europe, America and the Philippines, the basic fact however remains that it was India which gifted to the world the species out of whose progenies, domesticated and crossbred, have emerged the “Purelines” of the jungles of our country, though in the process of gradual extinction.

A strange paradox as it is, the country that introduced poultry to the world it self remained for a long time totally indifferent to it. Among the responsible factors the main was religious taboo for poultry products proscribed by many Indian communities.

This explains the stiff discouragement poultry vocation used to counter on Indian soil only until recently. In the beginning it occupied the vicinity of the “lowly and depressed classes”.

The history of poultry in India is some 5000 years old. Although the most contemporary Breeds in western countries were developed from Red Jungle and Silver Jungle fowls which originated in India. But the credit for pioneering action for poultry development in India should be given to a few Christian Missionary Organizations and some British People who brought some superior exotic breeds in the beginning of the 20th century. Before the advent of planning era, commercial poultry production was practically non existent. The poultry farming at that time was limited to backyard farming and maintained under peasant husbandry practices.

Although India still accounts for a very small share in poultry production and consumption world-wide, the Indian poultry industry has been growing at a rate of 15-20% during recent decades - faster than any other meat sector in the country.

The history of poultry development in India is a success story par excellence. From the backyard, the poultry sector made a quantum jump to emerge as a dynamic industry within a short span of time.

- Indian Poultry population is 3% of the world's poultry population. The country ranks fifth in Egg production and 21st in world chicken, meat production. The overall rank is 17th in World Poultry production.
- The industry, which is dominated by the private sector, is showing a trend towards integration in operation.
- Automation in production system is not a distant reality for India. There are an increasing number of farms mostly around major cities that are going for such automation.
- The Industry is proud of its excellent support sectors namely, Feed, Pharmaceuticals, Equipment, etc.
- The breeding sector, which lately achieved self-sufficiency, is now even entering the Export world with parent hatching eggs/chicks.
- There is a huge unorganized sector with backyard flock ranging from 25 to 250 birds. The demand for free-roaming indigenous chicken is substantial in many parts of the country. However, the number of such birds is decreasing day by day in major producing belts. In recent years, efforts were made towards development of birds that resembles the local ones with respect to disease resistance, consumer-preferred meat quality and rearing requirements.
- The Industry provides direct and indirect employment to one and four million people respectively. Eggs and chicken meat are one of the cheapest sources of protein available to Indians and as such can be of immense help in fighting protein malnutrition in India.
- Currently, poultry meat constitutes approximately 25% of the total meat production in the country.
- Frozen chicken is not a preferred buying option amongst Indian consumers. Besides wrong perceptions, this can be attributed to the easy consumer access to freshly dressed birds at his/her doorstep.
- It is shown that out of Rs.900 ($20) as the per capital expenditure on food, only 1.75% (i.e.Rs.15.80 – approx. $0.36) is the expenditure on Egg and Chicken. Lately, with increasing production and subsequent impact on the market, the

industry has realized the importance of creating the demand for chicken and eggs besides for processed products in the country.

- The Poultry industry is divided into two distinct fields – Layers & Broilers. Layers are the birds reared mainly for their eggs, whereas broilers are reared for their meat. However, once the layers attain a certain age they are sold for their meat.

## 1.2 REVIEW OF LITERATURE:

*According to G.Balaji Veeraraghavan, Ashish Ganda, et all, January 1994*[1], "the study has been conducted to mainly analyze the cost involved in various stages of production. From some of the industrial averages and information gathered from industries, the costs were to be compared to arrive at the areas requiring further attention."

*Mark Berwick, Mohammad Farooq Upper Great Plains Transportation Institute North Dakota State University*[2], Truckers face different input prices, product characteristics, truck configurations, geographical characteristics, firm size, and driving practices. Thus, it is difficult to obtain current estimates of costs for particular independent owner/operators. The software that was developed determines costs for a variety of truck configurations, product characteristics, and input prices. A firm's costs are determined by its equipment, characteristics of products hauled and input prices associated with a typical movement for that firm.

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[1] G.Balaji Veeraraghavan, Ashish Ganda, et all, "Cost Analysis of Dhara Vanaspati and suggest measures to improve profitability" January 1994, Submitted to National Dairy Development Board, Anand.

[2]Mark Berwick, Mohammad Farooq Upper Great Plains Transportation Institute North Dakota State University, "Truck Costing Model for Transportation Managers", August 2003. This document is disseminated under the sponsorship of the Department of Transportation, University Transportation Centers Program, in the interest of information exchange. The U.S. government assumes no liability for the contents or use thereof.

*According to Guillermo Klein Buenos Aires, Argentina June 2007*[3] "Cost modelling, i.e. the use of cost models, is a means of broadening the scope of regulatory policy so as to determine the most appropriate costs according to the principle of cost causality, as referred to earlier, for a given network. The aim is to establish a specific and systematic methodology with a set of basic allocation and calculation criteria and procedures for the determination of costs, also making use of up-to-date standard technical values (coefficients) for determining the theoretical costs of an efficient operator in a given market (country, local area, etc.)."

*Tat Y. Chan P.B.(Seethu) Seetharaman, John M. Olin School of Business Washington University ST. LOUIS* [4] *October 14, 2002 (First Draft: June 15, 2002),* A large number of oligopolistic models of pricing have been accordingly developed in normative and empirical domains over the past few decades. In addition to incorporating the effects of competitive prices, a firm must also account for the effects of Demand Dynamics.

*According to AHA (NSW) and the RCA Clubs NSW, January 2000*[5] "We have set out a program for action involving collaboration between parties to the CMS, including users. This program involves "open book" accounting, a joint, on-going cost management task force, building a "dynamic" cost model, and an effort to avoid the waste of duplicating systems and infrastructure already in place."

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[3] *Guillermo Klein Buenos Aires, Argentina,* "Study on the application of Cost models in Latin American and Caribbean Countries", *June 2007*

[4]Tat Y. Chan P.B.(Seethu) Seetharaman, John M. Olin School of Business Washington University ST. LOUIS "Estimating dynamic pricing decisions in oligopolistic markets: An empirical approach using micro- and macro-level data", October 14, 2002 (First Draft: June 15, 2002).

[5]Aha (NSW) and the RCA Clubs NSW, "Cost Analysis Of The Central Monitoring System Fee" January 2000

*According to M. J. Zuidhof, R. J. Hudson, T. Joro, and J. J. R. Feddes, Alberta Agriculture, Food and Rural Development, University of Alberta*[6], "A dynamic, deterministic bioeconomic model of the broiler supply chain has been developed with the objective of assisting the poultry industry with complex decisions. Because of biological variability and complex industry structure it is often difficult optimize decisions, which may be defined as decisions that yield maximum economic benefit to the supply chain. The model spans five sectors of the broiler supply chain: feed, hatching egg production, hatchery, broiler production, and processing. Biological productivity is based on the genetic potential of each strain of bird used in the model. The model operates on a daily time step, and accrues production and associated costs daily".

*According to Ecio de Farias Costa Jack E. Houston Rio de Janeiro*[7], "Increased emphasis on consumer markets in broiler profit maximizing modeling generates results that differ from those by traditional profit-maximization models. This approach reveals that the adoption of step pricing and consideration of marketing options affect the optimal feed formulation levels and types of broiler production to generate maximum profitability. The adoption of step pricing attests that higher profits can be obtained for targeted weights only if premium prices for broiler products are contracted."

*According to Scott Bartleu, Linda Young And Linley Crackel, Australian Bureau of Agricultural and Resource Economics, Australian Government Publishing Service Canberra*[8]" In this paper price formation for Australian field peas is investigated and a number of questions on the relative importance of the food and feed markets in price determination are addressed. A representative model of the world market provides a framework for answering questions about the price effects of increased production of

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[6] M. J. Zuidhof, R. J. Hudson, T. Joro, and J. J. R. Feddes, *Alberta Agriculture, Food and Rural Development, University of Alberta,* "A bioeconomic model of the broiler chicken supply chain"

[7] Ecio de Farias Costa Jack E. Houston Rio de Janeiro "Consumer-driven profit maximization in broiler Production and processing" vol. 42, no 01, p. 55-72, Jan/mar 2004 – Impressa em April 2004

[8] Scott Bartleu, Linda Young And Linley Cracke "Price Formation for Australian Field Peas: The Impact of Ec Policies Project 424011", Australian Bureau of Agricultural and Resource Economics, Australian Government Publishing Service Canberra.

field peas within the European Community and in exporting counties, and of the recent increase in the Indian pea tariff from 10 per cent to 35 per cent. A set of least cost feed models is used to test the conclusions of the theoretical analysis. These models are also used to determine the effects of EC policy changes on EC demand for field peas and on the price of field peas."

*Marjolein Bot, Price water house Coopers, Johan Burgemeester, Price water house Cooper, Hans Roes, Tilburg University Library in D-Lib Magazine November 1998 ISSN 1082-9873,*[9] one of the goals of the project "Electronic Journal of Comparative Law" (EJCL), was to make an assessment of the costs of developing and running an electronic journal. This assessment, carried out by PricewaterhouseCoopers, is described in this article. The exercise was carried out in two steps. First, a general costing model was developed with which the shared and direct costs of producing an electronic journal can be charted. In the next step, actual data gathered from the experience with developing and publishing EJCL were used to illustrate the application of this model and to arrive at an assessment of the costs of publishing this particular electronic journal in an academic environment.

*According to Johan Eyckmans Ehsal - Europese hogeschool russel Stormstraat 2, B-1000 Brussels (Belgium), Erika Meynaerts VITO - Vlaamse Instelling voor Technologisch Onderzoek Boeretang 200, B-2400 Mol Belgium, Sara Ochelen Ministerie van de Vlaamse Gemeenschap AMINAL - Administratie Milieu-, Natuur-, Land- en Waterbeheer, Graaf de Ferraris – ebouw, Koning Albert II - laan 20 B-1000 Brussels (Belgium),* March 5, 2004 [10] "The environmental costing model (Milieu-Kosten-Model or MKM in Dutch) is a tool for assessing cost-efficiency of environmental policy. The present paper describes the modelling methodology and illustrates it by presenting numerical simulations for selected multi-sector and multi-pollutant emission

[9] Marjolein Bot, Price water house Coopers, Johan Burgemeester, Price water house Cooper, Hans Roes, Tilburg University Library **"**The Cost of Publishing an Electronic Journal - a general model and a case study" D-Lib Magazine November 1998 ISSN 1082-9873

[10] Johan Eyckmans Ehsal - Europese hogeschool russel Stormstraat 2, B-1000 Brussels (Belgium), Erika Meynaerts VITO - Vlaamse Instelling voor Technologisch Onderzoek Boeretang 200, B-2400 Mol Belgium, Sara Ochelen Ministerie van de Vlaamse Gemeenschap "The Environmental Costing Model: a tool for more efficient environmental policymaking in Flanders"

control problems for Flanders. First, the paper situates the concept of cost-efficiency in the context of Flemish environmental policy and motivates the chosen approach. Secondly, the structure of the numerical simulation model is laid out. The basic model input is an extensive database of potential emission reduction measures for several pollutants and several sectors. Each measure is characterized by its specific emission reduction potential and average abatement cost."

## 1.3 STATEMENT OF THE PROBLEM:

The existing costing model is not dynamic and up to date to address the decision making problems related to pricing amidst heavy competition. Hence, drafting a costing model is taken as a problem to be resolved.

## 1.4 OBJECTIVES OF THE STUDY:

### PRIMARY OBJECTIVES:

- To study and create a dynamic costing model for making decisions on pricing.

### SECONDARY OBJECTIVE:

To make decisions on the following:

- To produce or outsource
- To have own facility or lease\rent the facility
- To develop an effective incentive system for the farm
- To continue\discontinue a production line when the market faces any unexpected changes.

## 1.5 SCOPE:

This study covers the functioning of various departments in the organization, and focus on the costing aspects of the same.

## 1.6 RESEARCH METHODOLOGY

### 1.6.1 TYPE OF THE STUDY:

There are three types of research design, they are:

- Exploratory research,
- Descriptive,
- Analytical research design.

This study comes under analytical research.

**Meaning:**

In an analytical research paper, the researcher will do research to become an expert on a topic so that the researcher can restructure and present the parts of the topic from his or her own perspective.

In this brand of research paper, the researcher goes into the researching stage with a specific topic about which he have not made any kind of conclusions. Often this is called as research question. The researcher has to survey the information and views already out there--both before and after he become familiar with the topic. That will require critical thinking and reading, plus evaluation of the resources handled by the researcher. By the end of the paper the researcher will be able to contribute his own thoughts to the academic discussion by drawing some conclusions about the topic.

### 1.6.2 METHOD OF DATA COLLECTION:

Data can be collected through two methods, they are:

- **Primary data collection method:**

Primary data are collected through direct interview with the Employees, Labours, and by observation etc… and by analyzing the financial statement of the Organization.

- **Secondary data collection method:**

Secondary data are collected through magazines, news papers, websites etc…

- **Primary Data:**

  - Unstructured Interviews with the Employees, Labours and Vetinary doctors, and by getting the financial statements which is directly maintained in the farm.

- **Secondary Data Source:**

  - www.venky's.com.

### 1.6.3 TOOLS FOR ANALYSIS

- Customized Costing Model developed using Microsoft Excel.

### 1.6.4 VARIABLES FOR THE STUDY

- Direct Cost Elements
- Indirect Cost Elements

## 1.7 LIMITATIONS

- The study was conducted for a limited period only.
- As the operations of the Company are vast it was not possible to completely cover all the areas and approximation was made where ever required.

**1.8 CHAPTER SCHEME:**

The FIRST CHAPTER is introductory in nature. This chapter tells about the objectives and scope of the study and its limitations.

The SECOND CHAPTER conveys about the history of the VENKATESHWARA HATCHERIES PRIVATE LIMITED, highlights the origin and development, objectives and production, financial and working of the company, development programmes and plan of the company.

The THIRD CHAPTER gives the macro and micro scenario with respect to the hardware industry.

The FOURTH CHAPTER presents the data analysis and interpretation.

The FIFTH CHAPTER gives summary of findings and concludes the study with relevant suggestions.

# CHAPTER 2

# ORGANISATION PROFILE

## 2.1 HISTORY OF THE ORGANISATION:

## COMPANY PROFILE:

"It is my dream to see India on the number one position on the Poultry map of the world. Not merely in numbers but also in terms of quality, value, productivity and management." - **Padmashree Dr. Banda Vasudev Rao**

The foundation of the VH Group as well as that of modern Indian poultry industry was laid back in 1971, when Padmashree Dr. BV Rao gave shape to his vision by setting up Venkateshwara Hatcheries P. Ltd. - the flagship company of the VH Group.

His pioneering spirit, foresight, and confidence transformed poultry from a backyard activity into an organized, promising industry, ranking amongst the best in the world.

Today, the VH Group is Rs.1300 Crores conglomerate, the largest fully integrated poultry group in Asia and offers under one roof, total support for poultry development. The group's greatest success has been its ability to indigenize the Babcock (layer) and Cobb (broiler) breeds, while maintaining world standards in productivity and performance. The genetic research of Venco and VRB, joint ventures of VH Group with Cobb Vantress and ISA Breeder has earned the VH Group many awards and yielded rich dividends to farmers and the Indian economy.

With the Group's nationwide network of 38 layer, 38 broiler associate hatcheries and 156 broiler integrated hatcheries, the Indian farmer can avail of day-old chicks' right at his doorstep.

**Corporate Governance**

At macro-level, the Board reviews national and international policies affecting poultry and the VH Group. The Board approves and provides thrust for initiatives such as corporate - strategic planning, fiscal and human resources allocation and development of Group - wide systems, investments and diversifications for enhancing overall group performance.

The Board also reviews financial performance reports and recommends necessary corrective actions. In addition, the Board advocates and facilitates adoption of national policies for furthering the development of the poultry sector.

**CHAIR PERSON:**

- Mrs. Anuradha Desai.

**CORPORATE OFFICE:**

- Pune.

**2.2GROUP'S TIMELINE**

**The 70s**

**1971**

Venkateshwara Hatcheries Limited is incorporated.

**1972**

The *1st batch of 8000 parents and 1000 grand parents from Babcock* arrive at Bombay.

**1972**

Dr. Rao travels the country setting up *Franchisee Hatcheries* in Andhra Pradesh, Tamil Nadu, Maharashtra, Gujarat, Madhya Pradesh, Delhi and Bengal.

**1972**

The VHL farm at Pune miraculously survives a huge storm with just one bird perishing.

**1972**

The 1st batch of grand - parents come into production. So do the parents which display a remarkable performance.

**1973**

Dr. Rao succeeds in including the *Marek's Vaccine* in the GOI list of items permitted for import.

**1974**

The VH Group consolidates it's foothold in North. Northern *Hatcheries Private Limited* comes into existence, at Ludhiana, to supply day old chicks.

**1974**

*Balaji Foods and Feeds Pvt. Ltd.* is established on the outskirts of Hyderabad.

**1975**

*Shivalik Hatcheries* comes into existence, in Himachal.

**1975**

Dr. Rao introduces the *Cobb* broiler in the Indian market. He starts setting up the broiler franchisee network.

**1976**

*Western Hatcheries Limited*, today known as Venky's India Limited, is established.

**1978**

Collaboration agreements are reached with *Tri Bio* and *Maine Laboratories.* VH scientists leave for training at the two Laboratories in US.

**1978 – 79**

Two vaccine Laboratories are set up - *Ventri Biological* for manufacturing Marek's and Gumboro vaccines and *Srini Biological* for other vaccines

**1979**

Dr. Rao initiates efforts to start a *pure lines breeding programme*. He approaches Cobb and Babcock and collaboration agreements are finalized.

**1980**

*Venco Research and Breeding Farm Limited* for layer pure lines and *Venkateshwara Research and Breeding Farm Limited* for broiler pure lines are incorporated.

**The 80s**

**1981**

The pure lines arrive at the VH Farms.

**1982**

Dr. Rao organizes a meeting of farmers, traders and franchisees at Hyderabad. The idea of *NECC* (National Egg Co-ordination) is proposed.

**1982**

NECC starts declaring daily egg prices for Hyderabad and Bombay markets. Agrocorpex is registered to provide marketing services for NECC.

**1983**

The *Poultry Diagnostic and Research Centre* is founded at Pune for conducting surveillance, diagnosis and research on poultry diseases in India.

**1985**

*Agrocorpex* begins operations with the egg collection center at Vijayawada.

**1986**

Venky's (India) Limited enters the *Indian Stock Exchange* - the first listed poultry company.

**1986**

Venky's (India) Limited enters into collaboration with SPAFAS Inc. Starts the *Specific Pathogen Free Egg* division with its 1st flock of 2000 SPF birds.

**1986**

Venky's (India) Limited starts the *Animal Health Products* division.

**1987**

The *Institute of Poultry Management of India* is set up at Uruli Kanchan, near Pune to provide training courses.

**1988**

Venky's (India) Limited starts the *Venky's Fast Food Division*. A chicken processing plant is brought into operation at Kamshet for this purpose whereas meat is procured

from a broiler farm taken over from the Ashok Kumar Farming Corporation at nearby Karla.

**1988**

Dr. Rao attends the *World's Poultry Congress* at Nagoya. Begins efforts to gather support for hosting the Congress in India.

**1989**

The Govt. Of India honours Dr. Rao with the coveted distinction of *Padmashri.*

**The 90s**

**1990**

Dr. Rao is awarded *honorary doctorate* by the Kakatiya University of Andhra Pradesh.

**1990**

*VJ Equipments* is started to manufacture micro-processor controlled incubation systems.

**1993**

*Balaji Foods and Feeds Pvt. Ltd.* goes public to set up a 100% EOU for the manufacture of egg powder at Veljerla. The new plant has a processing capacity of 1 million eggs per day.

**1994**

The VH Group is reorganized by merging 25 companies into 4.

**1994**

*VR Equipments* is started to manufacture automated farm equipments like feeding and drinking systems.

**1994**

*Srivenk Finance* is formed to provide assistance to poultry entrepreneurs.

**1994**

An *oil extraction plant* is set up in Solapur to meet the Group's requirement of deoiled Soya cake, an essential ingredient of poultry feed.

**1996**

*Padmashri Dr. BV Rao passes away in Manhattan*.

**1996**

*B. Venkatesh Rao* forms *Uttara Foods and Feeds Pvt. Ltd.* to fulfill Dr. Rao's dream of providing nutritionally balanced poultry feed. A decision to use *Buhler* technology is arrived at.

**1996**

*World Poultry Congress Trade Show* is hosted at New Delhi. 3,000 scientists and 70,000 people attend the trade show.

**2000 >**

**2001**

Venky's (India) Limited enters into an alliance with *Alltech Inc*. and extends its portfolio of animal health products.

**2001**

Venky's (India) Limited starts the *Nutri-Tech Division*.

**2001**

Venky's (India) Limited diversifies into pet food and health care with its new division *Venkys Pet.*

**2003**

*Venkateshwara Biosentry (India) Limited* - VH Group enters into a joint venture with BioSentry Inc. of USA for the production of biosecurity products.

## 2.3OVERVIEW AND GROUP STRUCTURE:

- **Business Organizations**

  1.Venkateshwara Hatcheries Private Limited

  2.Venky's (India) Limited

  3.Venco Research & Breeding Farm Limited

  4.Venkateshwara Research & Breeding Farm Limited

  5.VJ Equipment Limited

  6.VR Equipment Limited

  7.Uttara Foods and Feeds Private Limited

  8.Shivalik Hatcheries Limited

  9.Eastern Hatcheries Limited

10.Venkateshwara Biosentry (India) Limited

11.BV Feed Supplements Manufacturing Company Limited

- **Service Oriented Organizations**

  12.Dr. BV Rao Institute of Poultry Management and Technology

  13.Venkateshwara Charitable Foundation

**2.3.a. Venkateshwara Hatcheries Private Limited**

(Est. 1971)

As the first company to embark on a process of developing the industry on scientific lines, Venkateshwara Hatcheries Private Limited occupies a special place in the Indian poultry scene. It pioneered the concept of parent franchisee operations, popularized cage farming, and introduced for the first time in India, the concept of inactivated vaccines and combination vaccines, and more importantly, use of SPF eggs in vaccine production.

Venkateshwara Hatcheries Private Limited has given the nation an industry with a potential to generate millions of income generating opportunities, enhance rural development and enrich the diet of its people. Such have been its pioneering efforts, that today Venkateshwara Hatcheries Private Limited is synonymous to Indian Poultry.

Venkateshwara Hatcheries Private Limited has based its poultry operations in Maharashtra, Madhya Pradesh and the southern states of India. Included in its portfolio are new technology driven businesses like the egg powder plant in Hyderabad (a 100% export oriented unit) and wind energy farms on the outskirts of Coimbatore.

**2.3.b. Venky's (India) Limited**

(Formerly Western Hatcheries Limited)

Est. 1976

Venky's (India) Limited formerly known as Western Hatcheries Limited was established in 1976, mainly to produce day-old layer and broiler chicks for the dense poultry markets of North India.

Over the years, Venky's (India) Limited embarked upon new ventures in regular succession, adding tremendous value to the company, giving it an edge in technology and high returns on investment. The company has steadily grown to over 30 units spread across India.

Today, Venky's impressive portfolio includes animal health products, pellet feeds, processed, and further processed chicken products, solvent oil extraction, and SPF Eggs. The company's Specific Pathogen Free Egg unit (in technical collaboration with SPAFAS Inc. USA) is among four such units in the world and the only one of its kind in the developing world.

Diversifying from mainstream poultry products, Venkys (India) Limited has added to its credit, manufacturing facilities for nutritional health products for humans, and pet food and health care products. The company has steadily grown to over 30 units spread across India.

The Forbes business magazine of USA ranked Venky's (India) Limited as 67th among the 100 best global small companies in the year 1999-2000.

**2.3.c. Venco Research and Breeding Farm Limited**

Est. 1980

Venco Research and Breeding Farm Limited, established to breed broilers suited to Indian agro-climatic and management conditions, is a joint venture (an

equity participation of 60:40) between Venkateshwara Hatcheries Limited and Cobb-Vantress Inc. of USA, one of the worlds oldest established breeders.

Every year, millions of records on traits of economic importance are collected from thousands of broilers and broiler breeders and analyzed using latest computer software. Based on these analyses, a few birds with the most desirable (profitable) make up for Indian market conditions are selected as parents of the next generations.

**Operations**

The pureline operations of Venco are carried out in the environment friendly outskirts of Pune. Grandparent operations are strategically based - two at Hosur and Hyderabad, for poultry markets of the peninsular south and one at Dehradun for dense pockets of the northern India.

**Exports**

Vencobb broiler parents are regularly exported to Nepal, Bangladesh, Sri Lanka and Iran. Commercial broiler chicks and hatching eggs are also exported to Saudi Arabia and other Gulf countries.

**Recognition**

Recognizing the work done by Venco, the Department of Scientific and Industrial Research, Ministry of Science and Technology, conferred upon it the National Award for R&D Efforts in Industry in 1990.

In 1994, the United States Department of Agriculture awarded it the 'Certificate of Appreciation' for Scientific Accomplishment in a Research Project for a study on feed efficiency undertaken by Venco for five years.

In 1995-96 on a turnover of 18.9 crores Venco spent Rs. 4.7 crores (25 percent) on Research and Development Venco has won the national productivity council award in the year 1998.

### 2.3.d. Venkateshwara Research and Breeding Farm Limited

Est. 1980

Venkateshwara Research and Breeding Farm Limited (VRB), a Joint Venture between ISA Babcock Ithaca, N.Y. USA and Venkateshwara Hatcheries Limited, was established in 1980, for undertaking pureline research and breeding work for egg-type chicken suited to Indian agro-climatic and market conditions.

VRB with facilities to evaluate 120,000 birds in cages and a state-of-the-art egg quality Laboratory and latest generation computers, has the most modern facilities for genetic research. Huge volumes of data on egg production, egg quality, body weight, feed consumption, and other traits are collected and analyzed. Based on these analyses, the most productive birds with best livability are chosen as pedigree candidates.

#### Operations

The pureline operations of VRB are located in the environment friendly outskirts of Pune. Grandparent operations are also based in Pune.

#### Recognition

In recognition of its R&D efforts, the Department of Scientific and Industrial Research, Ministry of Science and Technology conferred upon VRB the National Award for R&D Efforts in Industry in 1994.

The turnover of VRB in 2002-03 was Rs 196.60 Millions of which Rs. 61.7 Millions (32 percent) was spent on R&D.

**2.3.e. VJ Equipment Limited**

Est. 1990

A full-fledged engineering unit to manufacture all the equipment needed for hatchery operations - VJ Equipment Limited was set up in 1990 as a joint venture with Jamesway Incubator Company Limited, Canada, world leaders in incubation technologies.

An ISO 9001 certified company, VJ Equipment is the first in India to manufacture microprocessor-controlled walk-in incubators. It is also the first to launch a fully automatic incubation system, with the largest ever egg-setting capacity of 90,720 eggs. The manufacturing facility includes state-of-the-art special purpose CNC machines to produce poultry incubators and hatchers from 200 - 90,720 eggs capacity. Ultra-modern designing and testing facilities ensure high level of precision and superior quality.

The Super J Incubation System, Super V Incubation System, and the newly introduced Super K Incubation System are unique designs to suit requirements of varying capacities and economies.

VJ Equipment Limited also undertakes designing and installation of Automatic Hatchery Ventilation Systems to meet the requirements of Hatcheries located in different climatic zones.

**2.3.f. VR Equipment Limited**

Est. 1994

VR Equipment Limited, established in 1995, is a joint venture with Roxell NV - Belgium. Accredited with the ISO 9001 certification, the company manufactures various types of automation systems for the poultry industry and has its state-of-the-art manufacturing facilities at Jambhul near Pune.

Continuous hikes in raw material costs and Labour make it imperative for farmers to automate farm operations. Manual operations, especially on large farms, lead to considerable wastage. Besides, automation has the added advantage of efficient feed conversion, the determinant in any poultry business.

VR product line includes automatic feeding systems for commercial and breeder flocks of broilers and layers, automatic drinking systems and environmental control systems. An addition to the line is the Colonia Cages, based on the concept of colony cage farming for breeder flocks.

Automatic feeders and waterers of VR Equipment Ltd. are exported to Baharain, Dubai, Oman, Bangladesh and Nepal.

**2.3.g. Uttara Foods and Feeds Private Limited**

Est. 1996

Uttara Foods and Feeds Private Limited were established with an objective of providing poultry with hygienic, nutritionally balanced, and easily digestible diet, it began operations in 1998. Today, Venky's Feed, as it is widely known, is the forerunner among pellet feed brands in India. This is due to the company's emphasis on uncompromising quality and free services.

Right from inception, UFFL's focus has been on using superior technology as the means to achieve quality. The obvious choice has been Buhler of Switzerland, world leaders in food processing plants and equipment.

Sophisticated systems from Buhler are the driving force of UFFL plants – two at Pune, and one each in Ajmer and Kurnool. The plants are strategically located, for easy supply to poultry pockets in these areas.

**2.3.h. Shivalik Hatcheries Limited**

Est. 1975

Shivalik Hatcheries Private Limited operates parent farms and hatcheries in the state of **Himachal Pradesh**.

It also has a packaging division which produces corrugated boxes for captive use withing the Venkateshwara Hatcheries Group.

**2.3.i. Eastern Hatcheries Pvt. Ltd.**

**2.3.j. Venkateshwara Biosentry (India) Limited**

Est. 2003

Venkateshwara Biosentry (India) Limited is a joint venture promoted by the VH Group and BioSentry Inc. of USA.

BioSentry Inc. of Georgia, USA, is looked upon globally as a primary source for solutions in cleaning and disinfection problems. The distinguished stature of BioSentry Inc. is the result of over 45 years of experience in the research, manufacture, and application of sanitation and odor control products for Poultry, Human, Hotel, Swine, Food Processing, Dairy and Animal Husbandry Industries.

Venkateshwara Biosentry (India) Ltd. - aims to transform poultry operations to 'what can be' by offering the farmer the opportunity to implement practical biosecurity protocols in order to make production increasingly cost-effective by reducing the cost of disease.

**2.3.k. BV Feed Supplements Manufacturing Company Limited**

Est. 2002

The customer today, not only demands the highest quality product, but also one that meets his specific needs.

Being customer-oriented and having an intimate understanding of the market, the VH Group has now entered the vitamin - premix sector with B. V. Feed Supplements Mfg. Co. Ltd.

Dedicated to the manufacture of a wide range of customized Vitamin Premixes for Layers, Broilers and Breeders, B. V. Feed Supplements Mfg. Co. Ltd. has an annual capacity of 10,000 tones.

The company employs leading-edge technology and houses some of the most advanced state-of-the-art infrastructure. Deploying its skilled manpower to produce premixes of the highest quality.

**2.3.l. Dr. BV Rao Institute of Poultry Management and Technology**
Est. 1987: May 17

Established in 1987, this institute was formerly known as Institute of Poultry Management of India. It was renamed in the memory of Late Padmashree Dr. B. V. Rao. It was the result of his endearing foresight, which anticipated the importance of practical training as a key support to modern poultry farming.

This pioneering institute was established to provide sound theoretical and comprehensive practical training in poultry management on modern and scientific lines to poultry farmers, existing and prospective alike.

The VH Group and their franchisees jointly provide support to the institute. Students therefore have access to specialized facilities like large hatcheries, feed mills, diagnostic Laboratories, vaccine, and animal health product manufacturing divisions and processing plants.

All courses are residential in nature. The courses are a combination of regular and short duration courses, which are designed to meet specific needs of students.

The institute is equipped with excellent in-house facilities for imparting hands-on-the-job training. It has its own layer farm with a capacity of 45,000 birds, broiler farm with a capacity of 30,000 birds, feed mill, Laboratories, pathology unit, and incubation equipment. The library has maintained an archive of important volumes, journals, and papers, of national and international publications, since its year of establishment and is well equipped with audio-visual accessories. The institute has a large auditorium, well-equipped gymnasium and a separate Senior Executives Training Center of international standard.

Dr. B. V. Rao Institute of Poultry Management and Technology is the only one of its kind in Asia. To date, the institute has trained over 3500 students from India and overseas. The institute also offers courses that are tailor made for entrepreneurs and institutions that are non-poultry, yet closely associated with the poultry industry.

The institute maintains no bias or discrimination and courses are offered to both public and private sector organizations, from within the region as well as others ranging from Africa, Middle-East and South-East Asian countries.

**Applied research & Specialized Training**

The Institute also conducts special training programs for senior officials from developing countries sponsored by FAO, as well as for Government of India.

It undertakes experiments and applied research in poultry science and is recognized as a research organization by the Ministry of Science and Technology, Government of India, National Bank for Agriculture and Rural Development (NABARD) and State Agricultural University.

It also conducts field trails in layers and broilers for testing of various products of pharmaceutical industries, including multinationals.

**2.3.m. Venkateshwara Charitable Foundation**

Est. 1980

**Venkateshwara Hospital (started in 1980)**

Headquarters in Pune

Branches in Hyderabad and Hosur (started in 1991)

**Venkateshwara School (started in 1988)**

Location: Girinagar Village

Medium: English and Marathi

Teaching Capacity: 1000 students

Staff: 36 Teachers and 4 non-teaching staff

Grades: Primary to 10th Standard

Success Rate: 100% SSC results

**Venkateshwara Mobile Clinic**

Free medical checkup - covers 10 to 12 villages

Free medical checkup to farm employees of VH Group in the vicinity

Medicines at subsidized rates.

**Venkateshwara Hospital, Nellore, (started in 2003)**

**Sri Venkateshwara Swamy Temple, Ketkawale , (started in 2003)**

A replica of the Famous Temple at Tirupathi, AP with all amenities.

**2.4 EXPORTS**

**Products Exported**

- Egg Powder (Whole Egg Powder, Albumen Powder, and Yolk Powder)
- Broiler Hatching Eggs
- Layer Hatching Eggs
- SPF Eggs
- Commercial Broiler Chicks

- Broiler Parent Breeders
- Layer Parent Breeders
- Poultry Vaccines
- Poultry Health Care Products
- Processed Chicken Products
- Incubation Systems and Spares

Since past few years, the VH Group has started exporting through its company, VR Equipment, Automatic Drinking and Feeding Systems, Feed Bins (Silos), Feed Transportation Systems and Environmental Control Systems.

VH Group regularly exports products to SAARC countries, South Asia, Middle East, Japan, Europe, and Africa. It contributes significantly to the countries Foreign Exchange Earnings, which can be seen from the following figures:

**EXHIBIT 1**

| **FY 2006 – 07** | **FY 2007-08** |
|---|---|
| 4,077.20 Lakhs (almost 400 million) | 5,190.00 Lakhs (almost 519 million) |

Source: www.venky's.com

These figures show that the company has recorded a sustained growth of 25% as regards to exports.

**2.5 AWARDS**

The pioneering efforts of the VH Group have been recognized and well rewarded. It has received several national and international awards.

**Venkateshwara Hatcheries Private Limited**

- The National Productivity Council awards for best productivity performance in the poultry sector for 10 consecutive years since 1988.
- The APEDA Awards for best export performance in the poultry sector for four consecutive years from 1 993 - 96.
- The VII Europe Award for Quality awarded in 1993. This was the first time that this prestigious award was conferred upon the poultry sector, anywhere in the world.
- Excellence Award - Certificate of Excellence in Productivity, Quality, Innovation and Management - by Institute of Economic Studies, New Delhi.
- The FIE Foundation's Award for 'Outstanding achievement in the Poultry Industry'.

**Venco Research and Breeding Farm Limited**

The National Award for Research and Development Efforts, by the Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi, in 1990.

**Venkateshwara Research and Breeding Farm Limited**

- The National Award for Research and Development Efforts, by the Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi, in 1994
- National Productivity Award from National Productivity Council for Best Productivity Performance, from 1995 - 98.
- National Productivity Award from National Productivity Council for Second Best Productivity Performance, from 1995-98.
- Certificate of Appreciation by United States Department of Agriculture for Comparative Evaluation of Selection of Broilers, on the basis of growth rate versus feed efficiency, in May 1994.

## 2.6 MAJOR MILESTONES OF THE VH GROUP

The group has been first in the country to

- Start pureline research and development in India
- Use Specific Pathogen Free eggs in the manufacture of poultry vaccines
- Produce Specific Pathogen Free eggs in India
- Introduce the concept of combined and inactivated (killed) vaccines
- Introduce processing of chicken and eggs
- Manufacture automated poultry equipment
- Initiate poultry education through the Dr. BV Rao Institute of Poultry Management and Technology
- Start sophisticated disease diagnostic, surveillance and monitoring Laboratories
- Dr. BV Rao Institute of Poultry Management and Technology, the Specific Pathogen Free egg production facility, and the Poultry Diagnostic and Research Centre are the only ones of their kind in India.

## 2.7 JOINT VENTURES

The VH Group has always endeavored to remain in sync with the latest developments in Poultry - and bring its benefits to the Indian farmer - which it has achieved through strong associations with several world leaders

**Venkateshwara Research and Breeding Farm Limited:**

40% equity participation by Hubbard/ISA, USA for research and breeding of BV 300 Layers

**Venco Research and Breeding Farm Limited**:

40% equity participation by Cobb-Vantress, Inc. USA for research and breeding of Vencobb Broilers

**VJ Equipment**

40% equity participation by Jamesway Incubator Company, Canada for manufacture of Incubation Systems

**VR Equipment**:

45% equity participation by Roxell NV, Belgium for manufacture of Automatic Feeding Systems

1. Marketing Association with Fancom Agri-Computers, The Netherlands for Whole House Controllers & Motorized winches
2. Marketing Association with Vencomatic, The Netherlands for Veranda Systems
3. Marketing Association with Pericoli, Italy for Circulation and Exhaust Fans
4. Marketing Association with Dosatron International, France for Automatic Medicators
5. Marketing Association with Abbi-Sun, The Netherlands for Gas Brooders & Space Heaters
6. Marketing Association with Hago Precision Nozzles, USA for components of In-House Fogging Systems
7. Marketing Association with Hotraco B.V. The Netherlands for Whole House Controllers and Motorized Winches
8. Venkys (India) Limited
9. Technical collaboration with SPAFAS Inc. USA for production of Specific Pathogen Free Eggs
10. Marketing Association with Australian Feed rite, Australia for Pet Food
11. Marketing Association with BioSentry Inc. of USA for Disinfectants
12. Marketing Association with LALLEMAND ANIMAL NUTRITION SA, FRANCE for Animal Nutrition Products

## 2.8 POULTRY MANAGEMENT

### 2.8a Incubation

Proper incubation conditions are necessary to produce healthy chicks. Optimum conditions vary with the age, shell quality and size of eggs to be set. Dry bulb temperature in forced draft incubators, should be between 99.5 and 100oF (37.5 - 37.8oC) with a wet bulb temperature of 83 to 87$^{o}$ F (28.3 - 30.5$^{o}$C). Eggs should be set large end up and turned hourly or more often, during the first 14 days of incubation but never after 18 days of incubation.

Hatchers, hatching trays and other equipment should be cleaned and sanitized after each use. Nest clean eggs are preferred. They may be sanitized on the farm or at the hatchery using approved procedures. Egg sanitation is more effective if it is done as eggs are collected or immediately after collection.

Setter and Hatcher rooms require proper ventilation (approximately one air exchange per minute) to provide oxygen and remove carbon dioxide produced by developing embryos. Most commercial setters perform best when the room temperature is maintained at about 78oF (25.6oC) with a relative humidity of 50 to 55 percent.

### 2.8b Hatchery Vaccination

Vaccination in the hatchery is essential to protect meat type chickens from Marek's disease and sometimes other disease agents. The vaccination program should be customized to protect chicks from disease agents likely to cause mortality on the farm where they will be grown. Vaccines can be applied in the hatchery by injection or by spray methods.

Vaccines can also be applied successfully by egg injection at the time of egg transfer from the setter to the Hatcher. This procedure initiates an earlier immune response to protect chicks after hatching.

**2.8c Hatchery Losses**

Unhatched eggs and cull chicks should be humanely euthanized as soon as possible after the hatch is pulled. Carbon dioxide inhalation or maceration is acceptable methods of accomplishing this.

**2.8d Chick Handling**

Chicks should always be transported in new disposable boxes with new pads or plastic boxes which have been freshly cleaned, sanitized and fitted with new pads. The boxes should have a lining that provides good footing (such as excelsior pads or absorbent mats) and be constructed to allow adequate ventilation. The number of young in the box should take into consideration the outdoor temperature and transit time. Chick handling from Hatcher tray through servicing (sexing, beak trimming, injection, etc.) should be controlled to avoid internal or external injury.

Boxes of young chicks should always be handled carefully and never thrown or dropped. If boxes must be stacked, care should be taken to insure adequate ventilation.

If chicks are to be held in the hatchery, they should be placed in well ventilated rooms held at no less than 74$^{o}$F (23.3$^{o}$C) and 55 percent relative humidity. An air exchange of 25 cubic feet per minute (cfm) per 1000 chicks is recommended.

Prior to hatching, the chick absorbs the remainder of the yolk sac into its body cavity. The yolk sac contents are rich in energy and moisture and can sustain the young bird for up to 72 hours, in the absence of food and water. However, chicks should be placed on feed and water as soon as possible after hatch.

Chick delivery vehicles should be properly ventilated to control temperature and humidity, and to remove carbon dioxide and provide oxygen. (Ventilation capacity 25 cfm/1,000 chicks). Chick deliveries should be scheduled early in the

morning during hot weather to minimize heat stress whenever possible. Heat stress during loading and unloading of chicks can be critical. Delivery trucks should be cleaned and sanitized after each delivery.

### 2.8e Brooding And Growing

#### 2.8e i Brooding Temperature

Newly hatched chicks are unable to control their body temperatures at extremely high or low ambient temperatures and must be provided a narrow temperature range for optimum health and growth. At hatch, chicks require an ambient temperature of 85 to 87$^{o}$F (29.5 -30.5$^{o}$C) or a cooler ambient temperature with supplemental radiant heat. Chicks can also be raised successfully in a cool room adjacent to an area (or hover) with a warmer temperature (95$^{o}$F, 35$^{o}$C at day-old).

This is sometimes referred to as cool room brooding. As chicks grow and feather out, their ability to regulate body temperature improves until about six weeks of age when they can control their body temperature within the ranges normally experienced in commercial poultry houses. Brooders should be started 24 hours in advance of chick arrival to warm litter and drinking water.

#### 2.8e ii Litter

Chicks are often started on floors covered by two to four inches (5-10 cm) of new litter material. Several types of litter material can be used successfully. Wood shavings and rice hulls are preferred but chopped straw, peanut hulls, sawdust, and other materials are sometimes used. The litter material needs to be free of chemicals, pathogens or other contaminants and should not be excessively dusty. Materials which are absorbent and have high insulating qualities are preferred. Litter can be reused if the previous flock has not experienced health problems or unusual mortality. Wet and caked areas should be removed and new litter material added as required. With proper ventilation, litter can be maintained in good condition. If litter cake

begins to develop, it should be removed or the litter should be stirred. Waterers are often moved at frequent intervals to avoid cake build-up.

**2.8e iii Light for Brooding**

During the first week, chicks should have a minimum light intensity of 1 foot candle (10 lux). Subsequently, the light intensity can be reduced to help control cannibalism.

**2.8e ivChick Guards**

Chick guards are used to closely confine the chicks until they learn the location of the heat, feed and water. The area within the brooder ring is gradually increased in size and the guard is removed when the chicks reach 6 to 8 days of age. Guards may not be necessary if chicks are started in a more confined area such as with partial house brooding. Chick guards can be made of welded wire, metal, corrugated cardboard or any other suitable material. Guard material should be 12 to 15 inches (30 to 38 cm) in height and long enough to form an ample ring around the heat source.

**2.8e v Feeding and Watering Procedures**

Adequate numbers of feeders and waterers are important during the early life of chicks. Water is the most critical nutrient for the newly hatched chick. Chicks are often given water before feed to prevent dehydration and assure that they locate water sources. Water should be in place 24 hours before chicks are introduced so that water temperature approximates ambient temperature. Feed may be introduced immediately or within a few hours of chick placement.

Feeding and watering equipment used to start chicks must be properly sized so that chicks can eat and drink comfortably. The edge of the feeder should be located at the average level of the chicks' backs. Feed is often placed on egg flats or in plastic trays during the first few days to help chicks locate feed. Changes in placement of feeders should be made gradually so that the chicks find the new feeder locations.

Chickens should always be grown on diets which meet their nutrient requirements. Feed should contain a mold inhibitor to protect against mold development and an antioxidant to protect fat soluble vitamins from oxidation. Prolonged storage of mixed feeds should be avoided. Feed should always be protected from rodents and moisture.

Poultry are fed diets comprised primarily of grain, protein supplements (e.g. soybean meal), minerals, vitamins and fat. By-product ingredients such as wheat bran, bakery byproduct meal, meat meal or dried brewers grain are sometimes used when they are cost effective. Approved growth promoters (e.g. bacitracin) and coccidiostats may be added to feed in small amounts. Mold inhibitors are often added to prevent the development of mycotoxins which are harmful to poultry. Hormones are not approved for poultry and are never included in the feed or water of commercial poultry.

**2.8e vi Space**

Space required for meat type chickens varies with their size, housing and management system. Broiler chicks should be provided a minimum floor space of 72 square inches (465 cm2) per bird up to 49 days of age if grown on litter.

**2.8e vii Beak Trimming**

Many meat type strains are non-aggressive and do not require beak trimming. Beak trimming in the hatchery protects chicks from cannibalism later in life. If beaks are to be trimmed, a hot blade trimmer with a blunt blade should be used to notch the upper beak. By 10 days of age the tip of the upper beak will separate. An electric spark trimmer can also be used. The spark arcs between two electrodes and leaves a small hole in the beak. After a few days the tip of the upper beak will separate leaving a trimmed upper beak. These methods leave the tip of the beak intact until the chick learns to eat and drink which reduces early stress.

### 2.8d Care Of Juvenile And Adult Breeding Stock

Care practices for replacement breeding stock should follow the general principles previously discussed for meat stock with the exceptions noted in this section.

### 2.8d i Feeding

To achieve successful reproduction, meat-type breeding stock must be raised on a feeding program which limits growth rate and controls mature body weight. This requires feeding predetermined amounts of feed adjusted for the age, egg production, temperature and body weight of the flock. During the juvenile growing period, male and female chicks must be housed separately and grown on separate feeding programs to assure proper weight for successful reproduction. Samples of males and females should be weighed at frequent intervals so that nutrition programs can be adjusted to maintain appropriate body weights throughout life. When the flock approaches sexual maturity, it should be transferred to breeder housing with an appropriate male to female ratio (usually about 15 males per 100 females). In the breeding facility, separate male and female feeders should be used so that the body weight of both sexes can be controlled.

### 2.8d ii Nests

Nests for breeder hens should be properly sized to provide a comfortable environment for hens to lay. If nest holes are too large, more than one hen may attempt to enter the same nest resulting in injury and egg damage. One nest space should be provided for every 4 to 6 hens. The nests should be maintained with clean nest pads or nest litter. Nest boxes should have perches in the front of the nest for safe entry.

### 2.8d iii Lighting

Developing pullets of meat-type strains which are exposed to increasing day lengths will begin laying eggs before they have reached optimum body size. This can result in excessive production of small eggs and these hens are more susceptible to prolapse of the oviduct which often leads to death. To prevent these problems, pullets should be raised on short days (e.g., 8 hours) in a darkened house or on decreasing day lengths if housed in open-side housing. The day length should be increased to initiate lay when adequate body development and age have been achieved. Males should be light stimulated at least a week before females to assure good fertility at the start of lay.

Lamps in breeder housing should provide a minimum light intensity of one half foot-candle at the level of the feed trough.

Hens need to receive artificial light to maintain a day length of at least 14 hours to initiate and maintain egg production. The lighting system should be controlled by a reliable timer which will turn the lights on and off at appropriate times. In open-sided houses, lights are normally used to supplement natural day length. The light schedule should assure that day length does not decrease. To achieve this, artificial day length must exceed the longest day at the latitude where the flock is located.

### 2.8d iv Egg Care, Handling, Sanitation and Storage

Eggs should be collected at least two times per day. If they are to be sanitized, this should be done as soon as possible after collection using an approved procedure. Only sound, nest-clean eggs are recommended for hatching. If floor eggs are to be set, they should be washed using an approved procedure, as soon as possible after collection and set in separate machines from nest-clean eggs.

Eggs which are stored before setting should be held in clean rooms at a temperature of 55 to 65oF (12.8 - 22.1oC) and 75 percent relative humidity. The higher temperature (65oF) is preferred for storage of 1 to 7 days. Eggs held more than 7 days will benefit by storing in plastic bags and turning daily.

**2.8d v Farm Security**

Biosecurity is the utilization of methods which can stop the transfer of infection into or between components of production systems. Biosecurity systems include the following components and procedures:

- Allow only necessary visitors on production sites;
- Restrict movement of workers and equipment between houses, sites and age groups;
- Provide foot baths or boot washing stations, showers and protective clothing at strategic points;
- Maintain ongoing cleaning and disinfection programs, especially in hatcheries;
- Reduce microbial load on trucks and equipment by washing and disinfecting at critical times;
- Locate production sites strategically in relation to other production sites and movement of poultry to minimize disease transfer;
- Restrict contact of workers with other poultry, especially potential carriers of hazardous disease organisms;
- Control rodents and wild birds effectively, both are potential disease vectors;
- Confine pets away from commercial poultry.

**2.8d vi Monitoring Mortality:**

Daily flock mortality records should be maintained and monitored. Crippled, unthrifty, immobile or sick birds should be removed from flocks at frequent intervals to prevent spread of disease to healthy birds. Culled birds should be humanely euthanized. Any unusual level of mortality should trigger an investigation to determine the probable cause. If the cause is not readily apparent, a sample of freshly

dead birds should be examined by management, a veterinarian or diagnostic Laboratory. Routine examination of daily mortality is recommended as a method to monitor the causes.

### 2.8d vii Dead Bird Disposal

Successful methods of dead bird disposal prevent spread of pathogens to surviving birds and result in appropriate recycling of nutrients without contamination of surface or ground water. The Following methods are acceptable in commercial systems:

- Rendering
- Composting
- Incineration
- Disposal Pits or Burials

### 2.8d viii Manure Management and Odor Control

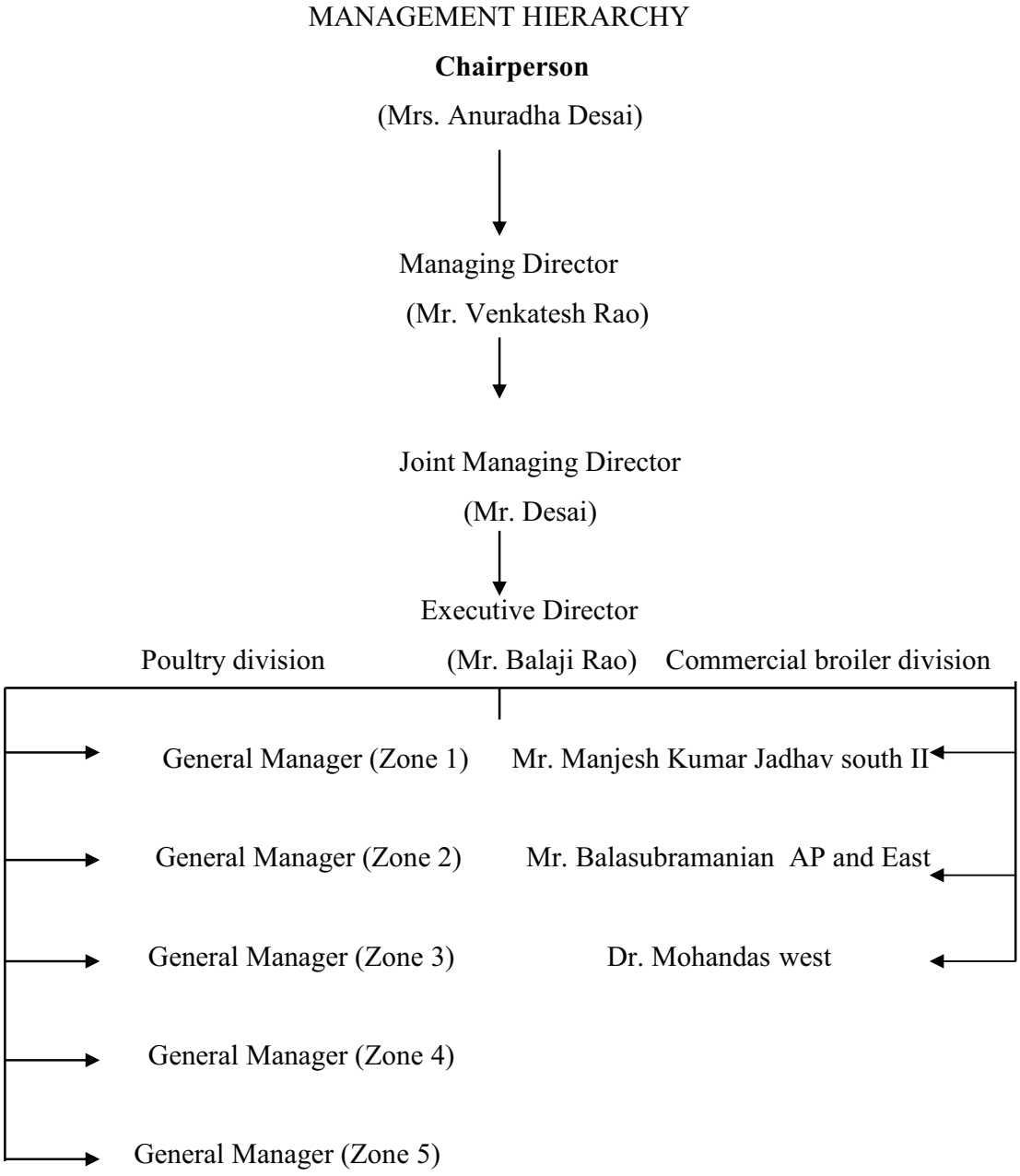
When removed from the poultry house, litter should be moved off the site as quickly as possible. If temporarily stored, it should be stacked in piles to prevent excessive wetting. Manure storage areas should be graded so that run-off from buildings and impervious surfaces does not run into the storage area. Run-off from the manure storage area should be confined to the site and should not drain toward the poultry house(s). Manure is a valuable fertilizer and soil amendment when properly handled.

## 2.9 PRODUCT LINES

1. Vencobb Broiler and Broiler Breeder
2. BV-300 Layer and Layer Breeder
3. Animal Health Products
4. Poultry Vaccines
5. SPF Eggs
6. Incubation Systems

7. Poultry Farm Equipment
8. Poultry Feed
9. Processed Chicken
10. Egg Powder
11. Nutritional Health Products *Humans*
12. Pet Food and Health Care
13. De-oiled Cake
14. Biosecurity Products
15. Feed Supplements

## 2.10 ORGANISATIONAL STRUCTURE AND THE MAJOR FUNCTIONS:



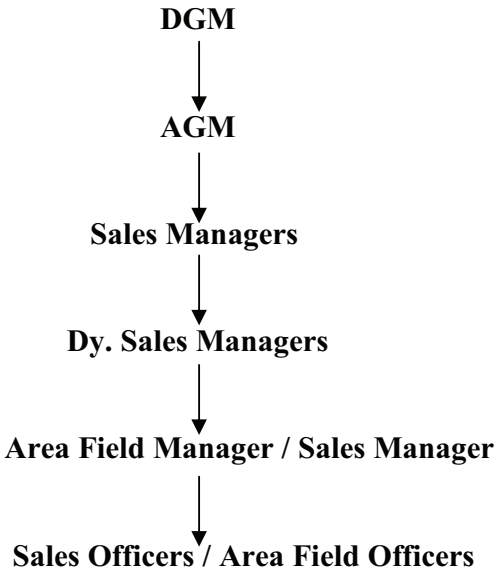
**2.10 i Management**

The Corporate Office of Venkateshwara Hatcheries Ltd. in Pune. The company is headed by the Chairperson. As the company has operations all over India it is divided into 5 zones.

Zone 1 :- Andra Pradesh - Mr. K. G. Anand (GM)
Zone 2 :- Maharashtra & Gujarat – They report to the Corporate office
Zone 3 :- Chandighar – Mr.Mahesh Gupta (GM)
Zone 4 :- East Zone – Dr. SS Rao Nanda (GM)
Zone 5 :- Tamil Nadu, Karnataka & Kerala – Mr. M. R. I Magdum (GM)

Each zone has a Head Office headed by the General Manager. The General Managers report to the corporate office. The General Managers are given freedom to take decision on the day-to-day operation of the company. However guidelines are given to him with regard to the scope of his Duties & Powers.

**Sales - Parent Chicks:**




Parent Chicks refer to those chicks that the breeders rare to produce birds which will either be broilers or layers. These chicks are got from the Grand parent

birds. These Parent chicks are genetically modified to improve their meat quality, incase of broilers and increase egg production, incase of layers.

This department is responsible for the sales of the parent chicks. They are supposed to collect the information from the market as to the demand and supply of parent birds in the market. They have to forecast the demand for broiler's and eggs. This department has no marketing work as the customers are fixed. Even the new customers are acquired by word of mouth. This department is responsible to see that there are no excess parent birds in the market. In case the output of eggs and broiler birds in the market is more than the demand then there will be an adverse effect on the economy as the prices will crash and hence this will lead to closure of many farms. This will adversely affect the market of the company also.

**Sales - Commercial Birds:**


Dr. K Seenivasan DGM, currently heads 20 sales centers that South Zone II has. The Sales Managers are located in Namakkalm, Bangalore, Mysore, Hubli & Chittur.

This department is concerned with the sale of Chicks i.e. both Broiler and Layer, Feeds, Medicine & Vaccines.

New customers are identified based on

- Surveying an area
- Existing Operators
- Feasibility of setting up the farm in the area & also feasibility of supplying the chicks, feed, medicine, etc.
- Enquiry by the farmers.

**2.10 ii Personnel & Administration**

Headed by Sathya.M.Parsa, the Personnel Department is responsible with the task of recruitment, appraisal, filing of tax returns, etc.

The company has grading system for its personnel. There 10 grades.

- General Manager
- Dy. General manager
- Asst. General Manager
- Manager
- 6 – Asst. Manager / Deputy Manager and below.

The recruitment of labourers is done as casual Labour for a period of 1 year, after which they are made permanent. Families are preferred as the work in the farm is a full time job and work is there 365 days of the year.

The recruitment of personnel from Grade 4 and above has to be approved by the Corporate Office. They will have to attend an interview in the Corporate Office, after which on successful completion of the required formalities they are recruited.

On joining an induction program is conducted for the employees. A Fresher is given on the job training for a period of 1 year after which there is a probation period for 6 months after which they are made permanent depending on their performance.

New Recruits who have experience are under probation for 6 months, after which they are made permanent depending on their performance.

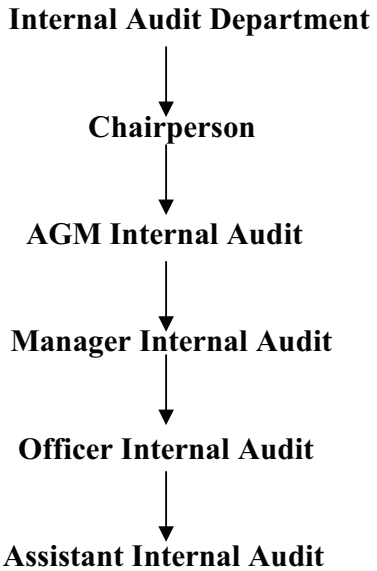
**2.10 iii Salaries & Perks**

Grade 1 – 10 Basic + HRA + MRI + Leave Travel Allowance

Grade 4 and above Books allowance + Education Allowance + Conveyance Allowance

Grade 7 and above Eligible for HRA which is 10% of Basic.

The appraisal of the new personnel is done by the AGM & DGM's in consultation with Manager's and salaries are fixed accordingly.

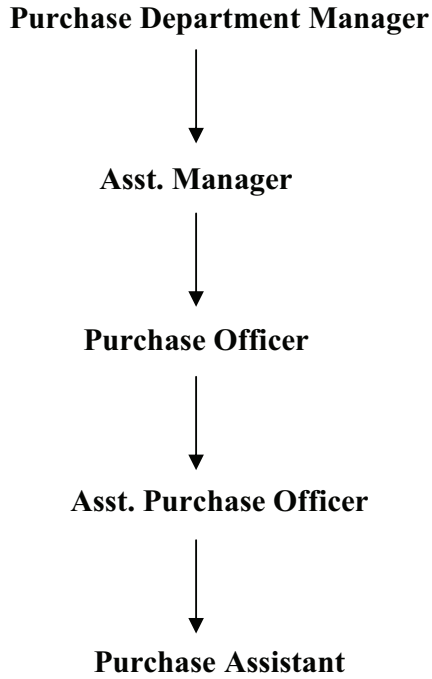



The functions of the Internal Audit Department consist of:

- Auditing the Accounts
- Auditing the Records of the Purchase Departments
- Checking if Production is as per standards

- Meeting Customers
- Surprise Check of Physical Stock, Cash, etc
- Special Audits
- Cost Cutting
- Savings
- Suggesting procedures to strengthen Internal control Procedures
- Control Manpower Cost
- Through study of work done.

Productions, Manpower & Operating Standards are given by the Corporate Office based on which the Internal Audit Department carries on its work. The Internal Audit Department reports directly to the Pune office. The reports are sent to the Pune office after discussion with the General Manager. The Internal Auditors from the Corporate Office occasionally conduct surprise audits.




The procedure for purchase as followed by the company is as follows:

1) Indent from the site is got based on their requirements
2) The indents received are scrutinized

3) Quotations are collected from various suppliers
4) The quotations received are studied
5) Approval is got from the GM regarding the supplier
6) Finalization of the order is done
7) The order is placed
8) The materials are received
9) Follow up action i.e. inspection of the materials, payments, etc

The materials received are inspected at the units and the reports are sent to the Purchase Department.

**EXHIBIT 2**

| **Rank** | **Power to purchase** |
|---|---|
| Purchase Manager | High cost materials such as Feed Mill equipments, Raw materials, etc |
| Asst. Purchase Manager | Capital Items, Project follow ups, Medicines, etc. |
| Purchase Officer | Vaccines. Etc |
| Asst. Purchase Officer | Electrical & Hardware items, etc |
| Purchase Asst. | Stationary & house keeping items |

**2.10 iv Accounts Department**

The accounts department for the South Zone II is headed by Mr. Gandhi Babu, DGM Accounts. The accounts department records all the financial transactions of the company pertaining to south zone II. The accounts of the various branches, office's, units are maintained in the respective places and sent to the Head Office in Hosur. The accounts department is responsible for cash disbursements, payments, and collection of payments from customers, etc.

### 2.10 v Technical Services Department

The Technical Services Department is located in Bangalore. This department is concerned with providing technical assistance to the company. The Technical Services Department is basically a lab. Some of the functions of the Technical Services Department are:

- Testing Samples of feed raw materials
- Testing feed quality
- Conducting Altopsy on dead birds in order to find out the possibilities of diseases'

Apart from these functions the Technical Services Department personnel have to visit the various Farms and conduct routine medical checks on the birds and suggest medication or immunization programs. They also have to work with the production department and see that the production standards are achieved. Incase the production is below the standards they must suggest medication or changes in the management of the farm, as required. Dr. Kiran, AGM heads this department at present. He reports to the GM directly.

### 2.11 COMPETITIVE STRENGTH OF THE COMPANY:

There are many big and small players in the Poultry industry. A few big companies of India are:

**Layers**

1. BV300 from Venkateshwara Hatcheries Ltd
2. Bovans from Pioneer Hatcheries
3. Lohman from M/s Suguna Poultry Farms
4. Hyline from various Hatcheries
5. Hysex

**Broilers**

1) Vencobb from Venkateshwara Hatcheries Ltd.
2) Ross from Suguna Poultry

3) Hybro from Pioneer Hatcheries
4) Hubbard from C&M Group
5) Pune Pearls
6) Indian River
7) Godrej Agrovet

**1. Venkateshwara Hatcheries Ltd.**

The primary business of VHL is the production and sale of commercial day old chicks (DOC) for commercial broiler farms and commercial layer farms. The group is an integrated poultry and its operations include pure line breeding, grand parent and parent breeding, the sale of commercial DOCs, contract commercial farming and processed chicken. The group also caters to the related requirements of poultry sector, such as poultry feed, vaccines, medicines and health products, and poultry equipment. The group's layer breed, BV 300 and its broiler breed Vencobb have 85% and 60% shares, respectively of the domestic market. The research and development carried in pure lines has resulted in acclimatizing the breeds to the Indian environment and also obtaining superior performance on mortality, egg production, feed conversion and other indicators of economic performance. The increase in poultry meat and egg consumption and the growth of commercial poultry farming have been the drivers for the group's growth.

**2. Suguna Poultry**

Started in early 90's as a rural enterprise, Suguna Poultry Group rapidly grew into a corporate entity that has few parallels in history. The success of Suguna is a glorious testimony of the power of human visionary zeal, innovation, determination and co-operation. "Poultry Integration" is a concept introduced and achieved by Suguna. Suguna has been successful in the integration of tens of thousands of farmers, thereby enhancing their life-styles. Suguna has steadily and positively grown on its core ideals of Total Quality Management, constant Innovation, impeccable hygiene and understanding Customer needs.

To further enhance productivity and market Suguna Products worldwide, the group has entered into partnerships with leaders of various countries. Suguna has a tie-up with Ross Breeders of UK for the supply of Grand Parent Chicks. The group also has a joint venture with Supreme Foods Co. Ltd. in the Gulf, which led to the institution of Supreme Suguna Foods Co. Ltd. - an ultra modern chicken processing facility certified with HACCP and located at Udumalpet. . They have also entered the layer market with their Lohman breed.

### 3. C&M Group

C & M is a diversified poultry business house with strong market positions in Indian Poultry Market. Backed by over 4 decades of experience in Poultry business and genetic research, C & M has built a network of businesses that are engaged in array of activities including primary poultry breeding, parent and hatching eggs supplies, poultry processing and exports, Manufacturing of poultry biological, Veterinary lab and diagnostics, Feed manufacturing, voluntary poultry science education, and logistics. The C&M group has been a leader in innovation, technology, and productivity creating new benchmarks for the broiler industry.

### 4. Poineer Hatcheries

In the year 1995, the PIONEER BREEDING FARMS was awarded "**The National Productivity Council Award**" for the best performance in poultry productivity in India during the year 1993-94", by the then **honorable president of India Dr.Shankar Dayal Sharma.** They are among the leading broiler producers and have the layer breed Bovans in the market.

# CHAPTER 3

# MICRO AND MACRO ANALYSIS

## INTERNATIONAL LEVEL:

The world poultry-meat industry derives its significance from the fact that among all the meat categories, poultry meat is the fastest growing. According to an estimate made by Food and Agriculture Organization (2003), world bovine and ovine meat productions are expected to increase by 15.3 and 4.5 million tones, respectively, during the period 1997/1999 – 2015, compared with an increase of 38.8 million tones for poultry meat during the same period.

Consumers are increasingly preferring poultry meat to bovine and ovine meat. In fact, in the US, beef consumption has decreased significantly over the last two decades, losing about 25% of the market share to pork and poultry. Increasing consumer preference for poultry meat can be attributed to growing concerns related to health, hygiene, quality, safety, consistency, convenience and variety.

Due to the growing awareness towards protection of the environment, poultry farms today are increasingly required to adhere to the environmental regulations stipulated by the governments, particularly with regard to water purity, manure removal and dead carcass disposal. Poultry-meat supply chains are increasingly becoming globalized as consolidation and evolution of transnational companies, either by vertical or by horizontal integration, are taking place around the world. Global poultry-meat supply chains enjoy the benefits of other global supply chains in terms of economies of scale, better sourcing options, and access to intellectual and technological resources. The benefits to the consumers are in terms of lower prices, higher varieties, higher qualities, and the advent of “convenience” foods. Factors influencing the globalization of poultry-meat supply chains would include, among others, the relative strength of currencies, speed of technology transfer to developing countries, tax and regulatory issues, cost of Labour and capital, concerns over production methods, food safety and hygiene standards, development and implementation of bio-security protocols, availability of land

to grow crops for feed ingredients, and feed costs. Globalization has also led to the risk of spreading bird-borne diseases in different countries, as the world has recently witnessed the outbreak of avian influenza or commonly-called “bird flu” in China and some south-east Asian nations, highlighting the importance of keeping strict control and maintaining security of the meat supply chain.

**INDIAN LEVEL:**

**Pre-Independence Era**

The credit for laying the foundation of India’s modern poultry should go to a group of Christian missionaries. The first Mission poultry farm was established in Etah, U.P. in 1912 and the first poultry exhibition was held at December of the same year. Even before this development, one of the largest British poultry farms “Sperrin” had come to India in 1907, (it closed its operation in India in 1923) and in 1910 an All –India Poultry Club was started with Sir Arcot Bulter as its President and Col. Tyrell as Secretary.

Although the Indian Poultry Club made attempts to popularize foreign breeds in all seriousness from 1912 onwards and the Etah-based Mission Poultry Farm even started distributing American fowl eggs to villagers, the scheme flopped, for the crosses of breeds like Minorcas and Leghorns in the villages became poor brooders with the result the villagers reverted to their original desi breeds.

The only tragedy with our desi breeds has been that they suffered neglect all along and even now no serious efforts are being made to evolve an Indian breed, which could challenge the imported ones.

This is borne out by the fact that in 1929 several untested pure Busra pullets from the United Provinces (now Uttar Pradesh) Government Farm, which was established at Lucknow in1920, were sent to the then National Egg Laying Test in England. The birds missed the distinction of being the highest egg producer by only one egg. Moreover, of the 179 eggs the Busra pullet laid, 170 were considered first grade. This was

acknowledged in the Feb. 1933 issue of the Indian poultry Gazette, the mouthpiece of the Indian Poultry Club, which paid fulsome tributes to the Busras - “The little gallant hens from Lucknow are upholding the honor of their country (India) in Europe.” In fact, our birds were among the 4000 pedigreed birds from all countries many of which they outclassed both in number and the size of eggs.

Also in a test held at the Governmental Experimental Station, Kakinada (A.P.) even the Assel birds, which do not have a body, built for laying produced increased number of eggs by selective breeding. But unfortunately the schemes introduced in 1936 to improve the laying capacity of all breeds of local fowl (pure mongrels|) by selective breeding under good environmental conditions with follow-on action in successive generations have been given up in preference to readily available good layers from abroad. Even our research institutes have lost track of some of our breeds which could with great advantage be used as base birds for bringing about highly improved versions of our birds to match exotic birds.

**Post-Independence Era**

Organized and directional development of India started with Five year Plans. Similar was the way through which poultry has covered a distance of its development. Truly, the foundation stone of poultry farming was laid in the fifties with the advent of first Five-year plan. Under this First plan, an All India Poultry Development program aiming at establishment of poultry Extension-Cum-Demonstration Centers were launched. A beginning was made with a set up of 33 Centers under the state Animal Husbandry Departments. The poultry Development schemes were also encouraged in the second plan by establishing five Regional poultry Farms at Bangalore, Bhubaneshwar, Mumbai, Delhi & near Shimla with the Central assistance. Another farm in Chandigarh was also added in the series. These farms were known as Central Poultry Breeding Farms.

For the development of poultry species, technical assistance and the nucleus stocks were obtained from USA, Australia, Netherlands and Japan. Substantial aid was received from the U.S. Technical Corporation Mission (TCM) in 1956 which supplied

day old chicks of white leghorn, Rhode Island Red breeds and requisite equipments. As a result of this a poultry augmentation scheme i.e. poultry Extension cum Demonstration centers were increased ten times. The important aspect of second plan was the awareness created among the farmers about the role of scientific poultry farming that this could play as an important pedestal in improving their economic condition.

Poultry assumed a commercial outlook for the first time in its post-independence history when at the Katpadi-based agricultural institute a commercial chick hatchery and poultry processing scheme was established to investigate the possibilities of establishing commercial hatcheries under local conditions.

The compulsions of modern and sophisticated poultry farming soon underscored the need for diagnostic facilities to tackle the ever growing menace of poultry disease, some imported with exotic stocks, pharmaceutical support, regional and all-India Coordinated Research Projects and education and extraction programs. As a result most of the agricultural universities in the country were encouraged to have poultry science included in their curriculum. Some of them now even offer PhD in Poultry Science.

Sixties proved to be the turning point in the history of poultry production in the country. The concept of backyard poultry keeping yielded to poultry farming emerging as a commercial enterprise. Grandparent stocks of reputed companies were imported. First commercial chicks were hatched in Nov.1962 at the Delhi based Rain Shaver poultry Breeding Farm Pvt. Ltd. About the same time the commercial production of balanced compounded feed as well as of modern veterinary medicines and vaccines were started. Also came in its wake, the indigenous production of equipment for incubation & feed mixing and commercial housing etc.

Initiation of Intensive Poultry Development Projects (IPDP) in the area of development and package was the most important factor for bringing about this favorable development. Introduction of deep litter system, further importation of high quality stock and mass preventive vaccination and the encouragement of poultry sector in agriculture were among other major contributing factors.

Although the poultry sector has gained continuous concerted momentum during the previous five-year plans, it has gained an additional impetus in scientific poultry breeding program in seventies also. And as an essential part of this, broiler production was also evolved in this period. To process large number of broiler chicken quickly several dressing plants of different capacities were established at various places. Some commercial hatcheries, good units of manufacturing both in private and public cooperative sector were started. Organizations to provide health cover to poultry farm were also strengthened in this period.

In eighties the emphasis was generally laid on promoting poultry production mainly through the weaker section of the people and bringing about qualitative improvement in the services required for poultry farming. Additional efforts were made for scientific breeding in eggs and broiler strains for getting optimum production and supply of parent to the farmers. The development is not only in number but also in size, productivity, sophistication, image and versatility. Nutritionally balanced feed, better health care in private sectors were made. In this period the ability of poultry to adapt to various areas, with a rapid growth rate and short generation period, had made poultry farming an ideal starting point. Poultry farming had proved at that time that it can ensure economic and social rehabilitation of weaker sections of the society.

The Indian poultry industry has established very well and has transformed from backyard activity to a most modernized scientific agro business. The Industry has achieved both in terms of eggs and broiler meat production - comparable to the best in the world. The Industry has established adequate health care and diagnostic facilities, ultra modern genetic research and development facilities, Training and education etc. and we are self-dependent in poultry production and technology.

**Current Scenario:**

With an annual output of 30,000 million eggs and 1,000 million broilers, which yield 5 lakhs tones of poultry meat, India ranks fourth largest producer of eggs and eighth largest producer of poultry broiler in the world. The poultry sector provides employment to 100 million people and accounts for Rs.95,600 million, about 2 per cent, of the total

GDP of India and 10% of the total GNP attributable to livestock products. At present, just 4 states, Andhra Pradesh, Maharashtra, Punjab and Tamilnadu account for more than 50 per cent of the total output of eggs and broilers in the country.

Poultry industry has made tremendous progress in the country after independence. Indian Poultry Industry has grown rapidly at a rate of 15% to 20% during the last two decades and is now an Rs.65 billion Mega-Industry providing employment to 1.5 million people. The future is even brighter with a growing domestic market, rapid industrialization and economic liberalization. Several breakthroughs in poultry science and technology have led to development of genetically superior birds capable of high production, even under adverse hot climate. Manufacture of high-tech poultry equipment's, quality poultry feed, pharmaceuticals and health care products including vaccines are some of the important factors contributing to higher productivity. Nearly three quarters of the poultry population in the country consists of different types of indigenous breeds. But nearly 60% of the total egg production and almost the entire commercial broiler production are from improved poultry birds in the organized sector.

The poultry sector in India reflects the dual sources i.e. commercial poultry and backyard poultry. The poultry industry is dependent on imported pure-lines and grand parents. The parents and commercial birds from these imported lines are multiplied in commercially run hatcheries mainly in and around cities and peri-urban centers. It is necessary to promote captive poultry development by improving the genetic stocks, making available basic poultry health care products and some essential feed ingredients.

**Future & Beyond**

Mr. Paul Gittins, Vice president (Asia), Aviagen, says " The future of poultry in India was very bright and full of opportunities for stupendous growth."

India's human population in 1997 was 950 million. By the year 2000, it has cross the 1,000 million mark. The United Nation's Food & Agriculture Organisation says India's human population in 2000 will be 1006.8 million, and by the year 2010, it will be 1152 million. This means an additional 200 mouths to feed in 2010 than today.

## EXHIBIT 3

| Table Egg Production (million nos) | | | | | |
|---|---|---|---|---|---|
| 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| 16,100 | 23,320 | 27,272 | 33,550 | 42,818 | 57,300 |

## EXHIBIT 4

| Human Population in India | | | | | |
|---|---|---|---|---|---|
| 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| 767,900,000 | 850,800,000 | 929,000,000 | 1006,800,000 | 1082,200,000 | 1152,300,000 |
| \ | | | | | |
| - | +10.79% | +9.11% | +8.37% | +7.49% | +6.48% |

## EXHIBIT 5

**ESTIMATES OF PRODUCTIONS AND PLACEMENTS**

| Per Capita Annual Egg Consumption (kg/person) | | | | | |
|---|---|---|---|---|---|
| 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| 1.008 | 1.507 | 1.615 | 1.833 | 2.176 | 2.735 |
| **Per Capita Annual Egg Consumption (No. of Eggs)** | | | | | |
| 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| 18.32 | 27.4 | 29.36 | 33.32 | 39.56 | 49.73 |

| Broiler Parent Stock In Production ('000) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1985 | 1990 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2005 | 2010 |
| 1,042 | 3,160 | 4,800 | 6,250 | 6,000 | 7,000 | 8,250 | 8,975 | 15,000 | 21,000 |

**Notes:** Parent Females Only. Forecast: Compound Annual Growth: 1998-1999=18%, 1999-2000=8.5% 2000-2002=12%, 2003-2005=10%, 2005-2010=7%.

**Broiler Chick Production (Million Nos)**

| 1985 | 1990 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2005 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 371 | 396 | 525 | 585 | 625 | 735 | 800 | 1,335 | 1,870 |

**Notes:** 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: 2.1

**Broiler Chicken Meat Production ('000 tones)**

| 1985 | 1990 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2005 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| 52.5 | 270 | 350 | 425 | 485 | 520 | 615 | 665 | 1,110 | 1,555 |

**Per Capita Annual Broiler Chicken Consumption (gms/person)**

| 1985 | 1990 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2005 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| 91 | 317 | 376 | 450 | 500 | 533 | 620 | 660 | 1,025 | 1,350 |

**Source: www.thetribune.com**

# CHAPTER 4

# DATA ANALYSIS AND INTERPRETATION

### 4.1.1 Net Cost Statement:

| Particulars | Amount |
|---|---|
| Total cost<br>Total Income | XXX<br>XXX |
| Surplus/ Deficit | XXX |

### 4.1.2 Existing cost allocation:

- **Direct cost:**

**1. Purchase of Parent Chicks:**

Here the raw material is the Day old Parent Chicks, which is purchased from M/sVRB. Once the chicks are received they are kept in the sheds and feed, medicine and vaccine are given to them from the first day onwards. The figures of the parent chicks are taken from the weekly record maintained in the farm.

**2. Feed cost:**

It is calculated based on the actual feed consumed by the chicks. Daily actual feed consumed by the birds are being recorded in the farm and it is taken based on that. There are different types of feed that is consumed by the birds through out its lifetime. The following are the types of feed.

1) Maize : 1-3 days
2) Chick mash : 1 weeks
3) Chick pellet : upto 6 weeks
4) Grower pellet : 6 to 16 weeks
5) Pre layer pellet : 16 to 18 weeks
6) Layer pellet. : 18 to 72 weeks

The feed is being supplied from their own feed mill. The rate is declared by the accounts department.

3. **Medicine and vaccine cost:**

Medicine cost is calculated based on the actual medicine and vaccine given to the birds, which is taken from the daily record maintained in the farm. Some medicines are being added with the feed so, it is not taken to avoid duplication of cost.

4. **Labour:**

According to VHPL standards they have 1 Labour for each 1200 female birds, and 1 staff for a shed. They have both casual as well as permanent Labours. They have different wage system based on the roles performed and experience. Married Labours are given some extra allowances for fire wood, etc… both wages and salaries are taken actually as per the payment made. So it is calculated without much difficulty.

5. **Consumables and Cleaning charges:**

It is calculated based on the actual usage on the different stages of the bird's life cycle. It is calculated flock wise, because it differs based on the size of the flock.

- **Indirect Cost:**

6. **Fixed costs:**

The overheads like administrative, marketing and financial consists of Insurance, rates and Taxes, Rent for premises, Security expenses, Salaries etc… These expenses are proportioned based on the number of laying capacity birds in both Broilers and Layers.

7. **Depreciation:**

The depreciation is calculated on straight line basis. The value of the Assets for the Mixed flock unit, All – in and All – out Farm, and Brooder units is taken and Depreciation is calculated. For All – in and All – out Farm and Brooder units, total shed value and for Mixed flock unit, total shed value is taken and Depreciation for the flock is taken based on the proportion of birds. Since the Direct assets value alone is

available, total depreciation is taken for calculating the depreciation for supporting Assets. The depreciation for the supporting assets and direct asset is taken based on the ratio 20:70

**8. Power consumption:**

Electricity charges are calculated bases on the units consumed. The electricity rate up to 1500 units is Rs.4.00 and for more than 1500 units it is charged as Rs.4.70. Electric meter is kept common for all the sheds. Since the Meter is not maintained separately, it is taken proportionately on the basis of the total number of birds in a particular unit. Per bird cost is calculated and then it is converted for a particular flock.

**9. By-products:**

The sale realizations of by-products are deducted from the cost of the respective stages. In order to arrive at the value of by-products, the recent sale realization is taken. Certain By-products are sold after accumulation and some are sold immediately.

**10. Generator Expenses:**

It is calculated based on the usage hours and the total liters of diesel consumed. Diesel rate per liter is taken as Rs.34.03. Generally generator is kept common for all the sheds, so it is proportionately taken on the basis of the total number of birds in a particular unit.

**11. Staffs:**

The staffs includes Labours who are not directly linked to the shed or the flock such as Security for the farm, Farm manager, Farm Veterinarian, Store keeper, Other common workers such as maintenance, cold room etc, Administration staff, Expenses on farm, maintenance such as weeding, ploughing etc, Electrician / Plumber / Mason, Vehicle maintenance, Manure handling and bird disposal etc… These charges are

common for all the sheds in a unit so, it is to be taken proportionately to the total number of birds, and then converted to a particular flock.

**12. Senior Manager Salary:**

Salary of AGM is for common for all the units. So it is taken proportionate to the number of birds in all the farms and accounted in each of the stage.

**13. Interest:**

The organization is having their own form and no need to take lease, hence no lease rent is paid. The interest on working capital will not be accounted here, since only the cost directly involved in production alone is taken here.

**14. Hatchery Expenses:**

It is Difficult to get the details per flock in the hatchery level. So per egg cost is taken and then converted for the total Eggs.

**TABLE 4.1a**

| BROODING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 1** | | |
| **Particulars** | **Basis Of Allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| FARM EXPENSES | | | | |
| Cleaning charges | Actuals | 56989 | 0.74 | 41955.30 |
| Purchase of parents | Actuals | 56989 | 185.00 | 10542965.00 |
| Feed | Actuals | 40670 | 14.75 | 600013.40 |
| Medicine | Actuals | 56989 | 95.90 | 5465257.90 |
| Vaccine | Actuals | 56989 | 5.37 | 306236.00 |
| Consumables | Actuals | 56989 | 0.10 | 5650.00 |
| Canteen and Staff Welfare | No of labours | 55 | 18.00 | 990.00 |
| Feed transportation Charges | Actuals | 40670 | 0.14 | 5856.48 |
| Generator Expenses | Actuals | 56989 | 0.22 | 12284.83 |
| LPG | No of cylinders | 56989 | 6.42 | 365869.38 |
| Electricity | Units used | 56989 | 0.44 | 24873.32 |
| Labour | Actuals | 47 | 3632.00 | 170704.00 |
| Staff | Labour | 8 | 10723.88 | 85791.00 |
| Senior executives salary | Total no of Birds | 56989 | 0.12 | 6917.89 |
| Mortality | Actuals | 3207 | | |
| Depreciation | Actuals | 7521481.35 | 2.60% | 195558.52 |
| Gross Total Brooding cost | | 54310 | 328.317 | 17830923.02 |
| By- Products: | | | | |
| Less: Sale of Manure | Actuals | 56989 | 2 | 113978.00 |
| Less: Sale of Gunnybags | No of Bags | 581 | 6.15 | 3573.15 |
| Net Total cost Transferred to Growing Stage | | 56989 | 310.82 | 17713371.87 |
| Cost Per Chick | | | | 310.82 |

**TABLE 4.1b**

| BROODING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 2** | | |
| **Particulars** | **Basis Of Allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| FARM EXPENSES | | | | |
| Cleaning charges | Actuals | 28185 | 0.74 | 20749.80 |
| Purchase of parents | Actuals | 28185 | 185.00 | 5214225.00 |
| Feed | Actuals | 21630 | 14.77 | 319554.20 |
| Medicine | Actuals | 28185 | 2.38 | 67149.64 |
| Vaccine | Actuals | 28185 | 7.02 | 197845.00 |
| Consumables | Actuals | 28185 | 0.20 | 5650.00 |
| Canteen and Staff Welfare | No of labours | 32 | 18.00 | 576.00 |
| Feed transportation Charges | Actuals | 21630 | 0.14 | 3114.72 |
| Generator Expenses | Actuals | 28185 | 0.07 | 1871.65 |
| LPG | No of cylinders | 28185 | 14.50 | 408682.50 |
| Electricity | Units used | 28185 | | 23305.87 |
| Labour | Actuals | 24 | 3632.00 | 87168.00 |
| Staff | Labour | 8 | 10723.88 | 85791.00 |
| Senior executives salary | Total no of Birds | 28185 | 0.12 | 3421.38 |
| Mortality | Actuals | 2794 | | |
| Depreciation | Actuals | 3720088.3 | 2.60% | 96722.30 |
| Gross Total Brooding cost | | 26097 | | 6535827.05 |
| **By- Products** | | | | |
| Less: Sale of Manure | Actuals | 28185 | 2 | 56370.00 |
| Less: Sale of Gunnybags | No of Bags | 309 | 6.15 | 1900.35 |
| Net Total cost Transferred to Growing Stage | | 28185 | 229.82 | 6477556.70 |
| Cost Per Chick | | | | 229.82 |

**TABLE 4.1d**

**TABLE 4.1c**

| BROODING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 3** | | |
| **Particulars** | **Basis of allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| FARM EXPENSES | | | | |
| Cleaning charges | Actuals | 21453 | 1.52 | 32651.47 |
| Purchase of parents | Actuals | 21453 | 185.00 | 3968805.00 |
| Feed | Actuals | 20860 | 14.62 | 304900.40 |
| Medicine | Actuals | 21453 | 4.55 | 97716.05 |
| Vaccine | Actuals | 21453 | 9.69 | 207891.00 |
| Consumables | Actuals | 21453 | 0.26 | 5650.00 |
| Canteen and Staff Welfare | No of labours | 26 | 18.00 | 468.00 |
| Feed transportation Charges | Actuals | 20860 | 0.14 | 3003.84 |
| Generator Expenses | Actuals | 21453 | 0.08 | 1642.60 |
| LPG | No of cylinders | 21453 | 7.64 | 163900.92 |
| Electricity | Units used | 19441 | 0.77 | 14888.11 |
| Labour | Actuals | 18 | 3632.00 | 65376.00 |
| Staff | Labour | 8 | 10723.88 | 85791.00 |
| Senior executives salary | Total no of Birds | 21453 | 0.12 | 2604.18 |
| Mortality | Actuals | 198 | | |
| Depreciation | Actuals | 3548754.96 | 2.60% | 92267.63 |
| Gross Total Brooding cost | | 19272 | 261.911 | 5047556.20 |
| **By- Products** | | | | |
| Less: Sale of Manure | Actuals | 21453 | 2 | 42906.00 |
| Less: Sale of Gunnybags | No of Bags | 298 | 6.15 | 1832.70 |
| Net Total cost Transferred to Growing Stage | | 21453 | 233.20 | 5002817.50 |
| Cost Per Chick | | | | 233.20 |

| BROODING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 4** | | |
| **Particulars** | **Basis of allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| FARM EXPENSES | | | | |
| Cleaning charges | Actuals | 24016 | 1.52 | 36552.35 |
| Purchase of parents | Actuals | 24016 | 185.00 | 4442960.00 |
| Feed | Actuals | 22750 | 14.78 | 336264.60 |
| Medicine | Actuals | 24016 | 5.56 | 133416.67 |
| Vaccine | Actuals | 24016 | 8.87 | 213094.00 |
| Consumables | Actuals | 24016 | 0.24 | 5650.00 |
| Canteen and Staff Welfare | No of labours | 28 | 18.00 | 504.00 |
| Feed transportation Charges | Actuals | 22750 | 0.14 | 3276.00 |
| Generator Expenses | Actuals | 24016 | 0.08 | 1838.85 |
| LPG | No of cylinders | 24016 | 7.64 | 183482.24 |
| Electricity | Units used | 24016 | 0.77 | 18391.69 |
| Labour | Actuals | 20 | 3632.00 | 72640.00 |
| Staff | Labour | 8 | 10723.8 | 85791.00 |
| Senior executives salary | Total no of Birds | 24016 | 0.12 | 2915.30 |
| Mortality | Actuals | 309 | | |
| Depreciation | Actuals | 3972726.39 | 2.60% | 103290.89 |
| Gross Total Brooding cost | | 23764 | 237.33 | 5640067.59 |
| **By- Products** | | | | |
| Less: Sale of Manure | Actuals | 24016 | 2 | 48032.00 |
| Less: Sale of Gunnybags | No of Bags | 325 | 6.15 | 1998.75 |
| Net Total cost Transferred to Growing Stage | | 24016 | 232.76 | 5590036.84 |
| Cost Per Chick | | | | 232.76 |

**TABLE 4.2a**

| GROWING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 1** | | |
| **Particulars** | **Basis of Allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| Net Total cost Transferred from Brooding Stage | | | | 17713371.87 |
| Cleaning charges | Actuals | 54310 | 2.21 | 119916.48 |
| Feed | Kilograms | 381850 | 12.23 | 4671528.40 |
| Feed transportation Charges | Kilograms | 381850 | 0.14 | 54986.40 |
| Medicine | Actuals | 54310 | 5.88 | 319098.48 |
| Vaccine | Actuals | 54310 | 23.85 | 1295499.00 |
| Consumables | Actuals | 54310 | 0.31 | 16950.00 |
| Canteen and Staff Welfare | Labour | 53 | 18.00 | 954.00 |
| Generator Expenses | Fuel used | 54310 | 0.23 | 12284.83 |
| Electricity | Units used | 54310 | 5.07 | 275541.24 |
| Labour and Manpower | Labour | 45 | 2100.00 | 94500.00 |
| Staff | Labour | 8 | 23592.63 | 188741.00 |
| Security Expenses | | 54310 | 0.44 | 24116.00 |
| Senior executives salary | Total no of Birds | 54310 | 0.12 | 6592.69 |
| Mortality | Actuals | 3466 | | |
| Depreciation | | 8817594.92 | 2.60% | 229257.47 |
| Gross Total Growing cost | | | | 25023337.86 |
| **By-Products** | | | | |
| Less: Sale of Manure | Actuals | 54310 | 2 | 108620.00 |
| Less: Sale of Gunnybags | No of Bags | 5455 | 6.15 | 33548.25 |
| Less: Sale of Cull Birds | No of Birds | 522 | 12 | 6264.00 |
| Less: Birds transfer to another unit | Actuals | 12340 | 458.00 | 5651720.00 |
| Less: Birds transfer to another unit | Actuals | 18320 | 458.00 | 8390560.00 |
| Net Total Cost Transferred to Layer Stage | | | | 10832625.61 |
| Cost per Bird | | | | 199.46 |

**TABLE 4.2b**

| GROWING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 2** | | |
| **Particulars** | **Basis of Allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| Net Total cost Transferred from Brooding Stage | | | | 6477556.70 |
| Cleaning charges | Actuals | 26097 | 2.21 | 57622.18 |
| Feed | Kilograms | 167720 | 12.51 | 2097714.50 |
| Feed transportation Charges | Kilograms | 167720 | 0.14 | 24151.68 |
| Medicine | Actuals | 26097 | 9.30 | 242819.59 |
| Vaccine | Actuals | 26097 | 25.18 | 657086.00 |
| Consumables | Actuals | 26097 | 0.65 | 16950.00 |
| Canteen and Staff Welfare | Labour | 30 | 18.00 | 540.00 |
| Generator Expenses | Fuel used | 26097 | 0.24 | 6295.55 |
| Electricity | Units used | 26097 | 1.80 | 47087.87 |
| Labour and Manpower | Labour | 22 | 2100.00 | 46200.00 |
| Staff | Labour | 8 | 23592.63 | 188741.00 |
| Security Expenses | | 26097 | 0.92 | 24116.00 |
| Mortality | Total no of Birds | 26097 | 0.12 | 3167.91 |
| Mortality | Actuals | 2952 | | |
| Depreciation | | 4237024.02 | 2.60% | 110162.62 |
| Gross Total Growing cost | | | | 10000211.60 |
| **By-Products** | | | | |
| Less: Sale of Manure | Actuals | 26097 | 2 | 52194.00 |
| Less: Sale of Gunnybags | No of Bags | 2396 | 6.15 | 14735.40 |
| Less: Sale of Cull Birds | No of Birds | 250 | 12 | 3000.00 |
| Net Total Cost Transferred to Layer Stage | | | | 9930282.20 |
| Cost per Bird | | | | 380.51 |

**TABLE 4.2c**

| GROWING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | **FLOCK 3** | | |
| **Particulars** | **Basis of Allocation** | **Quantity** | **Rate in Rs** | **Amount in Rs** |
| Net Total cost Transferred from Brooding Stage | | | | 5002817.50 |
| Cleaning charges | Actuals | 21453 | 4.57 | 97932.95 |
| Feed | Kilograms | 166250 | 12.25 | 2037380.80 |
| Feed transportation Charges | Kilograms | 166250 | 0.14 | 23940.00 |
| Medicine | Actuals | 21453 | 6.76 | 145108.68 |
| Vaccine | Actuals | 21453 | 20.13 | 431904.00 |
| Consumables | Actuals | 19272 | 0.88 | 16950.00 |
| Canteen and Staff Welfare | Labour | 24 | 18.00 | 432.00 |
| Generator Expenses | Fuel used | 21453 | 0.54 | 11498.22 |
| Electricity | Units used | 21453 | 1.46 | 31309.17 |
| Labour and Manpower | Labour | 16 | 2100.00 | 33600.00 |
| Staff | Labour | 8 | 23592.63 | 188741.00 |
| Security Expenses | | 21453 | 1.12 | 24116.00 |
| Depreciation | Total no of Birds | 21453 | 12.14% | 2604.18 |
| Mortality | Actuals | 416 | | |
| Depreciation | | 3948617.19 | 0.03 | 102664.05 |
| Gross Total Growing cost | | | | 8150998.54 |
| **By-Products** | | | | |
| Less: Sale of Manure | Actuals | 19272 | 2 | 38544.00 |
| Less: Sale of Gunnybags | No of Bags | 2375 | 6.15 | 14606.25 |
| Less: Sale of Cull Birds | No of Birds | 133 | 12.00 | 1596.00 |
| Net Total Cost Transferred to Layer Stage | | | | 8096252.29 |
| Cost per Bird | | | | 377.39 |

**TABLE 4.2d**

| GROWING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | FLOCK 4 | | |
| PARTICULARS | Basis of Allocation | Quantity | Rate | Amount |
| Net Total cost Transferred from Brooding Stage | | | | 5590036.84 |
| Cleaning charges | Actuals | 24016 | 4.57 | 109633.04 |
| Feed | Kilograms | 190280 | 12.31 | 2341861.40 |
| Feed transportation Charges | Kilograms | 190280 | 0.14 | 27400.32 |
| Medicine | Actuals | 23764 | 6.21 | 147548.86 |
| Vaccine | Actuals | 23764 | 17.76 | 421962.00 |
| Consumables | Actuals | 23764 | 0.71 | 16950.00 |
| Canteen and Staff Welfare | Labour | 28 | 18.00 | 504.00 |
| Generator Expenses | Fuel used | 24016 | 0.54 | 12871.92 |
| Electricity | Units used | 24016 | 1.46 | 35049.69 |
| Labour and Manpower | Labour | 20 | 2100.00 | 2100.00 |
| Staff | Labour | 8 | 23592.63 | 188741.00 |
| Security Expenses | | 23764 | 1.01 | 24116.00 |
| Depreciation | Total no of Birds | 23764 | 12.14% | 2884.71 |
| Mortality | Actuals | 202 | | |
| Depreciation | | 4868977.73 | 0.03 | 126593.42 |
| Gross Total Growing cost | | | | 9048253.19 |
| By-Products | | | | |
| Less: Sale of Manure | Actuals | 23764 | 2 | 47528.00 |
| Less: Sale of Gunnybags | No of Bags | 2718.28571 | 6.15 | 16717.46 |
| Less: Sale of Cull Birds | No of Birds | 201 | 12.00 | 2412.00 |
| Net Total Cost Transferred to Layer Stage | | | | 8981595.74 |
| Cost per Bird | | | | 373.98 |

**TABLE 4.3a**

| LAYING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | FLOCK 1 | | |
| PARTICULARS | Basis of Allocation | Quantity | Rate | Amount |
| Net Total Cost Transferred from Growing Stage | | | | 10832625.61 |
| Cleaning charges | Actuals | 21908.00 | 6.04 | 132402.00 |
| Feed | Kilograms | 1059800.00 | 6.19 | 6564866.70 |
| Medicine | Actuals | 21908.00 | 14.69 | 321827.23 |
| Vaccine | Actuals | 21908.00 | 9.99 | 218797.20 |
| Consumables | Actuals | 21908.00 | 1.03 | 22600.00 |
| Canteen and Staff Welfare | Labours | 29.00 | 18.00 | 522.00 |
| Feed transportation Charges | Kilograms | 1059800.00 | 0.14 | 152611.20 |
| Generator Expenses | Fuel used | 21908.00 | 5.39 | 118148.00 |
| Electricity | Units used | 21908.00 | 5.05 | 110660.82 |
| Bird Shifting Charges | Actuals | 21908.00 | 0.12 | 2628.96 |
| Labour | Labours | 22.00 | 2781.00 | 61182.00 |
| Salary | Labours | 7.00 | 18789.85 | 131528.93 |
| Security Expenses | | 21908.00 | 0.37 | 8018.33 |
| Senior Executive Salary | Total no of Birds | 21908.00 | 0.12 | 2659.41 |
| Mortality | Actuals | 2419.00 | | |
| Depreciation | | 15597991.09 | 0.10 | 1535802.20 |
| Gross Total Laying cost | | 20082.00 | 467.30 | 9384254.97 |
| Main Product: | | | | |
| Less: Transfer of Hatching Eggs to Hatchery | No of Eggs | 6375358.00 | 4.00 | 25501432.00 |
| Less: Transfer to another unit | Actuals | 385.00 | 940.00 | 361900.00 |
| By-Product | | | | |
| Less: Sale of commercial Eggs | No of Eggs | 12688.00 | 1.22 | 15479.36 |
| Less: Sale of Manure | Actuals | 21908.00 | 2.00 | 43816.00 |
| Less: Sale of Gunny bags | No of Bags | 15140.00 | 6.15 | 45257.85 |
| Less: Sale of Cull Birds | No of Birds | 24337.00 | 26.20 | 637629.40 |
| Less: Sale of cracked Eggs | No of Eggs | 57748.00 | 0.50 | 28874.00 |
| Less: Sale of Jumbo Eggs | No of Eggs | 3256.00 | 1.75 | 5698.00 |
| Less: Pullet Eggs(less weight eggs sold at low price) | No of Eggs | 791960.00 | 0.69 | 544868.48 |
| Total cost | No of Birds | | | (17800700.12) |
| Vehicle Expenses | Actuals | | | 39055.00 |
| Net Farm House expenses | No of Birds | | | (17761645.12) |
| Cost per Bird | | | | (810.74) |

**TABLE 4.3b**

| LAYING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | FLOCK 2 | | |
| PARTICULARS | Basis of Allocation | Quantity | Rate | Amount |
| Net Total Cost Transferred from Growing Stage | | | | 9930282.20 |
| Cleaning charges | Actuals | 24153.00 | 5.48 | 132402.00 |
| Feed | Kilograms | 1031280.00 | 11.94 | 12309474.40 |
| Medicine | Actuals | 24153.00 | 19.05 | 460160.45 |
| Vaccine | Actuals | 24153.00 | 10.56 | 255034.48 |
| Consumables | Actuals | 24153.00 | 0.94 | 22600.00 |
| Canteen and Staff Welfare | Labours | 33.00 | 18.00 | 594.00 |
| Feed transportation Charges | Kilograms | 1031280.00 | 0.14 | 148504.32 |
| Generator Expenses | Fuel used | 24153.00 | 5.39 | 130255.09 |
| Electricity | Units used | 24153.00 | 5.05 | 122000.67 |
| Bird Shifting Charges | Actuals | 24153.00 | 0.12 | 2898.36 |
| Labour | Labours | 26.00 | 2781.00 | 72306.00 |
| Salary | Labours | 7.00 | 55920.00 | 391440.00 |
| Security Expenses | | 24153.00 | 0.37 | 8840.00 |
| Senior Executive Salary | Total no of Birds | 24153.00 | 0.12 | 2931.93 |
| Mortality | Actuals | 2197.00 | | |
| Depreciation | | 17196379.35 | 0.10 | 1693181.97 |
| Gross Total Laying cost | | 22327.00 | 1150.31 | 25682905.88 |
| Main Product: | | | | |
| Less: Transfer of Hatching Eggs to Hatchery | No of Eggs | 8270565.00 | 4.00 | 33082260.00 |
| Less: Transfer to another unit | Actuals | | | |
| By-Product | | | | |
| Less: Sale of commercial Eggs | No of Eggs | 35682.00 | 1.22 | 43532.04 |
| Less: Sale of Manure | Actuals | 24153.00 | 2.00 | 48306.00 |
| Less: Sale of Gunny bags | No of Bags | 14732.57 | 6.15 | 90605.31 |
| Less: Sale of Cull Birds | No of Birds | 22004.00 | 23.58 | 518854.32 |
| Less: Sale of cracked Eggs | No of Eggs | 100144.00 | 0.50 | 50072.00 |
| Less: Sale of Jumbo Eggs | No of Eggs | 3394.00 | 1.75 | 5939.50 |
| Less: Pullet Eggs(less weight eggs sold at low price) | No of Eggs | 441842.00 | 0.83 | 366728.86 |
| Total cost | No of Birds | | | (8523392.16) |
| Vehicle Expenses | Actuals | | | 39055.00 |
| Net Farm House expenses | No of Birds | | | (8484337.16) |
| Cost per Bird | | | | (351.27) |

**TABLE 4.3c**

| LAYING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | FLOCK 3 | | |
| PARTICULARS | Basis of Allocation | Quantity | Rate | Amount |
| Net Total Cost Transferred from Growing Stage | | | | 8191436.40 |
| Cleaning charges | Actuals | 18800.00 | 6.29 | 118188.59 |
| Feed | Kilograms | 793310.00 | 11.95 | 9483742.10 |
| Medicine | Actuals | 18800.00 | 14.16 | 266190.49 |
| Vaccine | Actuals | 18800.00 | 3.90 | 73353.12 |
| Consumables | Actuals | 18800.00 | 1.20 | 22600.00 |
| Canteen and Staff Welfare | Labours | 25.00 | 18.00 | 450.00 |
| Feed transportation Charges | Kilograms | 793310.00 | 0.14 | 114236.64 |
| Generator Expenses | Fuel used | 18800.00 | 4.45 | 83631.16 |
| Electricity | Units used | 18800.00 | 6.91 | 129865.06 |
| Bird Shifting Charges | Actuals | 18800.00 | 0.12 | 2256.00 |
| Labour | Labours | 18.00 | 2642.00 | 47556.00 |
| Salary | Labours | 7.00 | 3200.00 | 22400.00 |
| Security Expenses | | 18800.00 | 1.87 | 35148.00 |
| Senior Executive Salary | Total no of Birds | 18800.00 | 0.12 | 2282.13 |
| Mortality | Actuals | 1732.00 | | |
| Depreciation | | 4918114.26 | 0.10 | 484245.10 |
| Gross Total Laying cost | | 17483.00 | 1085.76 | 18982396.68 |
| Main Product: | | | | |
| Less: Transfer of Hatching Eggs to Hatchery | No of Eggs | 4833853.00 | 4.00 | 19335412.00 |
| Less: Transfer to another unit | Actuals | | | |
| By-Product | | | | |
| Less: Sale of commercial Eggs | No of Eggs | 3267.00 | 1.22 | 3985.74 |
| Less: Sale of Manure | Actuals | 18800.00 | 2.00 | 37600.00 |
| Less: Sale of Gunny bags | No of Bags | 11333.00 | 6.15 | 69697.95 |
| Less: Sale of Cull Birds | No of Birds | 19180.00 | 25.00 | 479500.00 |
| Less: Sale of cracked Eggs | No of Eggs | 63216.00 | 0.50 | 31608.00 |
| Less: Sale of Jumbo Eggs | No of Eggs | 7159.00 | 1.75 | 12528.25 |
| Less: Pullet Eggs(less weight eggs sold at low price) | No of Eggs | 434065.00 | 0.83 | 360273.95 |
| Total cost | No of Birds | | | (1348209.21) |
| Vehicle Expenses | Actuals | | | 39055.00 |
| Net Farm House expenses | No of Birds | | | (1309154.21) |
| Cost per Bird | | | | (69.64) |

**TABLE 4.3d**

| LAYING STAGE | | | | |
|---|---|---|---|---|
| **COSTING MODEL FOR PRICING OWN CHICKS** | | | | |
| | | FLOCK 4 | | |
| PARTICULARS | Basis of Allocation | Quantity | Rate | Amount |
| Net Total Cost Transferred from Growing Stage | | | | 8981595.74 |
| Cleaning charges | Actuals | 23450.00 | 6.29 | 147421.41 |
| Feed | Kilograms | 991870.00 | 9.56 | 9483742.10 |
| Medicine | Actuals | 23450.00 | 11.35 | 266190.49 |
| Vaccine | Actuals | 23450.00 | 3.99 | 93448.48 |
| Consumables | Actuals | 23450.00 | 0.96 | 22600.00 |
| Canteen and Staff Welfare | Labours | 29.00 | 18.00 | 522.00 |
| Feed transportation Charges | Kilograms | 991870.00 | 0.14 | 142829.28 |
| Generator Expenses | Fuel used | 23450.00 | 4.45 | 104316.53 |
| Electricity | Units used | 23450.00 | 6.91 | 161985.94 |
| Bird Shifting Charges | Actuals | 23450.00 | 0.12 | 2814.00 |
| Labour | Labours | 22.00 | 2642.00 | 58124.00 |
| Salary | Labours | 7.00 | 3200.00 | 22400.00 |
| Security Expenses | | 23450.00 | 1.50 | 35148.00 |
| Senior Executive Salary | Total no of Birds | 23450.00 | 0.12 | 2846.60 |
| Mortality | Actuals | 1723.00 | | |
| Depreciation | | 6134562.74 | 0.10 | 604018.48 |
| Gross Total Laying cost | | 22137.00 | 909.34 | 20130003.04 |
| Main Product: | | | | |
| Less: Transfer of Hatching Eggs to Hatchery | No of Eggs | 6139781.00 | 4.00 | 24559124.00 |
| Less: Transfer to another unit | Actuals | | | |
| By-Product | | | | |
| Less: Sale of commercial Eggs | No of Eggs | 5166.00 | 1.22 | 6302.52 |
| Less: Sale of Manure | Actuals | 23450.00 | 2.00 | 46900.00 |
| Less: Sale of Gunny bags | No of Bags | 14169.57 | 6.15 | 87142.86 |
| Less: Sale of Cull Birds | No of Birds | 24422.00 | 25.00 | 610550.00 |
| Less: Sale of cracked Eggs | No of Eggs | 67109.00 | 0.50 | 33554.50 |
| Less: Sale of Jumbo Eggs | No of Eggs | 8615.00 | 1.75 | 15076.25 |
| Less: Pullet Eggs(less weight eggs sold at low price) | No of Eggs | 558660.00 | 0.83 | 463687.80 |
| Total cost | No of Birds | | | (5692334.89) |
| Vehicle Expenses | Actuals | | | 39055.00 |
| Net Farm House expenses | No of Birds | | | (5653279.89) |
| Cost per Bird | | | | (241.08) |

**TABLE 4.5a**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 1 | | |
| Particulars | Basis of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Total Hatchery Expenses | | | | 36116522.58 |
| Manufacturing OverHeads | | | | |
| Power and fuel | No of Laying Capacity Birds | 21908 | 111.2364629 | 2436968.43 |
| water charges | No of Laying Capacity Birds | 21908 | 0.25775988 | 5647.00 |
| Stores and Spares | No of Laying Capacity Birds | 21908 | 60.99196462 | 1336211.96 |
| Birds Rearing charges | No of Laying Capacity Birds | 21908 | 0.900291754 | 19723.59 |
| Repairs to Building | No of Laying Capacity Birds | 21908 | 22.64551292 | 496117.90 |
| Repairs to Plant and Machinery | No of Laying Capacity Birds | 21908 | 23.72885155 | 519851.68 |
| Lease Rent-Farm and Hatchery | No of Laying Capacity Birds | 21908 | 4.538815276 | 99436.37 |
| Custom Hatching Charges | No of Laying Capacity Birds | 21908 | 8.984239291 | 196826.71 |
| Other Production Related Overheads | No of Laying Capacity Birds | 21908 | 20.34808791 | 445785.91 |
| Total Manufacturing Overheads | No of Laying Capacity Birds | 21908 | 253.6319861 | 5556569.55 |
| Administration Overheads | | | | |
| Taxi hire charges/lease | No of Laying Capacity Birds | 21908 | 3.956053808 | 86669.23 |
| Laboratory Expenses | No of Laying Capacity Birds | 21908 | 2.024722535 | 44357.62 |
| Other Administrative Overheads | No of Laying Capacity Birds | 21908 | 10.47476381 | 229481.13 |
| Postage & telegrams | No of Laying Capacity Birds | 21908 | 12.18942736 | 267045.97 |
| Printing & stationary | No of Laying Capacity Birds | 21908 | 3.780478238 | 82822.72 |
| Insurance | No of Laying Capacity Birds | 21908 | 2.230183308 | 48858.86 |
| Legal and Professional fees | No of Laying Capacity Birds | 21908 | 0.881613502 | 19314.39 |
| Rates and Taxes | No of Laying Capacity Birds | 21908 | 2.342252821 | 51314.07 |

**TABLE 4.5a(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 1 | | |
| Particulars | Basis of Allocation | Quantity | Rate in Rs | Amount in Rs |
| | | | | |
| Audit fees and Expenses | No of Laying Capacity Birds | 21908 | 0.68735968 | 15058.68 |
| Rent for premises | No of Laying Capacity Birds | 21908 | 3.829041694 | 83886.65 |
| Other Repairs | No of Laying Capacity Birds | 21908 | 5.330773168 | 116786.58 |
| Repairs to vehicles | No of Laying Capacity Birds | 21908 | 12.81701663 | 280795.20 |
| Security expenses | No of Laying Capacity Birds | 21908 | 14.31127681 | 313531.45 |
| Transport and Conveyance | No of Laying Capacity Birds | 21908 | 23.99408273 | 525662.36 |
| Carraige outward | No of Laying Capacity Birds | 21908 | 80.53688768 | 1764402.14 |
| Employee Cost | No of Laying Capacity Birds | 21908 | 236.7319036 | 5186322.54 |
| Total Administrative Overheads | No of Laying Capacity Birds | 21908 | 416.1178374 | 9116309.58 |
| Marketing Expenses | | | | |
| Advertisement & publicity | No of Female Chicks | 2104573 | 1.920124322 | 4041041.81 |
| Other Sales Overheads | No of Female Chicks | 2104573 | 0.354886791 | 746885.16 |
| Sales promotion expenses | No of Female Chicks | 2104573 | 1.169258585 | 2460790.05 |
| Packing material | No of Female Chicks | 2104573 | 37.96541535 | 79900988.08 |
| Necc contribution | No of Female Chicks | 2104573 | 36.12000403 | 76017185.25 |
| Pdpc contribution | No of Female Chicks | 2104573 | 6.996873261 | 14725430.55 |
| Discount on Sales | No of Female Chicks | 2104573 | 3.451741 | 7264440.91 |
| Total Marketing Overheads | No of Female Chicks | 2104573 | 87.97830334 | 185156761.80 |
| Financial Overheads | | | | |
| Bank charges | No of Laying Capacity Birds | 21908 | 1.483053222 | 32490.73 |

**TABLE 4.5a(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 1 | | |
| Particulars | Basis of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Total Financial Overheads | No of Laying Capacity Birds | 21908 | 1.483053222 | 32490.73 |
| | | | | |
| Chicks produced | No of Female Chicks | | | |
| Cost per chick | | | | |
| Net cost Before Interest and depreciation | | 21908 | 10372.74693 | 227246139.77 |
| Depreciation | No of Laying Capacity Birds | 21908 | 10.16545196 | 222704.72 |
| Interest | No of Laying Capacity Birds | 21908 | 10.26183174 | 224816.21 |
| Net cost After Interest and depreciation | | 21908 | 12041.72829 | 263810183.27 |
| Chicks produced | No of Female Chicks | 2104573 | | |
| Cost per chick | | 125.35 | | |
| Physical details for verification | | | | |
| Birds Brooded | | 56989 | | |
| Birds Housed | | 21908 | | |
| Total Eggs Produced/hh | | 5902913 | | |
| HE Produced per HH | | 4888718 | | |
| Cost per Hatching Egg | | 7.387728762 | | |

**TABLE 4.5b**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 2 | | |
| Particulars | Basis Of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Total Hatchery Expenses | | | | 39438020.16 |
| Manufacturing OverHeads | | | | |
| Power and fuel | No of Laying Capacity Birds | 24153 | 111.24 | 2686694.29 |
| water charges | No of Laying Capacity Birds | 24153 | 0.26 | 6225.67 |
| Stores and Spares | No of Laying Capacity Birds | 24153 | 60.99 | 1473138.92 |
| Birds Rearing charges | No of Laying Capacity Birds | 24153 | 0.90 | 21744.75 |
| Repairs to Building | No of Laying Capacity Birds | 24153 | 22.65 | 546957.07 |
| Repairs to Plant and Machinery | No of Laying Capacity Birds | 24153 | 23.73 | 573122.95 |
| Lease Rent-Farm and Hatchery | No of Laying Capacity Birds | 24153 | 4.54 | 109626.01 |
| Custom Hatching Charges | No of Laying Capacity Birds | 24153 | 8.98 | 216996.33 |
| Other Production Related Overheads | No of Laying Capacity Birds | 24153 | 20.35 | 491467.37 |
| Total Manufacturing Overheads | No of Laying Capacity Birds | 24153 | 253.63 | 6125973.36 |
| Administration Overheads | | | | |
| Taxi hire charges/lease | No of Laying Capacity Birds | 24153 | 3.96 | 95550.57 |
| Laboratory Expenses | No of Laying Capacity Birds | 24153 | 2.02 | 48903.12 |
| Other Administrative Overheads | No of Laying Capacity Birds | 24153 | 10.47 | 252996.97 |
| Postage & telegrams | No of Laying Capacity Birds | 24153 | 12.19 | 294411.24 |
| Printing & stationary | No of Laying Capacity Birds | 24153 | 3.78 | 91309.89 |
| Insurance | No of Laying Capacity Birds | 24153 | 2.23 | 53865.62 |
| Legal and Professional fees | No of Laying Capacity Birds | 24153 | 0.88 | 21293.61 |

**TABLE 4.5b(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 2 | | |
| Particulars | Basis Of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Rates and Taxes | No of Laying Capacity Birds | 24153 | 2.34 | 56572.43 |
| Audit fees and Expenses | No of Laying Capacity Birds | 24153 | 0.69 | 16601.80 |
| Rent for premises | No of Laying Capacity Birds | 24153 | 3.83 | 92482.84 |
| Other Repairs | No of Laying Capacity Birds | 24153 | 5.33 | 128754.16 |
| Repairs to vehicles | No of Laying Capacity Birds | 24153 | 12.82 | 309569.40 |
| Security expenses | No of Laying Capacity Birds | 24153 | 14.31 | 345660.27 |
| Transport and Conveyance | No of Laying Capacity Birds | 24153 | 23.99 | 579529.08 |
| Carraige outward | No of Laying Capacity Birds | 24153 | 80.54 | 1945207.45 |
| Employee Cost | No of Laying Capacity Birds | 24153 | 236.73 | 5717785.67 |
| Total Administrative Overheads | No of Laying Capacity Birds | 24153 | 416.12 | 10050494.13 |
| Marketing Expenses | | | | |
| Advertisement & publicity | No of Female Chicks | 2306291 | 1.92 | 4428365.44 |
| Other Sales Overheads | No of Female Chicks | 2306291 | 0.35 | 818472.21 |
| Sales promotion expenses | No of Female Chicks | 2306291 | 1.17 | 2696650.55 |
| Packing material | No of Female Chicks | 2306291 | 37.97 | 87559295.73 |
| Necc contribution | No of Female Chicks | 2306291 | 36.12 | 83303240.22 |
| Pdpc contribution | No of Female Chicks | 2306291 | 7.00 | 16136825.83 |
| Discount on Sales | No of Female Chicks | 2306291 | 3.45 | 7960719.20 |
| Total Marketing Overheads | No of Female Chicks | 2306291 | 87.98 | 202903569.19 |
| Financial Overheads | | | | |

**TABLE 4.5b(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 2 | | |
| Particulars | Basis Of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Bank charges | No of Laying Capacity Birds | 24153 | 1.48 | 35820.18 |
| Total Financial Overheads | No of Laying Capacity Birds | 24153 | 1.48 | 35820.18 |
| | | | | |
| Chicks produced | No of Female Chicks | | | |
| Cost per chick | | | | |
| Net cost Before Interest and depreciation | | 24153 | 10761.77 | 259929044.91 |
| Depreciation | No of Laying Capacity Birds | 24153 | 10.17 | 245526.16 |
| Interest | No of Laying Capacity Birds | 24153 | 10.26 | 247854.02 |
| Net cost After Interest and depreciation | | 24153 | 12415.04 | 299860445.25 |
| Chicks produced | No of Female Chicks | 2306291 | | |
| Cost per chick | | 130.02 | | |
| Physical details for verification | | | | |
| Birds Brooded | | 28185 | | |
| Birds Housed | | 24153 | | |
| Total Eggs Produced/hh | | 6714464 | | |
| HE Produced per HH | | 5314122 | | |
| Cost per Hatching Egg | | 7.421361452 | | |

**TABLE 4.5c**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 3 | | |
| Particulars | Basis of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Total Hatchery Expenses | | | | 44092401.97 |
| Manufacturing OverHeads | | | | |
| Power and fuel | No of Laying Capacity Birds | 18800 | 111.24 | 2091245.50 |
| water charges | No of Laying Capacity Birds | 18800 | 0.26 | 4845.89 |
| Stores and Spares | No of Laying Capacity Birds | 18800 | 60.99 | 1146648.93 |
| Birds Rearing charges | No of Laying Capacity Birds | 18800 | 0.90 | 16925.48 |
| Repairs to Building | No of Laying Capacity Birds | 18800 | 22.65 | 425735.64 |
| Repairs to Plant and Machinery | No of Laying Capacity Birds | 18800 | 23.73 | 446102.41 |
| Lease Rent-Farm and Hatchery | No of Laying Capacity Birds | 18800 | 4.54 | 85329.73 |
| Custom Hatching Charges | No of Laying Capacity Birds | 18800 | 8.98 | 168903.70 |
| Other Production Related Overheads | No of Laying Capacity Birds | 18800 | 20.35 | 382544.05 |
| Total Manufacturing Overheads | No of Laying Capacity Birds | 18800 | 253.63 | 4768281.34 |
| Administration Overheads | | | | |
| Taxi hire charges/lease | No of Laying Capacity Birds | 18800 | 3.96 | 74373.81 |
| Laboratory Expenses | No of Laying Capacity Birds | 18800 | 2.02 | 38064.78 |
| Other Administrative Overheads | No of Laying Capacity Birds | 18800 | 10.47 | 196925.56 |
| Postage & telegrams | No of Laying Capacity Birds | 18800 | 12.19 | 229161.23 |
| Printing & stationary | No of Laying Capacity Birds | 18800 | 3.78 | 71072.99 |
| Insurance | No of Laying Capacity Birds | 18800 | 2.23 | 41927.45 |
| Legal and Professional fees | No of Laying Capacity Birds | 18800 | 0.88 | 16574.33 |

**TABLE 4.5c(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 3 | | |
| Particulars | Basis of Allocation | Quantity | Rate in Rs | Amount in Rs |
| Rates and Taxes | No of Laying Capacity Birds | 18800 | 2.34 | 44034.35 |
| Audit fees and Expenses | No of Laying Capacity Birds | 18800 | 0.69 | 12922.36 |
| Rent for premises | No of Laying Capacity Birds | 18800 | 3.83 | 71985.98 |
| Other Repairs | No of Laying Capacity Birds | 18800 | 5.33 | 100218.54 |
| Repairs to vehicles | No of Laying Capacity Birds | 18800 | 12.82 | 240959.91 |
| Security expenses | No of Laying Capacity Birds | 18800 | 14.31 | 269052.00 |
| Transport and Conveyance | No of Laying Capacity Birds | 18800 | 23.99 | 451088.76 |
| Carraige outward | No of Laying Capacity Birds | 18800 | 80.54 | 1514093.49 |
| Employee Cost | No of Laying Capacity Birds | 18800 | 236.73 | 4450559.79 |
| Total Administrative Overheads | No of Laying Capacity Birds | 18800 | 416.12 | 7823015.34 |
| Marketing Expenses | | | | |
| Advertisement & publicity | No of Female Chicks | 2392207 | 1.92 | 4593334.85 |
| Other Sales Overheads | No of Female Chicks | 2392207 | 0.35 | 848962.67 |
| Sales promotion expenses | No of Female Chicks | 2392207 | 1.17 | 2797108.57 |
| Packing material | No of Female Chicks | 2392207 | 37.97 | 90821132.35 |
| Necc contribution | No of Female Chicks | 2392207 | 36.12 | 86406526.49 |
| Pdpc contribution | No of Female Chicks | 2392207 | 7.00 | 16737969.19 |
| Discount on Sales | No of Female Chicks | 2392207 | 3.45 | 8257278.98 |
| Total Marketing Overheads | No of Female Chicks | 2392207 | 87.98 | 210462313.10 |
| Financial Overheads | | | | |

**TABLE 4.5c(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 3 | | |
| Particulars | Basis of Allocation | Quantity | Rate in Rs<br>Amount in Rs | |
| | | | | |
| Bank charges | No of Laying Capacity Birds | 18800 | 1.48 | 27881.40 |
| Total Financial Overheads | No of Laying Capacity Birds | 18800 | 1.48 | 27881.40 |
| | | | | |
| Chicks produced | No of Female Chicks | | | |
| Cost per chick | | | | |
| Net cost Before Interest and depreciation | | 18800 | 14728.08 | 276887839.43 |
| Depreciation | No of Laying Capacity Birds | 18800 | 10.17 | 191110.50 |
| Interest | No of Laying Capacity Birds | 18800 | 10.26 | 192922.44 |
| Net cost After Interest and depreciation | | 18800 | 17093.84 | 321364274.33 |
| Chicks produced | No of Female Chicks | 2392207 | | |
| Cost per chick | | 134.34 | | |
| Physical details for verification | | | | |
| Birds Brooded | | 21453 | | |
| Birds Housed | | 18800 | | |
| Total Eggs Produced/hh | | 5987071 | | |
| HE Produced per HH | | 5734928 | | |
| Cost per Hatching Egg | | 7.68839678 | | |

**TABLE 4.5d**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 4 | | |
| Particulars | Basis of Allocation | Quantity | Rate | Amount |
| Total Hatchery Expenses | | | | 35760160.53 |
| Manufacturing OverHeads | | | | |
| Power and fuel | No of Laying Capacity Birds | 23450 | 111.24 | 2608495.06 |
| water charges | No of Laying Capacity Birds | 23450 | 0.26 | 6044.47 |
| Stores and Spares | No of Laying Capacity Birds | 23450 | 60.99 | 1430261.57 |
| Birds Rearing charges | No of Laying Capacity Birds | 23450 | 0.90 | 21111.84 |
| Repairs to Building | No of Laying Capacity Birds | 23450 | 22.65 | 531037.28 |
| Repairs to Plant and Machinery | No of Laying Capacity Birds | 23450 | 23.73 | 556441.57 |
| Lease Rent-Farm and Hatchery | No of Laying Capacity Birds | 23450 | 4.54 | 106435.22 |
| Custom Hatching Charges | No of Laying Capacity Birds | 23450 | 8.98 | 210680.41 |
| Other Production Related Overheads | No of Laying Capacity Birds | 23450 | 20.35 | 477162.66 |
| Total Manufacturing Overheads | No of Laying Capacity Birds | 23450 | 253.63 | 5947670.07 |
| Administration Overheads | | | | |
| Taxi hire charges/lease | No of Laying Capacity Birds | 23450 | 3.96 | 92769.46 |
| Laboratory Expenses | No of Laying Capacity Birds | 23450 | 2.02 | 47479.74 |
| Other Administrative Overheads | No of Laying Capacity Birds | 23450 | 10.47 | 245633.21 |
| Postage & telegrams | No of Laying Capacity Birds | 23450 | 12.19 | 285842.07 |
| Printing & stationary | No of Laying Capacity Birds | 23450 | 3.78 | 88652.21 |
| Insurance | No of Laying Capacity Birds | 23450 | 2.23 | 52297.80 |
| Legal and Professional fees | No of Laying Capacity Birds | 23450 | 0.88 | 20673.84 |
| Rates and Taxes | No of Laying Capacity Birds | 23450 | 2.34 | 54925.83 |

**TABLE 4.5d(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 4 | | |
| Particulars | Basis of Allocation | Quantity | Rate | Amount |
| Audit fees and Expenses | No of Laying Capacity Birds | 23450 | 0.69 | 16118.58 |
| Rent for premises | No of Laying Capacity Birds | 23450 | 3.83 | 89791.03 |
| Other Repairs | No of Laying Capacity Birds | 23450 | 5.33 | 125006.63 |
| Repairs to vehicles | No of Laying Capacity Birds | 23450 | 12.82 | 300559.04 |
| Security expenses | No of Laying Capacity Birds | 23450 | 14.31 | 335599.44 |
| Transport and Conveyance | No of Laying Capacity Birds | 23450 | 23.99 | 562661.24 |
| Carraige outward | No of Laying Capacity Birds | 23450 | 80.54 | 1888590.02 |
| Employee Cost | No of Laying Capacity Birds | 23450 | 236.73 | 5551363.14 |
| Total Administrative Overheads | No of Laying Capacity Birds | 23450 | 416.12 | 9757963.29 |
| Marketing Expenses | | | | |
| Advertisement & publicity | No of Female Chicks | 1926520 | 1.92 | 3699157.91 |
| Other Sales Overheads | No of Female Chicks | 1926520 | 0.35 | 683696.50 |
| Sales promotion expenses | No of Female Chicks | 1926520 | 1.17 | 2252600.05 |
| Packing material | No of Female Chicks | 1926520 | 37.97 | 73141131.98 |
| Necc contribution | No of Female Chicks | 1926520 | 36.12 | 69585910.17 |
| Pdpc contribution | No of Female Chicks | 1926520 | 7.00 | 13479616.27 |
| Discount on Sales | No of Female Chicks | 1926520 | 3.45 | 6649848.07 |
| Total Marketing Overheads | No of Female Chicks | 1926520 | 87.98 | 169491960.95 |
| Financial Overheads | | | | |
| Bank charges | No of Laying Capacity Birds | 23450 | 1.48 | 34777.60 |
| Total Financial Overheads | No of Laying Capacity Birds | 23450 | 1.48 | 34777.60 |

**TABLE 4.5d(contd…)**

| OTHER OVERHEADS | | | | |
|---|---|---|---|---|
| COSTING MODEL FOR PRICING OWN CHICKS | | | | |
| | | FLOCK 4 | | |
| Particulars | Basis of Allocation | Quantity | Rate | Amount |
| Chicks produced | No of Female Chicks | | | |
| Cost per chick | | | | |
| Net cost Before Interest and depreciation | | 23450 | 9564.15 | 224279292.68 |
| Depreciation | No of Laying Capacity Birds | 23450 | 10.17 | 238379.85 |
| Interest | No of Laying Capacity Birds | 23450 | 10.26 | 240639.95 |
| Net cost After Interest and depreciation | | 23450 | 11109.53 | 260518473.01 |
| Chicks produced | No of Female Chicks | 1926520 | | |
| Cost per chick | | 135.23 | | |
| Physical details for verification | | | | |
| Birds Brooded | | 24016 | | |
| Birds Housed | | 23450 | | |
| Total Eggs Produced/hh | | 4748923 | | |
| HE Produced per HH | | 4609128 | | |
| Cost per Hatching Egg | | 7.76 | | |

**TABLE 4.6**

**Proportion of Production overheads**

| Stages | Overheads for all the four flocks | Proportion in Percentage |
|---|---|---|
| Brooding | 34783782.91 | 35.00 |
| Growing | 17439018.29 | 17.55 |
| Laying | 47171430.34 | 47.46 |
| Total | 99394231.54 | 100 |

INTERPRETATION:

The above Table 4.6 shows that, the farm house expenses is apportioned into 35%, 17.55% and 47.46% respectively for Brooding, Growing and Laying stages.

INFERENCE:

The above Table 4.6 infers that, the production expenses are higher in the Laying stage when compared with Growing and Brooding stages.

**CHART 4.1**

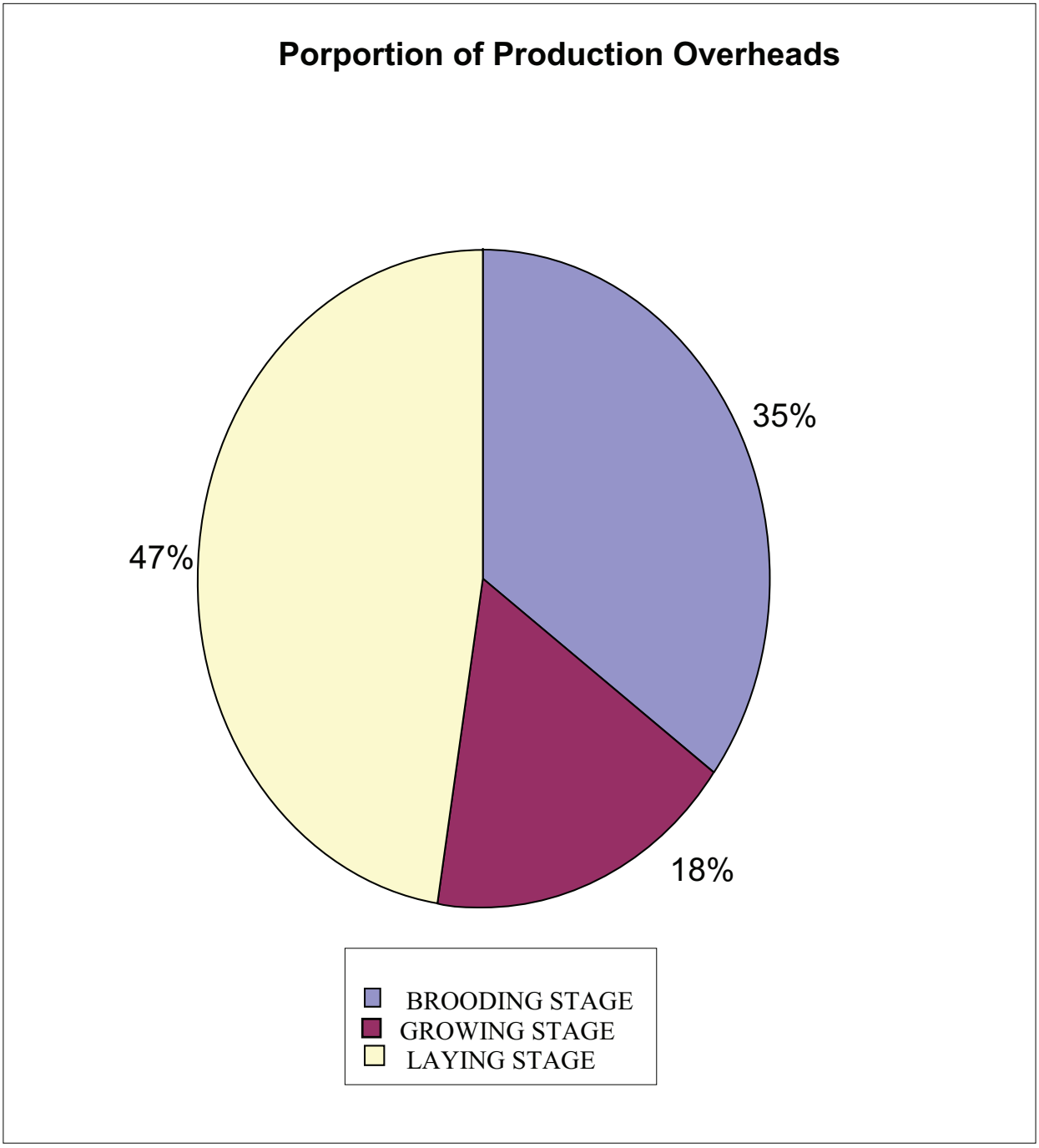

Porportion of Production Overheads
35%
47%
18%
BROODING STAGE
GROWING STAGE
LAYING STAGE

**TABLE 4.7**

**Proportion of Hatchery overheads**

| Stages | Overheads for all the four flocks | Proportion in Percentage |
|---|---|---|
| Farm House expenses | 99394231.54 | 6.91 |
| Hatchery Overheads | 194258881.54 | 13.50 |
| Other Overheads | 1145553375.87 | 79.60 |
| Total | 1439206489 | 100 |

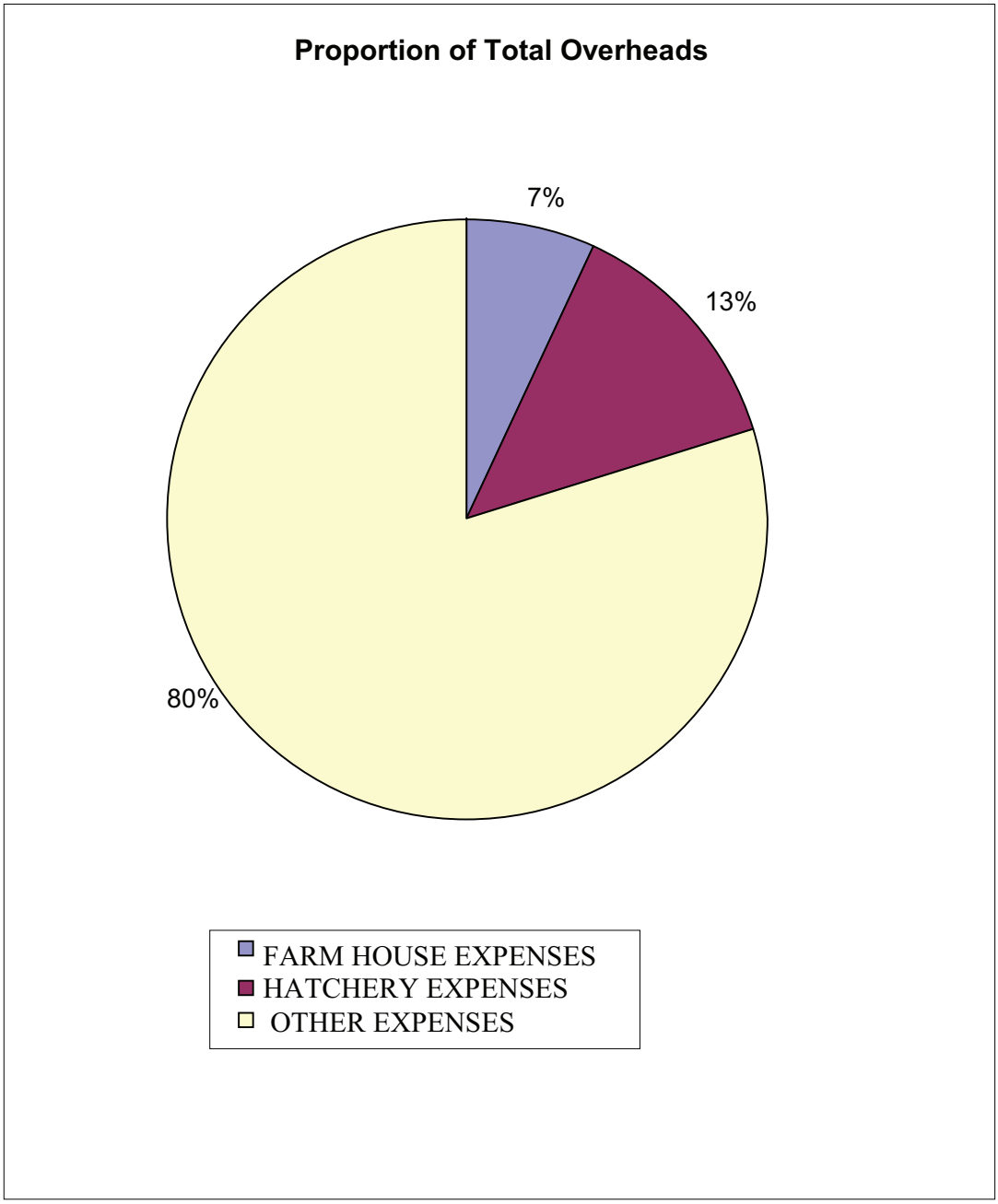
INTERPRETATION:

The above Table 4.7 shows that, the total expenses are Proportionate into 6.91%, 13.50% and 79.60% respectively for Farm House Expenses, Hatchery Overheads and Other Overheads.

INFERENCE:

The above Table 4.7 infers that, other overheads are comparatively higher than the Farm House Expenses and Hatchery Overheads.

**CHART 4.2**


Proportion of Total Overheads
7%
13%
80%
FARM HOUSE EXPENSES
HATCHERY EXPENSES
OTHER EXPENSES

# CHAPTER 5
# FINDINGS AND SUGGESTIONS

Costing model for pricing of the chicks is created by studying the actual flow of the expenses and income if any, from the farm directly. Format for collecting the monthly Data for Salaries, Feed, Vaccine, Medicine etc… is given as annexure.

Since poultry is a livestock industry the model created can be altered at any stage for making any of the changes. The study is conducted for a minimum period, some approximations were made due to shortage of time and non availability of data in the required format, so the model created may not be accurate. Any changes or corrections can be effected to the model as and when required and with the improvement of the information technology and adoption of the same in the industry, this model can be inbuilt into its accounting/production or ERP package itself.

## 5.1 FINDINGS AND SUGGESTIONS:

**FINDINGS:**

- The production expenses are higher in the Laying stage when compared with Growing and Brooding stages.
- Other overheads are comparatively higher than the Farm House Expenses and Hatchery Overheads.
- The asset value for each shed is not available separately. The existing cost allocation of depreciation is apportioned based on the number of birds.
- For the purpose of calculating electricity cost, in the existing system a common meter is maintained and the cost is proportioned based on the number of birds but it is not so accurate.

**SUGGESTIONS:**

- Feed cost for every flock should be separately maintained on daily basis, ie as and when the feed is issued.
- Medicine and Vaccine cost should be recorded daily, based on the actual consumption/ issue basis.
- It is recommended to maintain a separate Electricity meter for each flock/shed and record the units consumed by the particular flock on the monthly basis. It helps the organization to apportion the cost correctly for the flocks. More over it helps the organization to take decisions for minimizing the excess cost, when the market condition is dull.
- For calculating generator expenses, electricity consumed by each flock/shed should be accounted separately and cost incurred on the generator should be allocated on the basis of power consumed by various units. Maintain a watt-hour meter at the generator to monitor the total production of electricity and consumption thereof at various sheds and other utilities in the farm. It helps the organization to take decisions for minimizing the excess cost, when the market condition is dull.
- It is recommended to maintain the value of the assets utilized for each flock separately. The depreciation can be accounted during the beginning of the flock, if shed wise calculation is not possible. If two flocks are housed simultaneously, and the assets are used for both the flocks in common then the ratio shall be on the basis of number of birds. So, it is recommended to put the flocks together especially during brooding/growing or maintain separate accounts for both the flocks, to avoid unnecessary assumptions.
- Actual labors should be considered for calculating the salaries and wages.
- It is recommended for the organization to develop an accounting software in future to automate the data collection.

The following persons will be having their respective roles which are as follows:

1. Marketing manager – should know how the costing is made, to make correct decisions on sale price etc.
2. Accounts manager – properly record and maintain the cost sheet, by getting the data from the form. Advise the management on profitability, rate & volume of sale relationship, project management etc
3. Production manager – regularly record the expenses incurred in the farm and enter into the cost sheet/register as and when incurred.

When the market faces any unexpected changes in terms of Bird flu or Epidemic, the decision to produce or outsource or lease additional facility can be taken by comparing the existing cost in the organization with that of the market price. Which ever is profitable can be taken.

## 5.2 CONCLUSION:

Costing forms a crucial part in the accounting operation. The dynamism of costing reflects an organization's ability to effectively price its products. Venkateshwara Hatcheries Private Limited is a one - roof organization that specializes in the poultry industry. The existing costing systems don't reflect the overhead expenses met out by the organization. The researcher has taken this as a research problem and conducted an analytical study by collecting the detailed cost data for four flocks of chicks.

The study enabled the researcher to develop a costing model that segregates the overhead cost involved different stages of producing the chicks. The study also analyzed the overhead proportion that each stage sums up to the total overhead cost. The researcher has made suggested that would address the anamolies that exist with the present costing system.

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**ANNEXTURES:**

Annexure 1:

**FORMAT FOR COLLECTING DETAILS FOR PURCHASE OF PARENT BIRDS PER FLOCK**

| | | | |
|---|---|---|---|
| **Flock No** | | **Birds Housed** | **Date** |

| **Sl. No** | **No of Birds Purchased** | **Rate per Bird** | **Total** |
|---|---|---|---|
| | | | |
| | | | **Total Amount*** |

Note: Amount mentioned as * has to be taken to the Cost Sheet

p.s in the growing and laying stages the purchase price of parents has to be taken as per the transfer pricing worked out in the earlier stages ie., brooding and growing respectively to arrive at the bird cost.

Annexure 2:

**FORMAT FOR COLLECTING FEED DETAILS PER FLOCK**

| | | | | | |
|---|---|---|---|---|---|
| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
| **Date** | | | | | |

| **Issue Date** | **Item** | **Qty issued** | **Rate/ KG** | **Total** |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | **Total Amount*** |

Note: Amount mentioned as * has to be taken to the Cost Sheet

Annexure 3:

**FORMAT FOR COLLECTING MEDICINE AND VACCINE DETAILS PER FLOCK**

| | | | | | |
|---|---|---|---|---|---|
| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
| **Date** | | | | | |

| **Issue Date** | **Item** | **Qty issued** | **Rate/LT/ KG** | **Total** |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | **Total Amount*** |

Note: Amount mentioned as * has to be taken to the Cost Sheet

Annexure 4:

**FORMAT FOR COLLECTING SALARY/WAGE DETAILS PER FLOCK**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Flock No** | | **Birds Housed** | | **Date** | | **STAGE** | **B/G/L** |

| **Month** | **Casual labor** | | **Permanent Labor** | | **Staff** | | **Over time** | **Total** |
|---|---|---|---|---|---|---|---|---|
| | **No** | **Amt** | **No** | **Amount** | **No** | **Amt** | | |
| **Jan** | | | | | | | | |
| **Feb** | | | | | | | | |
| **Mar** | | | | | | | | |
| **Apr** | | | | | | | | |
| **May** | | | | | | | | |
| **June** | | | | | | | | |
| **July** | | | | | | | | |
| **Aug** | | | | | | | | |
| **Sep** | | | | | | | | |
| **Nov** | | | | | | | | |
| **Dec** | | | | | | | | |
| | | | | | | | **Total Salary*** | |

Note: Amount mentioned as * has to be taken to the Cost Sheet with suitable addition for other costs to company including PF, ESI, Medical, LTA,grauity, superannuation etc

Annexure 5:

**FORMAT FOR COLLECTING FUEL DETAILS PER FLOCK**

| | | | | | |
|---|---|---|---|---|---|
| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
| **Date** | | | | | |

| | **(a)** | **(b)** | **( C)** | **(d)** | **(e)** |
|---|---|---|---|---|---|
| **Month** | **Qty used** | **Rate/LT** | **Amount** | **Other expenses** | **Total (c )+ (e)** |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| **Total *** | | | | | |

Note: Amount mentioned as * has to be taken to the Cost Sheet

Annexure 6:

**FORMAT FOR COLLECTING CONSUMABLE DETAILS PER FLOCK**

| | | | | | |
|---|---|---|---|---|---|
| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
| **Date** | | | | | |

| **Issue Date** | **Item** | **Qty issue** | **Rate/ KG** | **Total** |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **Total Amount*** | | | | |

Note: Amount mentioned as * has to be taken to the Cost Sheet

Annexure 7:

**FORMAT FOR COLLECTING CULL BIRDS SALES DETAILS PER FLOCK**

| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
|---|---|---|---|---|---|
| | | | | | |

| **Month** | **Birds sold** | **Rate/ Bird** | **Rate/ KG** | **Total** |
|---|---|---|---|---|
| **Jan** | | | | |
| **Feb** | | | | |
| **Mar** | | | | |
| **Apr** | | | | |
| **May** | | | | |
| **June** | | | | |
| **July** | | | | |
| **Aug** | | | | |
| **Sep** | | | | |
| **Nov** | | | | |
| **Dec** | | | | |
| **Total Amount*** | | | | |

Note: Amount mentioned as * has to be taken to the Cost Sheet

Annexure 8:

**FORMAT FOR COLLECTING DETAILS PER FLOCK**

| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
|---|---|---|---|---|---|

| **Month** | **Opening Unit** | **Closing Unit** | **Units Used** | **Rate/ Unit** | **Amount** |
|---|---|---|---|---|---|
| **Jan** | | | | | |
| **Feb** | | | | | |
| **Mar** | | | | | |
| **Apr** | | | | | |
| **May** | | | | | |
| **June** | | | | | |
| **July** | | | | | |
| **Aug** | | | | | |
| **Sep** | | | | | |
| **Nov** | | | | | |
| **Dec** | | | | | |
| **Total*** | | | | | |

Note: Amount mentioned as * has to be taken to the Cost Sheet

Annexure 9:

**FORMAT FOR COLLECTING HATCHING EGGS DETAILS PER FLOCK**

| **Flock No** | | **Birds Housed** | | **STAGE** | **B/G/L** |
|---|---|---|---|---|---|
| **Date** | | | | | |

| **Month** | **(a) Hatching Eggs produced** | **(b) Hatching Eggs Sold** | **( c) Amount** | **(d) Hatching Eggs set** | **(e) Total ( C)+(d)x transfer price** |
|---|---|---|---|---|---|
| **Jan** | | | | | |
| **Feb** | | | | | |
| **Mar** | | | | | |
| **Apr** | | | | | |
| **May** | | | | | |
| **June** | | | | | |
| **July** | | | | | |
| **Aug** | | | | | |
| **Sep** | | | | | |
| **Nov** | | | | | |
| **Dec** | | | | | |
| **Total*** | | | | | |

Note: Amount mentioned as * has to be taken to the Cost Sheet

**MONTLHLY FLOCK COST SHEET:**

| **Month** | **Parent Birds Purchased** | **Feed** | **Medicine & Vaccine** | **Salary** | **Electricity** | **Fuel** | **Consumables** | **Hatching Eggs** | **Sale of Cull Birds** |
|---|---|---|---|---|---|---|---|---|---|
| **Jan** | Annexure1 | Annexure2 | Annexure3 | Annexure4 | Annexure8 | Annexure5 | Annexure6 | Annexure9 | Annexure7 |
| **Feb** | | | | | | | | | |
| **Mar** | | | | | | | | | |
| **Apr** | | | | | | | | | |
| **May** | | | | | | | | | |
| **June** | | | | | | | | | |
| **July** | | | | | | | | | |
| **Aug** | | | | | | | | | |
| **Sep** | | | | | | | | | |
| **Nov** | | | | | | | | | |
| **Dec** | | | | | | | | | |
| **Total*** | Send to the office | | | | | | | | |

Note: Amount mentioned as * has to be taken to the cost sheet.