

**MARKETING PRACTICES OF POULTRY FEED PRODUCTION
IN NEPAL**

(A COMPARATIVE STUDY OF POULTRY FEED PRODUCTION INDUSTRIES)

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In Nepal

(A Comparative Study Of Poultry Feed Production Industries)

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VIVA-VOCE SHEET

We have conducted the viva-voce of the thesis

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DECLARATION

I, hereby, declare that the work reported in this thesis entitled “**Marketing Practices Of poultry Feed Production In Nepal**” submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work done for the partial fulfillment of the requirement for the Masters of Business Studies (MBS) under the supervision of **Teaching Assistant Sangita Devi Pandey (Khanal)** of Tribhuvan Multiple Campus, Tansen, Palapa.

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ABBREVIATION

AD	After death of Christ
APFP	Aadhunik Poultry Feed Products
BS	Bikram Sambat.
B₁	Broiler Starter
B₂	Broiler Grower
B₃	Broiler Finisher
CBS	Central Bureau of Statistics
e.g.	For example
ed.	Edition
FY	Fiscal Year
FNCCI	Federation for Nepalese Chamber of Commerce Industries
GDP	Gross Domestic Product
GNP	Gross National Product
HMG	His Majesty Government
Ibid	In the same place; from the same work.
i.e.	That is
KFI	Kathmandu Feed Industries
L₁	Chick Starter
L₂	Pullet Grower
L₃	Layer Mash

NFP	Nepal Feed Product
NFIA	Nepal Feed Industry Association
Op. cit.	In the work cited
p.	Page
pp.	pages
RFP	Ratna Feed Products
SFI	Sitala Feed Industries
SFP	Star Feed Products
US	United States
USAID	United State Aid
Viz	Namely
Vol.	Volume

Chapter One

INTRODUCTION

1.1 Background of the Study

Nepal is one of the least developed countries of the world. It is predominantly an agricultural country, where about 70% of its population engaged in agriculture. Due to the low productivity, primitive farming system, unscientific management, and poor irrigation, the living standard of average Nepali people is poor. As a result, “the estimated per capita GDP for the year 2010/2011 is US \$ 642.” 25.16% of the population is below the absolute poverty line according to life standard survey 2067/68. Comparatively the GDP was only Rs 1346.81 (billion Rs) in 2010/2011, which is the lowest GDP rate among the other countries of the world. Economic survey 2010/11,

As Nepal is an agricultural country, agro-based industries should be given priority. Most of the industries, which have already been established or will be established in future, remain dependent on the agricultural raw materials. Poultry industry converts food grains and other products into egg and meat. It occupies an important position in building up national economy as it utilizes the agricultural products. At the same time, it can play a significant role in increasing grain products. Poultry industry being closely associated with the farming, has been receiving increasing attention due to the demand for poultry products especially in Kathmandu district. Poultry industry also supports the feed industry and thus is extending the base for industrialization. With the emphasis for more nutritious food in the country, the demand for the poultry products is increasing steadily. Kathmandu has been witness a significant growth in poultry keepers these days.

Nepal is divided into 14 zones and 75 districts. There are 5 development regions- Eastern Development Region, Central Development Region, Western Development Region, Mid-Western Development Region and Far-Western Development Region. Districts are further divided into smaller units, called Village Development Committee (VDC) and Municipality. Currently, there are 3915 VDCs and 58 Municipalities in the country. Each VDC is composed of 9 wards, Municipality ward ranges from 9 to 35. Kathmandu, the capital of Nepal, is The fastest decadal population growth rate is found in Kathmandu district (61.23

percent), and least in Manang (-31.80 percent). Besides, the migrants from the other districts and the increasing arrival of tourist made Kathmandu district more crowded day by day. (Population Census 2011)

The original people of Kathmandu are Newar and the major religions are Hinduism and Buddhism. Most of the people consume meats and eggs. The demand of poultry meat is greater than buffalo, pork, and mutton and fishes because chicken meat is much tastier and easily available than other meats.

With rise in production of poultry products, except commercial broilers and broiler chicks, Nepal's poultry industry is set to witness its total turnover grow by around Rs 9.7 billion in the current fiscal year compared to last year's figure, shows an estimate unveiled by the poultry entrepreneurs.

Experts involved in the study said rising demands and prices of poultry products and poultry ingredients are the major causes behind such a sharp expansion of turnover of the industry.

Dr Til Chandra Bhattarai, a poultry researcher, who also headed the recent study, said despite adverse condition in poultry production, overall poultry sector is going to register around Rs 59.69 billion worth of turnover over the current fiscal year 2012/13, up from around Rs 50 billion earlier year.

“Though we have been suffering setback in production of commercial broilers and their chicks and the threats of different diseases, poultry turnover will go up by increasing prices of ingredients and poultry products such as eggs and chicken,” Bhattarai told Republica on Saturday.

Bhattarai, who is also the president of World Poultry Science Association-Nepal Chapter, said fearing loss poultry broiler farm owners were still reluctant to increase the number of commercial broilers as chicken were more perishable compared to eggs if abnormal situation arose.

The report's data also states that total turnover of chicks, feeds eggs, meat and manure under the commercial layers and broilers segments is expected to reach Rs 23.56 billion and 33.21

billion during the year 2012/13 respectively. Similarly, feeds and meat of layers and broiler parents are estimated to worth around Rs 193.15 million and Rs 2.21 billion during the year.

Bhattarai said number of commercial broilers- the main source of chicken (meat) for market, is estimated to drop to 74.87 million heads during the fiscal year 2012/13 from 76.06 million recorded during the earlier year.

Consequently, chicken (meat) production also going to decline to 132.17 million kg during the review period compared to 132.35 million kg earlier. Similarly, production of broiler chicks is expected to dwindle to 78.87 million from 80.09 million over the year.

However, population of commercial layers, broiler parents and layers parents is estimated to go up to 10 million, 1.13 million and 0.12 million heads during the review year from 8.31 million, 1.11 million and 0.1 million heads last fiscal year respectively.

Production of layers chicks is also expected to increase to 7.76 million heads from 6.99 million. Production of eggs and feeds also going to increase to 1.7 billion units and 0.78 million tons during the current fiscal year from 1.49 billion units and 0.75 million tons respectively.

“Not only the volume of major poultry products including ingredients, their soaring prices in domestic market in response to international price phenomenon are the key reason to push up the volume of poultry turnover,” said Bhattarai, who is also central president of Nepal Feed Industries.

Nepal is highly dependent on major ingredients of poultry feeds such as maize, soya cake, sesame cake, sunflower cake, soybean mill and bone mill, among others which are imported to cater the growing domestic demands.

For example, according to latest report prepared by poultry entrepreneurs, prices of soy cake and maize have gone up to Rs 78 and Rs 23 per kg from Rs 33 and Rs 18 per kg respectively. Similarly, feed price also increased to Rs 48 per kg from Rs 36 per kg over the year. “As feed

cost alone contributed about 80 percent in egg and 64 percent in broiler production, any upheaval in feed prices will impact the price of poultry products,” he added.

Besides, increasing cost of production, continued threats of viral, bacterial and fungal diseases in the farms have emerged as the major challenges in the poultry sector that has already seen investment of over Rs 32 billion and is providing employment to over 100,000 people. (<http://www.myrepublica.com> visited date 2069/10/16) & (<http://narc.gov.np> Nepal agriculture Research council-NARC)

1.2 Focus of the Study

There are many government and private offices, hotels and restaurants, foreign diplomatic missions and lots of historical important places, business centers, with lots of tourists' attractive places in Kathmandu district. As such, a large number of tourists come here every year. The total number of tourists' arrival in 2010 was 448,769 by air and 154086 by land who of course would visit Kathmandu, the heart of Nepal. Due to the changes in many factors such as change in people's attitude, rise in inflow of tourists and the growth of hotels and restaurants etc indicates a growing trend in the demand of chicken eggs and meats, which ultimately depends on the availability of poultry feed. This calls for the importance of the extension of poultry feed market in Kathmandu. Nepal tourism statistics 2010,

In Kathmandu district, half of the total population constitutes the Newar community, the buffalo meat-consuming group. Among the Newar people, only Shakyas and Bajracharyas didn't use chicken eggs and meats on religious grounds. In past, people used chickens and eggs only on special occasions and offered to the important guests but nowadays, many people including other community such as Brahmins, Chhetries, Magars and Bhotas etc. consider poultry meats and eggs as a compulsory food items for their daily life. Thus, in Kathmandu district, the rate of increase in demand for poultry is estimated to be greater than the increase in demand for buff, pork, fishes etc. Therefore, the extension of poultry feed industry and its improvement is very essential in order to provide sufficient and balance diet to the chicks.

This study tries to focus about the situation of the feed industries and its marketing problems for the development of poultry sectors.

1.3 Statement of the Problem

Kathmandu, the capital of Nepal, is at the rapid growth of poultry feed industries. It proves that the demand of poultry feed and its market is also increasing, so the scope of poultry feed industries have been extended in Kathmandu district day by day. In spite of the remarkable progress in poultry technology and production by Nepal during last 35 years, poultry farmers are still facing a lot of problems and difficulties to manage poultry farms effectively and efficiently. Nepalese small and marginal farmers are suffering from many barriers and challenges.

Most feed industries are still operating with inefficient operators. They don't have special equipment for testing the quality of feed, which may mean that feed standards are not maintained. Due to the entrepreneurship skill, Nepalese farmer can't find strength and weakness and problems within the feed industries. As poultry feed is a perishable product, it should be disposed as soon as possible. Most poultry feed producers don't have proper long term storage facilities. Thus its marketing has become a very difficult task as they even don't know how to set up the quick disposal system for the products that can't be stored long.

Finally, lack of government support for the growth of poultry farming is also the problem in Nepal. Concerned parties have not paid attention on the poultry farming laws and acts. In the same way supply of poultry feed or feed ingredients on subsidized rates and subsidy in capital investment to small and marginal farmers in rural areas can enhance poultry farming in this sector. After becoming a member of WTO, government should support the farmers for the production of quality feed in the cheap rate to cover the international markets as well as Nepalese markets. Therefore, the problem areas identified for this study try to ascertain the answer of the following questions:

- ❖ How to manage the balanced poultry feed problem?
- ❖ How to solve the poultry marketing problems with regards to production, quail products, suitable on the best market system of purchase, distribution, promotion and sale which are most complicated in the midst of keen competition?
- ❖ How to face the stiff competition on poultry feed products that occur due to imported products from India?

- ❖ How to meet the increasing demand of poultry feeds in the context of limited feed industries?
- ❖ How to make poultry feed suppliers aware of the modern technical know-how to control the quality of poultry feeds?
- ❖ How to regulate the research, experiment and studies to optimized the feed component and improve quality of feeds?

1.4 Objectives of the Study

The objectives of the study is to analyze the state of production and marketing of poultry feed in Kathmandu District. The specific objectives to support the prime objectives are as follows:

- ❖ To analyze the present situation and development of poultry feed industries in Kathmandu District.
- ❖ To ascertain the production trend of poultry feed in Kathmandu district.
- ❖ To examine the marketing practices of feed industries such as pricing, distribution and promotion including quality control.
- ❖ To find out the trend and impact of imported feeds.
- ❖ To determine whether research works are taken by feed industries to improve or maintain feed quality.

1.5 Need of the Study

Most of the Nepalese feed industries are production oriented, where marketing concept is almost neglected. This research will help feed industries owner by providing information and suggestions about the poultry farming, poultry feed and feed production industries. The study of poultry feed production industries in Nepal is useful and much needed as:

- It is the source of getting marketing information about marketing strategies, marketing It programs, segmentation variables, and controlling mechanism in connection with the poultry business.
- It provides the solutions in the present quality production problems.
- It helps to analyze the strength and weaknesses of all the poultry feed industries in Kathmandu district.
- It provides a basis for those who are interested to enter in such business.
- It can be beneficial to poultry makers to formulate appropriate policy.

- It shows the way for feed industry owners to develop the poultry feed productions.

It is hopeful that if this poultry sector can absorb some of the surplus labour existing in agriculture, employment can be generated which will help to raise the living standard of people. Therefore, each and every new comer should have knowledge about this field before entering to this business and problems related to it are which can be taken from this study. It can also be a guideline for them to get the problems and solutions.

1.6 Limitations of the Study

In every study there may have some limitations. Similarly this study is also conducted with certain limitations, which are mentioned as follows:

- This study is confined to the production and marketing aspects of the feeds industries.
- Field survey is done only at Balaju area of Kathmandu district. So it is difficult to generalize the study due to the small size.
- Data are based on the sample surveys conducted in Kathmandu district by applying analytical and descriptive research through structured questionnaire. So it is apparent that this study is not free from limitation.
- Time and resource constraints have also restricted the areas covered by the study.
- The study is done for the partial fulfillment of Master degree of business studies, so it is not a comprehensive study.

1.7 Organization of the Study

The study has been organized into five chapters, which are as follows;

Chapter one:

It has focused on the subject matter of the study consisting background of the study, focus of the study, statement of the problem, objective of the study, need of the study, and limitation of the study and organization of the study.

Chapter two:

It has given the review of literature. It has included the conceptual framework along with review of major books, journals; research works i.e. the review of the previous studies or thesis etc.

Chapter three:

It has dealt with research methodology. It has included methodology used to achieve the objective of the study, nature and sources of data, population and sample, data collection procedures, data processing and analysis procedures and data analysis tools such as time series analysis and index numbers and percentage.

Chapter four:

This chapter has presented the analysis and interpretation of data using bar diagrams, pie charts, line charts, and statistical tools described in chapter three.

Chapter five:

Fifth chapter has covered the summary, conclusion with major findings and suitable recommendations of the study.

Chapter Two

REVIEW OF LITERATURE

Review of literature is basically a stock taking of available literature in one's field of research. The literature survey thus provides the students with the knowledge of the status of their field of research. The primary purpose of literature review is to learn not to accumulate. It enables the researcher to know:

- What has been done in the subject?
- What others have written about the topic?
- What theories have been advanced?
- What approaches have taken by other researchers?
- What are areas of agreement or disagreement about the research?
- Whether there are gaps that can be bridged through the research purpose.

The purpose of literature review is thus, to find out what research studies have been conducted in one's chosen field of study and what remains to be done. Therefore, this chapter has been divided into three parts. They are as follows:

2.1 Conceptual Review

It works as a theoretical framework in the field of research. All the basic knowledge required in the field of research can be cleared from the conceptual review. The concepts of those required basic knowledge are as follows:

2.1.1 Concept of Poultry

The term 'poultry' collectively reveals all birds which have been domesticated for their eggs, flesh or feathers, for fighting or for pets and includes chickens, turkeys, ducks, geese, guineas, pigeons, swan and peacocks. The word 'Fowl' is used to refer to poultry in general and is used in reference to domestic chickens both hens and cocks. Young Student Encyclopedia defines, Birds raised for their meat and eggs are called 'Poultry'. Chickens, ducks, turkeys, geese, guinea fowl, Pheasants and pigeons can all be poultry birds.

2.1.2 Historical Background of Poultry Farming in Nepal

Poultry is a domesticated species of birds reared for production of eggs, meat, feather etc. Even though the term poultry is mostly used for chicken, it also includes other avian species like turkeys, ducks, geese, swans, guinea fowl, pigeons, peafowl, ostriches, pheasants, quail and other game birds.

As far as the history of poultry farming in Nepal is concerned, it is better to say that there was no poultry farming at all before the dawn of democracy as she was closely confined for 104 years under the tyranny regime of the Ranas but there were poultry birds that were domesticated in backyards of peoples' houses. But those poultry birds, the chickens, were domesticated almost in all houses except in Brahmins, Kshetriyas and Buddhists.

From our history, it has proved that before the dawn of democracy, there was no poultry farming at all in scientific way. From 1951 A.D. (2007B.S.), it began to take root. The first poultry was opened in Singh Durbar in 1954. The next poultry farm run by HMG of Nepal was in Parawanipur in 1957(2014 B.S.) with 350 chicks. These chicks were imported from India compared to advanced countries, these enterprises were mere negligible. Shrestha Sarita 2000, p. 15.

Again, In 1957 a small poultry project was started at Birgunj in connection with the village development training school for the purpose of supplying baby chicks and hatching eggs to local villagers. This project was only partially successful. Only about, 1000 chicks and 1000 hatching eggs were sold over a two year period. Since, 2017 B.S. (1959), the poultry farming in our country began to flourish actively as she got the food technicians to some extents with the help of the U.S. aid and the HMG of Nepal. Slowly, poultry farming began to be commercialized and it has been providing nutritious food to people in the shape of eggs and meat at present. Raymond 1971, p. 1.

To meet the need for trained technicians in poultry husbandry and hatchery management one participant was sent to US for one year in 1959-60, two were sent to Philippines, for one year in 1960-61, and one to Lebanon for one year in 1960-61 for training in Poultry. In the process of expansion of poultry programmed, USAID helped construct another brooder house at Jawalakhel in Kathmandu with 4000 brooding capacity. This brooder house was completed

in early 1963. USAID supported the Poultry Development Project from the very beginning by providing advisory services and financial support. The advisory services were terminated in 1962 but the financial support was continued till fiscal year 1966. Raymond 1971, p.2.

The first feed supply house was established in 1963/64. It supplied the feeds to poultry farmers of the valley. It was only in 1963/64 that the private poultry farming was started with the help of government. For 1966, private sector was involved in providing those facilities. Shakya S.B 2045,p 18.

In, 1970, there were about 650 poultry farms in Kathmandu Valley (Kathmandu, Lalitpur, Bhaktapur, Kavre) and the total number of poultry population was about 140,000 including the chicken in the Government farms which had about 8000 birds. The average private farms had about 200 chickens (231 in Kathmandu and 153 in Kavre). About 25% of the farms had 50-100 chickens and 65% of the farms who had more than 1000 birds, and the largest poultry had more than 10,000 chickens. Lee C.Y 1971, p. 1.

At present technical know-how is provided by private sector. Private veterinary Concerns are available from where veterinary advices, medicines and supervisors are made available to the poultry farmers.

2.1.3 Types of Poultry Feed

There are two categories of poultry birds, broiler and layers. The main purposes of broilers are meat production. After one and half months, broilers are ready for selling. The main purpose of layers is for egg production. After five months, layers are ready for egg production. Different types of feed are needed for different age of chickens. Generally in Nepal, feed industries produce five types of feed for layers and broilers. Feed ingredients are different for each type of feed.

- Chick Starter (L₁): It is for building the basic body structure of the baby layer chicks. It had to be given for up to week eight.
- Pullet Grower (L₂): It is for growth of the chicks. It has to be given from week eight
- Through week twenty.
- Layer Mash (L₃): It is given after week twenty. It helps the chicken produce eggs until it dies.

- Broiler Starter (B₁): It is for baby broiler chicks to build their body rapidly. It should be given for up to thirty days.
- Broiler Finisher (B₃): It should be given after thirty days. It is for making healthy meat.

2.1.4 Need for Balanced Feed

Balance feed means a well mixed feed with required amount of proteins, carbohydrates, minerals and some diseases preventive medicine mixture. Balanced feed is one of the most important factors for rearing chicks. It is necessary in the health growth and prevention of the diseases in chicks. It will helps to increase productive chicks. Without balanced feed none of them can grow well. Thus, it is necessary to provide balanced feed for their improvement. The different poultry feeds contain different proportions of proteins at different growth stages chicks and their laying stages. For meat type of chicken, high proteins are essential. So feed is very important item in poultry industry. More than two third of investment in this industries goes to feed. Nepal Bureau of Standards and Metrology (NBSM) is responsible for determining, monitoring, and enforcement of quality standards of products made in Nepal. NBSM has published a booklet on poultry feed. The booklet has specified the content of crude protein, crude fiber, calcium, phosphorus, vitamins etc. to be maintained in the feed, In formulating rations, there are many factors which must be considered and the final result must be the best balance of all these factors. The best results cannot be obtained unless the ration is complete. In order to make a ration complete, it must meet certain requirements. The results obtained will be in proportion to its completeness.

Protein: - The ration must contain suitable amounts and quality of protein. It is essential that a certain minimum amount be present in the ration. Quantities can be larger without actual harm to the bird, but large quantities are not economical since the protein feeds are relatively expensive. The requirement for protein varies for different purposes. The growing animal needs more than the mature bird. Also the egg producer requires more than the non-producer. The growing chick needs more protein in early life, when it is growing rapidly, than it does later or when relative growth slows down. There are also probably some differences in the amino acids required. The various protein feeds must be balanced to prevent a waste of them. The most efficient combinations are those that supplement each other's deficiencies. This accounts for those results where combinations of two proteins are better than either one

alone. When single feeds or a very limited number are relied upon, we shall not get efficient results, unless that choice happens to be a fortunate one in securing what is known as a complete protein. With the increase in knowledge, we will undoubtedly consider the requirements of a ration from the standpoint of amino acids, rather than from the standpoint of the more complex proteins, because it is really the deficiency or lack of any one of them which will limit results.

Energy: - We must also supply an abundance of energy to the chickens to keep body temperature up to fuel the body processes. This energy is often expressed as calories. It is really a statement of total food consumption. It is an important factor, since very often results in production, even with a balanced ration, are limited by a lack of food intake. The art of feeding consists of getting the birds to the sufficient feed daily. This energy is furnished usually in the form of carbohydrates and fat, which are considered as the energy protein of feeds, being most economical for that purpose. Protein can be used this purpose when fed in excess, but it is too expensive to use for energy. Besides furnishing energy, some of the fatty acids are also essential as such.

Minerals: - The ration must contain a suitable inorganic content. The practical poultry-man must consider only the ones that might probably be deficient in his ration. When using a good ration, including natural feeding stuffs, the mineral deficiencies are few, the most common being sodium, chlorine, calcium and phosphorus. The sodium and chlorine are furnished by common salt, usually $\frac{1}{2}$ to 1 percent is included in the mash. Calcium for eggshell formation is best supplied in the carbonate form. Oyster shells and limestone grit will supply calcium. Wheat by-products, meat scrap, and milk usually provide enough phosphorus. When necessary to supply it, bone meal is usually fed. Where minerals are necessary, they need to be added comparatively in small quantities. It is possible to add too much of some for instance, an excess of calcium will depress growth and increase mortality of chicks. Too much magnesium will upset birds. An excess of fluorine is also probably detrimental. We also find in the body certain minerals balanced by other, so that excesses of any one mineral might react with others so as to cause deficiencies which would not normally occur. Thus it is necessary to show proper judgment and take precaution in respect to minerals in keeping relative mineral concentration at the correct levels. The attitude of some persons, namely, that the addition of minerals will do no harm, even if they do no good, is not sound. Furthermore,

the opinion sometimes encountered that, if a small amount of minerals is good, a large amount should be better, is entirely unjustified.

Vitamins: - The ration must contain sufficient vitamins. The quantity of any of the different vitamins required by poultry varies with age and condition. Chicks and laying hens undoubtedly have a larger vitamin requirement than non producers. In this instance, however, molting hens should not be classified as non-producers. Renewal of feathers should be classified as production, in the same way as growth and the laying eggs, and requires a liberal supply of vitamins. The ration must contain an abundance of the factors such as water, air, light and sunshine.

Water: - Very often the water supply is neglected. Water is just as essential as feed. In fact, the animal can live for a longer period without feed than it can without water. It is probably more necessary to keep in mind the importance of water for poultry than for other animals because of the drinking habits of poultry chickens need to have water available constantly, because they partake of only small amount at a time. Water makes up a large portion of the body of the fowl itself. Probably around 55 to 60 percent of more of the fowl's body is made up of water. The egg also has very large water content, roughly about 65 percent or two thirds of the egg. A dozen eggs contain over a pint of water. Our ordinary feeds, such as grain and mash, which constitute the biggest part to the feed of the bird, are very low in water content, running usually somewhere around 10 to 15 percent. Water should be available at all times. The hen drinks little at a time, but very frequently. It is necessary to have water available whenever there is feed available.

Fresh Air: - Sufficient fresh air must be supplied to furnish the oxygen for combustion or burning the feed and to carry off harmful waste products. The amounts of oxygen that are necessary depend upon the amount of food that needs to be broken down and metabolized, the amount of work that the individual does, and to some extent upon the temperature of the environment. The rate of metabolism determines the amount of oxygen that is required.

Light and Sunshine: - Light and sunshine are two of nature's beneficial factors. These factors are not only the ultraviolet rays supplying vitamin 'D' other frequencies as well. Which are being shown at the present time to be necessary for the well-being of the animal.

2.1.5 Method of Balance Rations

Good poultry producers should know how to balance rations. They should be able to select and buy feeds with informed appraisal; to check on how well their manufacturer, dealer, or consultant is meeting their needs; and to evaluate the results. Ration formulation consists of combining feeds that will be eaten in the amount needed to supply the daily nutrient requirements of the bird. This may be accomplished by the methods presented later in this chapter, but first the following points are necessary.

1. In computing poultry rations, more than simple arithmetic should be considered, for no set of figures can substitute for experience and intuition. Formulating rations is both an art and a science-the art comes from bird know-how, experience, and keen observation; the science is largely founded on mathematics, chemistry, physiology, and bacteriology. Both are essential for success.
2. Before attempting to balance a ration, the following major points should be considered:
 - a. **Availability and cost of the different feed ingredients.** The first step in ration formulation is to determine what feeds are available and which feeds are the best buy. Preferably, cost of ingredients should be based on delivery after processing- because delivery and processing costs are quite variable.
 - b. **Moisture content.** When considering costs and balancing rations, feeds should be placed on a comparable moisture basis; usually, either as- fed or moisture free.
 - c. **Composition of the feeds under consideration.** Feed composition tables (“book values”), or average analysis, should be considered only as guides, because of wide variations in the composition of feeds. For example, the protein and moisture contents of sorghum can be quite variable. Whenever possible, especially with large operations, it is best to take a representative sample of each major feed ingredient and have a chemical analysis made of it for the more common constituents-protein, fat, fiber, nitrogen-free extract, and moisture; and often calcium, phosphorus, and carotene. Such ingredients as oil meals and

prepared supplements, which must meet specific standards, need not be analyzed so often, except as quality-control measures.

d. Quality of feed. Numerous factors determine the quality of feed, including:

- **Stage of harvesting:** For example, early-harvested grains are higher in moisture than those that are mature.
- **Freedom from contamination:** Contamination from foreign substances such as dirt, sticks, and rocks can reduce feed quality, as can aflatoxins, pesticide residues, and a variety of chemicals.
- **Uniformity:** Does the feed come from one particular area or does it represent a conglomerate of several sources?
- **Length of storage:** When feed is stored for extended periods, some of its quality is lost due to its exposure to the elements.
- **Degree of processing of the feed:** Often, the value of feed can be either increased or decreased by processing. For example, grinding some types of grains make them more readily digestible to poultry and increases their feeding value.
- **Soil analysis:** If the origin of a given feed ingredient is known, a soil analysis of Knowledge of the soils of the area can be very helpful for example; (i) the phosphorus content of soils affects plant composition, (ii) soils high in molybdenum and selenium affect the composition of the feeds produced, (iii) iodine- and cobalt-deficient areas are important in animal nutrition, and (iv) other similar soil-plant-animal relationships exist.
- **The nutrient requirements and allowances:** These should be known for the particular class of poultry for which a ration is being tailored. Also, it must be recognized that nutrient requirements and allowances must be changed from time to time, as a result of new experimental findings.

3. In addition to providing a proper quantity of feed and to meeting the nutritive requirements, a well-balanced and satisfactory ration should be:

- **Palatable and digestible**
 - **Economical:** Generally speaking, this calls for the maximum use of feeds available in the area.
 - **One that will enhance,** rather than impair, the quality of the product (meat or eggs) produced.
4. In addition to considering changes in availability of feeds and feed prices, ration formulation should be altered at stages to correspond to changes in weight and productivity of birds.

2.1.6 Steps in Ration Formulation

The ideal ration is one that will maximize production at the lowest cost. A costly ration may produce phenomenal gains in poultry, but the cost per unit of production may make the ration economically infeasible. Likewise, the cheapest ration is not always the best since it may not allow for maximum production. Therefore, the cost per unit of production is the ultimate determinant of what constitutes the best ration. Awareness separates successful producers from marginal or unsuccessful ones. The following four steps should be taken in an orderly fashion in order to formulate an economical ration:

- Find and list the nutrient requirements or allowances for the specific bird to be feed.
- Determine what feeds are available and list their respective nutrient compositions.
- Determine the cost of the feed ingredients under consideration.
- Consider the limitations of the various feed ingredients and formulate the most economical ration.

2.1.7 Methods of Feed Formulation

The proportion of feed stuffs to be included in feed formula is decided for quintal (100 kg) or ton (1000 kg).The nutrient calculation is done on percent basis. Feed formulation is easy and simple when nutrients specified and raw materials are smaller in number as the number of nutrients and available ingredients increase, the formulation becomes more difficult and

complex. Then time, it involves lot of calculations and mathematics to formulate correct nutritious and economical feed.

The various methods of feed formulations are:

- Pearson's square
- Simultaneous equation
- Trial and error
- Linear programming by computer

Pearson's square: - This method is only useful when two feed stuffs with different levels of one or two nutrients are to be mixed. The required nutrient level in finished feed should be in between the levels of the nutrient present in the feeds you are combining. For example, if the crude protein (cp) level of GNC is 40 percent and that of Jowar is 10 percent, then the diet desired containing 16 percent CP can be formulated in following way. For determining the proportion of ingredients to be mixed, for obtaining 16 percent protein level feed, compare protein levels of ingredients on left side of square with desired level in the middle. Then write positive differences of nutrient levels diagonally on right side of square read them horizontally to find out quantity for 100 kg. Which is $\frac{6}{30} \times 100 = 20$. Similarly, quantity of Jowar for 100 kg is $\frac{24}{30} \times 100 = 80$. If more than one nutrient level is to be adjusted, then use of three squares is necessary, this method is useful for a farmer. It is more economical for him to purchase concentrated mixture from a feed manufacturer and dilute it with two or three ingredients available with him.

Simultaneous Functions: - This method is useful for consideration of limited number of nutrients and raw materials. The number of equations should be equal to or more than number of unknowns. For example, maize containing 8 percent CP is to be mixed with Sunflower cake containing 30 percent of CP for a diet containing 18 percent protein; it can be done in following way. Let X is the quantity of maize to be mixed and Y the quantity of sunflower to be mixed in 100 kg of mixture. First equation: $X+Y=100$ (for total quantity of feed stuff)
Second equation:

$$0.08x + 0.3y = 18 \text{ (for protein percentage required).}$$

Now nullify the unknown having lesser multiple. It can be done as follows.

$$0.08x + 0.3y = 18$$

$$0.08x + 0.08y = 8 \text{ (obtained by multiplication of 0.08 1st equation)}$$

$$0 + 0.22y = 10$$

$$Y = 10/0.22 = 45.45\% \text{ (The quantity of sunflower cake)}$$

$$\text{Now } X + Y = 100$$

$$\text{Therefore } X + 45.45 = 100$$

$$\text{Therefore } X = 100 - 45.45 = 54.55\%$$

(The quantity maize to be mixed).

Trial and Error Method: - This involves the physical calculation of percent ingredients to be incorporated and percentage of nutrients available from them in finished feeds. The percentage of ingredients to be incorporated is decided as per the protein energy fiber and ash contents of ingredients and their requirement in final mashes. The maximum inclusion levels of raw materials are given due weight age to avoid un-palatibility and toxic effects of raw materials. The approximately proportion of ingredients is decided for 100 kg of finished diet and with various permutations and combinations by calculations they are confirmed for desired nutrients levels. The method is easily applicable for incorporating 10-12 ingredients including minerals and vitamins. Sometimes vitamins and medicines can be added as extra on top of 100 kg of other raw materials. The method is somewhat laborious but can be conveniently adopted by farmers without involving many expenses.

Linear Programming: - This is the most modern method of feed formation, and requires the use of a computer. Many numbers of ingredients can be considered at a time for formulating desired feed with least cost. The information on nutrient percentage required, cost and maximum level to be included for each raw material and total levels of each nutrient in finished feed are entered into the computer. The computer calculates the percentage of each ingredient to be included in 100 kg. or 1000 kg. of feed as per need.”

2.1.8 Marketing

Simply, the term marketing refers to the activities done by the company to deliver its products from the place of production to the place of consumption. It means that the marketing is the process of transfer of ownership of the product in exchange of something of value. It is a total system of business activities designed to plan, price, promote and distribute the want-satisfying product to the target markets in order to achieve organizational objectives

and satisfy the consumer desire. Marketing consists of all business activities involved in the flow of goods and services from the point of initial production until they are in the hands of the ultimate consumer. Thus, agricultural marketing is a process by which the producer and buyers of agricultural goods are brought together. The marketing process establishes forward linkages for agricultural activities, that is, it provides economic rewards for the production process. It includes not only storage and transportation activities of the middleman but also encompasses all activities linking the consumer and the producer.

According to American Marketing Association: “Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives.” Kotler P. 1997, p. 15. Marketing is a social and managerial process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products of value with others. It is a societal process which encompasses all activities aimed at satisfying customer needs and wants through exchange relationships to achieve organizational objectives in a dynamic environment. It includes anticipating demand, managing demand, and satisfying demand. Ibid, p. 9. In the light of above definitions, it can be concluded that each and every marketers should understand the consumer needs, tastes, quality and choice. Similarly, each and every firm should have marketing system for channel the product to the market to satisfy consumer needs and wants within a set of dynamic environmental forces. Thus, marketing is a process of delivering goods and services produced to satisfy the needs of consumers to exchange in an effective way within a set of dynamic environmental forces to accomplish the objectives of producers, to fulfill the goal of organizations and societies.

2.1.9 Marketing Mix

Marketing mix is one of the most fundamental concepts associated with the marketing process. It is the combination of the four major components that comprise a company’s marketing program. It is a blend of product, price, place and promotion tools. It is offered for customer need satisfaction. Every organization must create and manage an effective mix that satisfies customer needs in a target market.

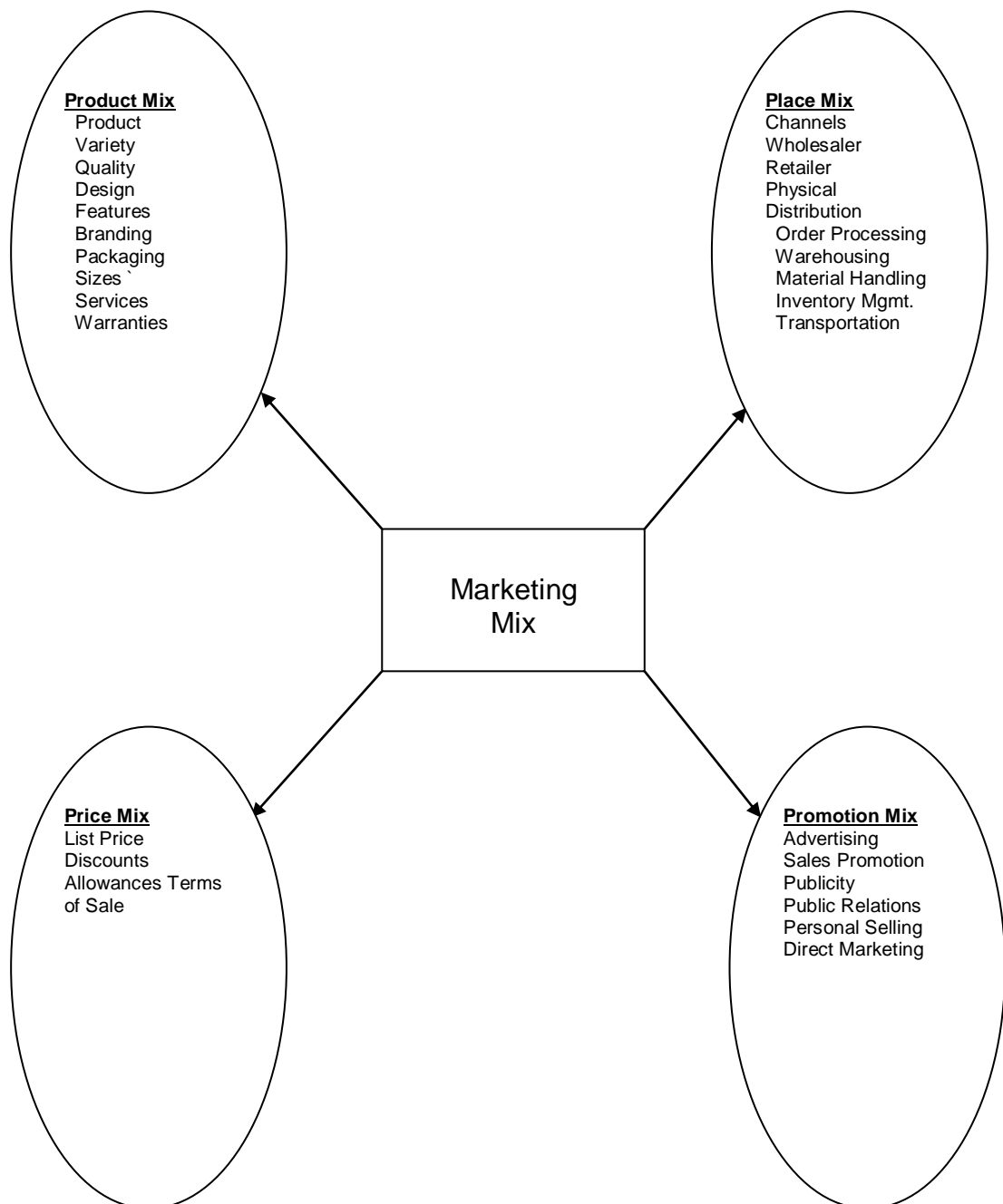
The marketing man is the decider and an artist – a mixer of ingredients, who sometimes follows a recipe prepared by others; sometimes prepares his own recipe as he goes along;

sometimes adapts a recipe to the ingredients immediately available; sometimes invents some new ingredients; and sometimes experiments with ingredients as no one else has tried before. It was James Culliton, the American marketing expert who coined the expression Marketing Mix and described the marketing manager as a mixer of ingredients. Subsequently, Neil H Borden popularized the concept of marketing mix. Then it was Jerome McCarthy, the well known American Professor of marketing who described the marketing mix in terms of the four Ps, classifying the variables under four heads, each beginning with the alphabet "P": Product, Place, Price, and Promotion. This is what the four factor classification of marketing mix tools if one manages to achieve the right product at the right price with appropriate promotion, and in the right place, the marketing program will be effective and successful. Ramakumari & Ramaswamy 1990, p. 95

A marketing firm designs a scheme to achieve its overall objectives selecting definite segments. But until it produces fixed price for its products, distributes them to the target market, and persuades buyers for buying, the plan remains only a paper draft. Therefore, the firm strives to an integrated decision about the product to be offered, its price to be charged, its distribution system to be adopted, and its promotional activities to be undertaken. These four decision-making aspects reinforce each other. Therefore, the perspectives of product, price, distribution, and promotion need to be properly balanced against each other for meeting optimal marketing objectives. A brief review of the main principles surrounding the marketing mix can help to clarify its true role in the development and execution of an effective marketing effort. Marketing mix is the set of marketing tools that the firm uses to pursue its marketing objectives in the target market. The concept of the marketing mix suggests that the company resources devoted to product, price, distribution, and promotion (and the subsections thereof) should be mixed in varying proportions depending upon the industry category of the firm, its position in the market, and the competitive situation. The marketing mix should satisfy customer needs. It should be cost effective. It should change with changes in the environment and customer preferences. An effective combination of the four marketing variables can help the firm to be a winner in a competitive environment because all these variables are so interrelated and independent that decision in one area

certainly affects actions in another. It so happens because of the dynamic nature of the marketing conditions and environmental factors such as, technical, social, economic, political, and so on. Hence, an alteration in any one area of marketing mix depends upon analysis of marketing conditions and environmental factors. Sharma G.R, p. 12.

Figure: 2.1



1. Product Mix

One of the most important part of the marketing mix is product. It is the means of selling and buying action. The product area is concerned with developing the right product for the target market. This product may involve a physical product or some combination of services. The crux of the product area is to develop something, which will satisfy the customers' needs. The product offered by an organization is what the business (or non business) entity is all about. While we tend to think of products as objects we can see and touch, the term product may be used in referring to intangible services and ideas as well because products often have values for buyers that transcend their intrinsic qualities. Product is anything that can be offered to a market to satisfy a want or need. Products that are marketed include physical goods, services, persons, places, organizations and ideas. Anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need. kotler, p. 430. Product mix includes decisions on product line and mix, product quality, variety, design features, branding, packaging, labeling, etc. It also includes important activities such as product planning and development.

Product mix includes the following decisions:

- ❖ What product to be offered – physical objects, services, or ideas?
- ❖ Whether to make or buy the products to be offered?
- ❖ What product lines to be added?
- ❖ Which product firm needs to delete?
- ❖ What product attributes to design –size, color combination, packaging, labeling etc?
- ❖ Which brand names to choose or whether to sell unbranded products?
- ❖ What product services and warranties to facilitates?
- ❖ What materials to use?

The answers of all these questions show either strengths or weaknesses of the company with both the demand and the need of the customers. On the basis of such strength or weakness, the company launches its product strategies in different stages or product life cycle - introduction, growth, maturity and decline.

2. Place Mix

Goods and services do not flow from producers to consumers automatically. They move through channels of distribution where a great deal of marketing work is done. Products are needed to distribute to the right place by selecting and managing channels and by developing an efficient distribution system. A right place is one where maximum demand for its products exists and maximum of products are consumed. Therefore, distribution is the delivery of the product and right to consume it. Channels of distribution are the means by which products move from producers to consumers or to user organizations. Channel intermediaries in the form of wholesalers and retailers provide the distribution channel for most consumer products. Buell, p. 24. Distribution channel is a set of interdependent organizations involved in the process of making a product or service available for use or consumption by the consumer or business user. Place or distribution mix includes design of the distribution channels, distribution network, dealer promotion and motivation systems, and physical distribution of the product. Place mix involves two major decisions – channels of distribution decisions and decisions for logistics. The first category of decision-making concentrates on the answers of the following questions.

- ❖ What are available channels for distributions of product?
- ❖ Which channels to select for effective distribution?
- ❖ What degree of channel control to apply?
- ❖ Which types of distribution to select – extensive, intensive, or selective?
- ❖ What are the customers at different levels of channels of distribution?
- ❖ The second category of distribution decision requires answering of these questions.
- ❖ Which warehouses to use for storing manufactured brought goods until they are delivered – public or private (hired or owned)?
- ❖ Which transportation modes to use – road, rail, water. air, ground pipelines, wire lines, etc.?
- ❖ Which inventory management system to use for maintaining regular and effective supply?

The right answer of these questions will certainly provide the firm with right courses of actions to take while formulating and implementing distribution strategies.

3. Price Mix

Price is also one of the major parts of the marketing mix. While marketing manager is developing the right product and promotion, he /she must decide on the right price. In setting the price, he must consider the nature of competition in his target market as well as the existing practices on markups discounts and terms of sale. He also must consider legal restrictions affecting prices. A right price is one, which is affordable and acceptable to the target customers. To most of us price is the amount we pay a retailer in exchange for a product. Retailer, of course, may charge what they wish since manufactures legally cannot dictate the retailer's price. Price is the valuation placed upon the product by the offered. It has to cover pricing, discounts, allowances and terms of credit. It deals with price competition. Price is the amount of money that customers pay for the product. Components of price mix consist of: Setting list price- it is one price for all, Discount and allowances –they provide price flexibility and Terms of sale –they are credit terms and payment period. Sherlekar, Nirmala & victor 1997, p. 30. Price mix includes activities such as an analysis of competitors, prices, formulation of pricing objectives, setting the price, determining terms and conditions of sales, discounts and commission etc. Price mix decisions resolve around three Cs – cost, competition and customer. In fact, prices for customer are what he sacrifices for what he receives. Nevertheless, price for the firm includes total cost plus the expected return from the sale of a product. Therefore, the firm needs to balance among the three Cs. In course of it, the firm may try to search answers of the following questions.

- ❖ What price to offer to different segments and to different customers that they will be willing to pay?
- ❖ What reactions will the firm get from suppliers, competitors and customers if price is changed?
- ❖ What is the nature of various costs and what are the expected margins?
- ❖ What is the competitor's pricing strategy?
- ❖ How much discounts and allowances to provide to customers while quoting prices?
- ❖ What discounts to be offered to intermediaries and distributors?
- ❖ What will be the terms and conditions of payment –free on board basis of a delivery basis?

The answer of these questions will certainly lead the marketing firm to formulate its own competitive pricing strategies so that it will succeed to exploit marketing opportunities.

4. Promotion Mix

Promotion is such a variable, without which communicating information between seller and buyer with a view to change attitudes and behavior is impossible. The marketing manager's job is to tell target customers that the right product is available at the right place at the right price. Management needs to inform and persuade through right promotional Medias the customers or markets regarding its products. Promotion is any form of communication used to inform, persuade, or remind people about an organization or individual's goods, services, image, ideas, community involvement, or impact on society. Promotion is the persuasive communication about the product by the offered to the prospect. It covers advertising, personal selling, sales promotion, publicity, public relations, exhibitions and demonstration used in promotion. Largely it deals with non price competition. Shrestha S.K 1997, p.211. The elements of promotion are defined as follows.

Advertising: Any paid message presented in media, such as TV, radio, magazines, newspapers, or billboards by an identified source.

Personal Selling: Sales contacts made with the trade, end users, or influencers (non buyers who influence brand or product selection) by company sales persons.

Sales Promotion: Any other communication or persuasive device; a catch –all term which includes things as diverse as coupons, product samples, cents-off deals, displays, trade show booths, contests, and product brochures.

Publicity: Any unpaid –for mention of a company, brand, or product by the media.

Promotion mix includes determining the promotional blend – the mixture of advertising, personnel selling, sales- promotion, publicity, and public relations –to popularize the use of the product in the target market. Promotional mix implies in it advertising, trade promotion and consumer promotion, personal selling, direct marketing, public relations and publicity. Promotion decisions specify the respective roles of each of these dimensions in making a company's product presentation.

Commonly, the company tries to seek answers of the following questions while making promotion mix decision.

- ❖ What are various factors that affect promotion decisions?

- ❖ What promotion objectives the company wants to achieve?
- ❖ How much to allocate budgets for different promotion methods?
- ❖ What themes and appeals to be highlighted in the advertising campaign?
- ❖ Which trade promotion tools and consumer promotion tools to use?
- ❖ How many sales people to hire?
- ❖ How to make the hired sales people efficient and capable?
- ❖ How to hire place, compensate and control hired sales people?
- ❖ What methods to use for enhancing public relations and publicity?

The answers of these questions provide the firm with suitable, competitive, and concrete ideas for developing promotion strategies. In conclusion, the organization needs to adopt several marketing mixes for different products in different target markets. The desired level of exchange will not be reached if the product does not match customers' needs, if it is priced too high or low, if it is promoted poorly, or if it is distributed improperly. Therefore, marketers require a carefully planned and fully satisfactory marketing mix to complete effectively in today's business world.

2.1.10 Market Segmentation Analysis

Market Segmentation is the process of disaggregating the total market for a given product into a number of sub-markets. The heterogeneous market is broken up in the process into a number of relatively homogeneous units. The process is based on the recognition that;

1. Any given market or consumer group is made up of a number of subgroups distinguished by varying needs and buying behavior.
2. It is feasible to disaggregate the consumers into suitable segments in such a manner the characteristics of the segmented groups would vary significantly among segments but would almost be identical within segments.

Market segmentation is the process by which an organization attempts to match a total marketing program to the unique manner or needs in which one or more customer groups behave in the marketplace. It's divided a market into distinct groups of buyers on the basis of needs, characteristics, or behavior who might require separate products or marketing mixes. It is a customer oriented philosophy that seeks to identify need and want clusters in the market

and develop marketing mix and programmed to satisfy those needs and wants. It is the basic tool for the implementation of the marketing concept. Sharma GR op. cit, p. 14. segmentation implies;

- Division of total market into groups.
- The groups should be large enough for marketing purposes.
- The groups should be homogeneous with same preferences.
- The customers in a group should have similar needs and characteristics.

Market Segmentation confers several benefits on the marketing man. In the first place, it helps him distinguish one customer group from another within a given market and thereby enables him to decide which segment of the market should form his target market. It also enables the effective crystallization of the specific needs of the buyers in the target market and facilitates an in-depth study of the characteristics of the buyers. With the increase in competition in business it becomes difficult for the marketer to satisfy the mass or aggregated or undifferentiated markets or consumers. Therefore, it becomes necessary for the marketers to segment such a mass or aggregated or undifferentiated market into many smaller or differentiated markets so that marketers will be capable of satisfying consumer needs even in a competitive environment and achieve desired goal.

2.1.11 Segmentation Variables for Consumer Market

Selecting an appropriate segmentation variable is an important decision of market segmentation. These variables are used to divide a total market into segments. In the consumer market, the products are used only for personal and household purposes. Market is targeted at the segment of consumers who are the ultimate users. The segmentation variables for consumer markets are:

1. Geographic Variables

The size of population for consumer market is determined by geographic variables where regional distribution, zonal distribution, district –wise distribution, urban distribution, rural distribution, suburban distribution, physical feature-wise distribution of population, etc. are included. The major issue before the marketer is: on what basis he wants to segment the

market or whether he wants to concentrate on mega marketing, segment marketing, marketing niche, and micro marketing. According to the size of the firm and the nature of the product, the decision is made to that kind of segment, which is the best suit for and the profit is maximized.

2. Demographic Variables

In demographic variables the market is divided into groups on the basis of age, family size, family life cycle, gender, income, occupation, education, religion, race, generation, nationality, or social class. These demographic variables are the most popular bases for distinguishing customer groups. One reason is that consumer wants, preferences, and usage rates are often highly associated with demographic variables. Another is that demographic variables are easier to measure than many other types of variables. Even when the target market is described in non-demographic terms (say, a personality type), the link back to demographic characteristics is needed in order to know the size of the target market and the media that should be used to reach it efficiently.

3. Psychographic Variables

Psychographic variables are also very important to assess in market segmentation. This segmentation uses the individual psychological factors such as buying motive, personality, and lifestyle to divide the consumer market. Psychographic segmentation is more difficult to achieve than demographic segmentation. Measurement of motivation, personality, and lifestyle requires deep probing into the consumers' psyche. The other psychographics include variables like self respect, self-fulfillment, security, sense of belonging excitement, sense of accomplishment, fun and enjoyment in life, being well respected, having warm relationship, etc.

4. Behavioral Variables

The consumer market segmented on the basis of purchase behavior of consumer is behavioral variables. In behavioral segmentation, buyers are divided into groups on the basis of their knowledge of, attitude toward, use of, or response to a product. Many marketers believe that behavioral variables—occasions, benefits, user status, usage rate, loyalty status, buyer-readiness stage, and attitude—are the best starting points for constructing market segments.

2.1.12 Marketing Strategy

Strategy is a rule for making decisions. It establishes the long-term intentions such as objectives and targets. “A strategy is a unified, comprehensive, and integrated plan that relates the strategic advantages of the firm to the challenges of the environment. It is designed to ensure that the basic objectives of the enterprise are achieved through proper execution by the organization.” Lawrence & William 1980, p. 11. As far as marketing strategy is concerned, it is primarily concerned with optimizing profit and return on investment, not maximizing sales. Marketing strategy is the complete and unbeatable plan designed specifically for attaining the marketing objectives of the firm. The marketing objectives indicate what the firm wants to achieve the marketing strategy provides the design for achieving them. Therefore, it is cleared that the marketing strategy decides the success at the business unit level, which in turn decides the total corporation’s success. The linkage between marketing strategy and overall corporate success is indeed direct and vital. And in this linkage lies the significance of marketing strategy. According to VS Ramaswamy and Namakumari “marketing strategy is not a nebulous idea. It is a well-outlined game plan and there are definite ways of formulating.” Basically, formulating marketing strategy consists of two main steps.

1. Selecting the target market

The target market shows to whom the firm intends to sell the products when the selection of the target market is over, an important part of the marketing strategy of the firm is already determined, defined and expressed. Therefore, target market selection is a part of marketing strategy, development is an understatement.

2. Assembling the marketing mix

Assembling the four Ps of marketing in the right combination is to assembling the marketing mix. This process involves the choice of the appropriate marketing activities and allocation of the appropriate marketing efforts to each one of them. The firm has to find out how it can generate the best sales and make profit. It plans different marketing mixes with varying levels of expenditure on each element and tries to figure out the effectiveness of each combination in terms of the possible sales and profits. It then chooses the combination that is best according to its judgment. Hence, a successful marketing strategy must have a marketing mix

as well as a target market for which the marketing mix is prepared. There are four elements on variables that make up a marketing mix.

- a. Decision on product or service
- b. Decision on price
- c. Decision on promotion
- d. Decision on distribution

These four ingredients are closely interrelated. Under the system approach, the decision in one area affects action in the others. Marketing mix decision constitutes a large part of marketing management. Therefore, the essence of marketing strategy of any given firm can be grasped from the firm's target market and its marketing mix. Together, they constitute the marketing strategy. Many variables influence the decision taken on marketing strategy. They may, however, be classified under four headings or groupings.

a. Product Strategy

It involves decisions on product range and mix, rationalization, modification and new product development; these in turn require consideration of product life cycle, warranties and guarantees and, especially for consumer goods, packaging design, branding and trademarks. The work entails not only consideration of the physical product but also the satisfaction of customer needs.

i. Product Item: Product item refers to the specific product manufactured by a company. Simply speaking, it refers to a particular product. For example, Godrej company produces various products items) like locks, refrigerators, typewriters, etc. Here each product is a product item.

ii. Product Line: Product line refers to a group of products that are closely related because they are satisfy a class of need, used together, sold to the same customer groups, marketed through the same type of outlets and they fall within given price ranges. If any one of the conditions is fulfilled to a group of products manufactured by a concerned, then it is a product line. A group of products that are closely related because they function in a similar manner, are sold to the same customer groups, are marketed through the same type of outlets or fall within given price ranges. Most of the companies adopt product-line strategy by

starting their business with short product-line and with the passes of time product-lines are added to expand business operation. In order to expand or improve the product line, a marketer may adopt any one or more of the following alternative strategies.

- ❖ **Product Line Analysis:** A marketer should review the actual position of the company's product line in relation to its profits and sales. He should also review the competitors' position in the same market are. This will help marketer to decide whether the company should expand the company's product line, or improve the existing product line, or remain as it is, or reduce the product line or change the product line.
- ❖ **Product-Line Length:** product line length refers the total number of interrelated items the company deals in. the general thinking is that the number of items should be optimal or manageable. However, the company's product line length decision is affected by company objectives. Product lines usually tend to lengthen over time.
- ❖ **Line-Modernization Decision:** Although the product-line length is optimal, all the items under the product line may not be equally effective. Some items may be weaker in generating adequate sales and profits to the company. Under such circumstance, company has to modernize such weak items by maintaining or improving their quality using modern technology, or other steps determined by the company.
- » **Line Featuring Decision:** Sometime marketer may select one or few items in the line to develop them as the 'promotional' or 'leader' items, because it may not be possible to modernize all items in the line. By featuring few items, a company can build up its image in the market. This image will be helpful to boost up the sales of other items not featured, thus generate adequate profits.
- » **Line- Pruning Decision:** Some items in the line may cause loss or headache to the company. When a company thinks that this problem cannot be solved by featuring or modernizing them, in such a situation, the company may drop or remove such items from the line and continue the high margin items in the line. This type of decision is known as line-Pruning decision. The company may make such a decision when the profits are depreciated by lengthening the items in the line, and when a company lacks production capacity to produce all the existing items.
- ❖ **Product Mix:** Product mix is defined as the composite of products offered for sale by a firm or a business. Rather, product mix is a collection of all products offered

for sale by a company. Product mix is one of the elements of product policy. A product mix may have four dimensions: breadth, length, depth, and consistency. Breadth, also called width, of the product mix refers to how many different product lines the company carries. Length of the product mix refers to the total number of items in its product mix. Depth of the mix refers to how many variants are offered of each product in the line. And, consistency of the product mix refers to how closely relate the various product lines are in end use, production requirements, distribution channels, of some other way. There are four dimensions of the product mix provide the handles for defining the company's product strategy. While deciding on the company's product mix, the company must know that it can expand its business.

- » The company can add new product lines, thus widening its product mix.
- » The company can lengthen its existing product lines to become a more full-line company.
- » The company can add more product variants to each product line and thus deepen its product mix.
- » The company can pursue more product-line consistency or less, depending on whether it wants to acquire a strong reputation in a single field or participate in several fields.

b. Place Strategy

Here, strategies involve the management of the channels by which ownership of products is transferred from producer to customer and, in many cases the systems by which goods are moved from where they are produced to where they are purchased by the final customer. Strategies applicable to middlemen, such as wholesalers and retailers, must be designed. Thus, it involves all decisions to do with the distribution of the product or service, especially the selection of the marketing channels and methods of distribution to be used. Companies have to decide on the number of intermediaries to use at each channel level. Three strategies are available exclusive distribution, selective distribution, and intensive distribution.

i. Exclusive Distribution: Exclusive distribution involves severely limiting the number of intermediaries handling the company's goods or services. It is used when the producer wants

to maintain a great deal of control over the service level and service outputs offered by the resellers. Often it involves exclusive dealing arrangements, in which the resellers agree not to carry competing brands. By granting exclusive distribution, the producer hopes to obtain more aggressive and knowledgeable selling. Exclusive distribution tends to enhance the product's image and allow higher markups. It requires greater partnership between the seller and the reseller and is found in the distribution of new automobiles, some major appliances, and some women's apparel brands.

ii. Selective Distribution: Selective distribution involves the use of more than a few but less than all of the intermediaries who are willing to carry a particular product. It is used both by established companies and by new companies seeking to obtain distributors. The company does not have to dissipate its efforts over many outlets; rather, it can develop good working relations with its selected intermediaries and expect a better-than average selling effort. Selective distribution enables the producer to gain adequate market coverage with more control and less cost than intensive distribution.

iii. Intensive Distribution: In an intensive distribution strategy, the manufacturer places the goods or services in as many outlets as possible. When the consumer requires a great deal of location convenience, it is important to offer greater intensity of distribution. This strategy generally used for convenience items such as tobacco products, soap, snack foods, and bubble gum. Manufactures are constantly tempted to move from exclusive or selective distribution to more intensive distribution to increase their coverage and sales. This strategy may help their short-term performance but often hurts their long- term performance. Kotler, op, cit. p. 540.

c. Price Strategy

This strategy involves one of the most difficult decision areas for executives and covers the prices and discounts to be operated, trade terms etc. These are themselves conditioned by cost aspects, the prices that are justified for the specification, performance and other properties of the products or services and selling methods that will be used. The overall aim here is to ensure that the company achieves its profit targets and objectives. Necessary strategies pertain to the locations of customers' price flexibility, related items within a product line and terms of sale. Also pricing strategies for entering a market, especially with a new product, must be designed. The two well-known strategies to set price is as follows.

i. Market Skimming Pricing: Setting a high price for a new product to skim maximum revenues layers by layer from the segments willing to pay the high price, the company makes fewer but more profitable sales. Skimming pricing aims at high price and high profits in the early stage of marketing the product. As the word skimming indicates, this method literally skims the market in the first instance through high price and subsequently settles down for a lower price. In other words, the method profitably taps the opportunity for selling at high prices to those segments of the market, which do not bother much about the price. The method is very useful in the pricing of new products especially, the ones that have a luxury to specialty element. For example, when the new product is a luxury item, enjoying the patronage of an affluent and price insensitive segment of the market, the firm can opt for the skimming strategy. As the product has novelty and as it is aimed at the affluent sections, the quantity that can be sold is not affected by the price level. Skimming will also help the firm feel the market/ demand for the product and then make appropriate decisions on pricing. Ramaswamy & Namakumari, op, cit. p. 346

ii. Market Penetration Pricing: Setting a low price for a new product in order to attract a large number of buyers and a large market share. Penetration pricing, as the name indicates, seeks to achieve greater market penetration through relatively low prices. It is the opposite of skimming pricing. This method is quite useful in pricing of new products under certain circumstances. For example, when the new product is not a luxury item and there is no affluent/price insensitive segment backing it, but is capable of bringing in large volume of sales, the firm can choose the penetration pricing and make large size sales at a reasonable price before competitors enter the market with a similar product. The strategy suits this type of products and also brings many advantages to the firm. For, in such products, the quantity that can be sold is highly sensitive to the price level even in the introductory stage and soon after introduction the product may encounter stiff price competition from other brands or substitutes. Penetration pricing in such cases will help the firm obtain a good coverage of the market and keep competition out for quite some time. Moreover, for products of this category, large sales may be necessary for break-even even in the initial stages and penetration pricing alone can bring in the high volume of sales required for breaking-even and making profits.

d. Promotion Strategy: It involves decisions on the personal selling, advertising, sales promotions and PR activities to be followed. While these must be so coordinated as to

optimize the company's communication with the selected markets and customers, they must also be integrated with all the other marketing activities. Two terms are used to indicate the relative importance of advertising and personal selling in consumer goods marketing. They are:

i. Push Strategy: A promotion strategy that calls for using the sales force and trade promotion to push the product through channels. The push strategy is used for consumer shopping goods (such as appliances, woman's coats, and men's suits) sold in situation where the retail salesclerk influences product and brand selection. The manufacturer uses personal selling to push the product to the retailer and to encourage the retail salesclerk to push the product to the consumer. Similarly, a push strategy is used to protect market share in the face of intense competition through improved retailers' performance and goodwill, effective point of purchase displays, grant of advertising allowance, etc.

ii. Pull Strategy: A promotion strategy that calls for spending a lot on advertising and consumer promotion to build up consumer demand, which pulls the product through the channels. The pull strategy applies to consumer-packaged goods sold through self-service stores. Advertising causes consumers to pull the product off the retail store shelf. This triggers replacement orders to be pulled from the manufacturer through the wholesaler to replace the retailer's stock. To create an immediate sale, a pull strategy is pursued to encourage product trial and lure consumers away from familiar brands through incentives like coupons, cash rebates, free sample, and premiums etc.

2.1.13 Marketing Control

Marketing control provides the mechanism for corrective actions if any deviations from the plan during the implementation process occur. After the implementation of marketing mixes, marketing strategies, plan and programs, the organization should evaluate them to ensure all the marketing activities to be performed effectively and efficiently. The purpose of controlling is to have feedback from the implemented activities to reach the point of decisions in the organization such as what corrective action to take, which areas of activities require more control, what have gone wrong, how to bring improvements in future etc. Hence, achievement of the corporate goals and business goals of the marketing planning heavily relies on an effective control system. Only a good marketing system keeps marketing programs on the right track. "Marketing control stands for examining achievements of planed result, financial loss or gain, spending efficiency and persuasion of marketing opportunities.

Increased consciousness among the people on quality product and services of the firm has compelled marketing organizations to develop and adopt quality control mechanism in their performance and production system. Similarly, efficiency control mechanism identify and isolate more efficient marketing activities from less efficient ones, which is measured in terms of appropriate use of sales-force, advertising, sales promotion and distribution efforts. Sharma GR op. cit, p. 253. The brief descriptions of these two mechanisms are as follows:

1. Efficiency Control Mechanism

Marketing efficiency is an important aspect of high profits. But measuring or controlling this efficiency is a complex task because it includes a series of measurements such as the measurements of sales force efficiency, advertising efficiency, sales promotion efficiency and distribution efficiency. The company evaluates all these areas of marketing activities to judge the following situations:

a. Sales Force Efficiency

The company evaluates sales force efficiency on the basis of the following activities.

- Percentage of orders per one hundred sales calls.
- Average number of sales calls per sales person per day.
- Sales force cost as the percentage of total sales.
- Average sales call time per contact.
- Entertainment cost per sales call.
- Research cost.
- Number of lost customers during a specified period of time.
- Number of new customers during a specified period of time.

b. Advertising Efficiency

The company evaluates advertising efficiency on the basis of the following activities:

- Advertising cost on target buyers.
- Percentage of audiences that saw noted or read themes, sages.
- Consumers' opinions on effectiveness and contents of the advertisement.
- Attitudes measurement before and after advertising to find out consumers change in attitudes towards products of the company.
- The number of inquires stimulated by the advertisement.

- Research analysis on improving advertising efficiency.
- The advertisement cost for customers.

c. Sales Promotion Efficiency

In order to find sales promotion efficiency out the effectiveness of various sales promotion tools in terms of the promotional cost and increased sales that result from promotional effort, the company measures. For it, the company evaluates the following activities:

- Total sales during the promotional period.
- Percent of sales sold on dealer.
- Number of inquiries resulting from demonstration.
- Cost of sales campaign as a percentage of total sales value.
- Number of premiums distributed, coupons redeemed.
- Cost of analyzing sales.

d. Distribution Efficiency

The company undertakes the following measures to evaluate distribution effectiveness:

- The total sales per channel against the total cost in that channel.
- The meeting of customers' orders in time.
- Suitability of warehouses.
- Effective tools of inventory control used by the company and intermediaries.
- Suitable transportation modes.
- Legal delivery cost born by the company.
- Cost per order processed.
- Carrying cost of inventory.
- Materials handling costs.

2. Quality Control Mechanism

As customers are being more quality conscious nowadays, this method of marketing control urges the company to focus on the evaluation of its products' quality. For it, the company may undertake four measures.

- Evaluating variation from the set quality

- Evaluating consumers' satisfaction
- Evaluation greater durability and reliability
- Evaluating high productivity and costs

In case the set quality varies significantly, the company falls in the ditch of non-acceptance in the competitive market. Similarly, the company cannot survive in such an environment if it fails to provide consumer satisfaction, if products are not durable or reliable, and if the company cannot earn high productivity and low costs.

2.2 Review of Previous Studies

Various studies have been made in the field of poultry in Nepal. Some of them have been reviewed so that the chances of duplication can be minimized.

2.2.1 Shakya S.B. (2045), in his unpublished thesis “Poultry Feed Industries in Kathmandu Valley” has undertaken the following objectives.

- ❖ To assesses the input requirements of these two firms.
- To study market structure and price trend of poultry feed output of these two firms.
- To evaluate the general performance and examine the problems of these two firms.
- To recommend suggestions to minimize the problems of these two firms.

In other to achieve the objectives, only the descriptive and analytical research designs have been used. Simple statistical correlation is used to show the relation between production and sale. It has merely tried to collect the facts about the two firms in Kathmandu finding out the marketing aspects focusing on the production performance and price. Primary as well as secondary sources have been applied with questionnaires and interview has been taken. The study is limited to the two feed industries. On the basis of analysis conducted in the above thesis, the findings of the study are as follows: The profit motive industries Valley feed Industries and Nepal Feed Products used the similar basic inputs requirements. Production capacity of Valley feed Industry is greater than Nepal Feed Products. Thus, Valley feed Industries have supplied feeds to poultry farmers at a lower price than Nepal Feed Products. Valley feed Industries has been distributing feeds at same rate whereas Nepal Feed Products at various rate according to cost of production. In Valley feed Industries, there is a smaller gap between production and sales whereas in Nepal Feed Products there is a wider gap than

Valley feed Industries. It shows that Valley feed Industries has progressed more than Nepal Feed Products. Valley feed Industries has high correlation in between production and sales in amount (Rs.) than Nepal Feed Products.

The study has concluded that the poultry feed production depends on the poultry farms. As such there is a direct relationship between the poultry farming and the feed production. The localized services of feed, techno economic services and marketing of feed products played an important role in the promotion of poultry feed industry. The industry also helps in saving the cost of transportation, minimization of risk and availability of technical know hoe and market outlets. As such there is a significant relationship between poultry farmers and the poultry feed industry. The feed market is competitive as compared to the market prevailing in 1975/76. The level of competition can further increase with the entry of feed into the valley manufactured by new feed firms in the public sector. Demand of feed is expected to rise further due to price structure, population and many other factors such as rise in income, changes in food habits, changes in the general education level, inflow of tourists etc.

2.2.2 Sharma S. (2009), in his unpublished thesis "Cost Benefit Analysis of Poultry Farming" has following objectives.

- To conduct a cost benefit analysis on the supply side of the industry and find out vital facts as mortality rate,
- To conduct demand analysis of poultry output, and
- To observe market and price trend of poultry output and input.

In other to meet the purpose and objectives of the study, simple analysis has been done by collecting macro-economic data published by different national and international institutions. Primary data and judgmental sampling techniques has been adopted. The study was taken in three Panchayats of Kathmandu district. This study has followed questionnaires and interviews to collect primary data. The study is limited to the purposive sampling techniques where 15 cases of all sizes of poultry farms have been picked up for the study. No statistical tools have been used. The following are the findings about the problems of poultry farmers. Almost all of the poultry farmers have the problems of market at wholesale level. The prices of eggs are irregular and in the falling condition. The cost of feed is increasing and always increases irrespectively. The prices of chickens are also decreasing. The supply of feed is of

low quality and the ingredients, which are supposed to be in balanced poultry diet, are lacking. The study has concluded that the demand for poultry product is assured and can be confidently said that its demand will increase in future, due to the rise in per capita income and growth of population as well as growth of tourist influx. The mortality rate is low which may be due to the longer experiences and good managerial ability; and the prices of egg and chicken have grown slowly than the prices of feeds which create an over unfavorable price cost relation.

2.2.3 Mulmi K. D. (1981), thesis “Poultry Farming in Nepal” has the following objectives.

- To assess the input requirements of these two farms.
- To study market and price trend of poultry output of these two farms.
- To evaluate performance of these two farms.
- To examine problems of these two farms.

This study is based on descriptive and analytical research design and no effort has been made to prove the assumption that has been mentioned at the first chapter. Secondary data and interviews have been taken with the officials of JPF and KPF to clarify the situation and identify various problems of poultry industries. This thesis is also limited to the two poultry feed industry which is not accurate to make the decision on whole poultry feed industries. The study has included the following findings. KIF is service motive whereas JPF is generally profit motive. So KPF can always supply eggs and chicks to farmers or consumer at lower price than JPF. KPF distributes eggs and chicks almost at the same rate whereas JPF at variable rate according to cost of production. In JPF, there is a small gap between the production (in amount) and sales (in Amount) whereas in KPF it is wide-gape. It shows JPF has progressed rather than KPF. KPF has a more mortality rate than JPF, In JPF, mortality rate in average is 5% maximum up to brooding whereas in KPF it is 5 – 10%. Inputs requirements used by both farms are similar. JPF has high correlation in between production and sales than KPF. The study has concluded that there is the lack of hygienic management; adequate feeding and preventive disease control are still the most important factors hindering the further development of intensive poultry production on both sectors. From the comparison of KPF and JPF, it becomes clear that the performance of KPF is good in the year 035/36. whereas JPF is good in the year 2036. But there is wide gap between production and sales on

KPF than JPF. KPF is always distributed the eggs and chicks at lower price than JPF. But KPF is significant in production size. So, having that causes markets extend is acceptable and future shows good sign. An effort should be made and encouraged to contribute as far as possible towards better utilization of this sector for the economic development.

2.2.4 Shrestha M. (2007), in his unpublished thesis “An Economic Analysis of Poultry Farming in Kathmandu Valley” has following objectives.

- To calculate the benefit cost ration.
- To test statistically the relationship between benefit cost ratio and feed consumption rate.
- To test statistically the relationship between benefit cost ratio and flock size.
- To test statistically the relationship between benefit cost ratio and egg production rate.
- To test statistically the relationship between benefit cost ratio and mortality ratio.

In order to achieve the objectives, hypothesis has been developed and tested using simple correlation coefficient. The study has been conducted with primary and secondary data. In this thesis, the poultry farms have been divided into three groups and the sample were drawn from each of the three groups. This study is only limited to the mentioned hypothesis. Following findings and conclusions have been made. The feed cost was the main cost item and the revenue from egg was the main revenue item of the poultry farming. Thus more emphasis must be laid on the feed cost and revenue from egg. Only the efficient poultry farmers can earn profit in such a risky type of business. Although the sample correlation coefficient between flocks size and cost benefit ratio did not give significance result, it gave the desired positive correlation coefficient. Similarly, as the sample correlation coefficient between feed consumption ratio and benefit cost ratio is statistically significant, the effect of the feed consumption rate on benefit cost ratio is negative. When the sample correlation coefficient between feed consumption rate and benefit cost ratio is statistically significant, the effect of feed consumption rate on the benefit cost ratio in population is negative. Likewise, the sample correlation coefficient between egg production rate and benefit cost ratio is statistically significant, the effect of the egg production rate and the benefit cost ratio in population is positive. Finally, it was found that the sample correlation coefficient between the mortality rate and the benefit cost ratio did not give a significant result meaning and there was no effect of mortality on the benefit cost ratio in the population or the population

correlation is zero which mean that the mortality does not affect the profit rate or that the available data is not sufficient to estimate a reliable correlation coefficient for the population. But as the sample correlation coefficient gave a value close to the table value of it and the sign was negative (as was desired) it will be plausible to except the second meaning that the available data are insufficient.

2.2.5 joshi C. B. (1979), in his thesis “A study of Poultry Industry in Kathmandu Valley” has following objectives.

- To assess the input requirements and determinants of demand for poultry industry.
- To determine the extent of profitability with cost analysis measuring the impact of price fluctuation in production and sale of poultry products.
- To evaluate the investment pattern and credit needs including the future projection of poultry products up to 1984/85.
- To analyze the contribution of poultry industry for Nepalese economy by identifying the problem area and provide suitable suggestions for improvement.

This above study is based on exploratory research design which has explored the viability and nature of poultry industry and the co-relational research has been used to obtain the descriptions of the phenomena and to ascertain the extent to which two variables are related. Primary and secondary sources have been used to get appropriate data. Interviews and observations of poultry farms were made to clarify the situations and to obtain information. Hypothesis was done with simple correlation of statistic analysis. The study has deduced the following findings and conclusions. Poultry has initiated the establishment of feed industry in the country. The substantial portion of cost in poultry industry is covered by feed. The required feed is supplied from the local products. Poultry industry has proved a viable industry with satisfactory returns obtained. Broilers are comparatively mere beneficial than layers due to quick turnover but keeping demand in view, layers outnumber broilers. Productions as well as sales of the poultry products are growing fast. In Kathmandu Valley, the emphasis for nutritious food have led to growing consumptions of poultry products. Poultry products are significantly affected by size of population, income level and inflow of tourists. They are regarded as the main factors affecting the marketing of poultry products. The combined effect of these factors is highly considerable. Price has shown a tendency to fluctuate.

Uncertain price level has been regarded as one of the basic problems but its impact upon marketing is minimal. One encouraging factor is that ADB has been providing financial assistance for the industrialists to a greater extent. This has been considered as one of the main factors responsible for the growth of the industry. Contribution of poultry products to the national economy is significant. Poultry industry alone has been making a substantial contribution. The import content for the industry is also extremely low. Besides, additional contribution has been made by helping establish subsidiary industries like feed industry and equipment production. The future of poultry industry in Kathmandu is very bright. Both the consumption of broiler egg will grow in coming years.

2.2.6. Aryal D. B. (1999), in his thesis “Cost Benefit Analysis of Broiler Poultry Farming Business” A case study of Thankot Area has conducted with the following objectives.

1. To estimate cost benefit ratio of different scale of firm.
2. To identify the factors that affects benefit and cost of this farming.
3. To examine the problems faced by broiler poultry farmers in the study area and suggest measures to solve the problems.

This study is confined to commercial broiler poultry farming where chicks are purchased, reared up to 8 to 9 weeks and sold to market as grown up chicken. Three types of broiler farm namely large, medium and small are analyzed in this study by choosing the five VDC viz. Matatirtha, Mahadevsthan, Satungal, Thankot and Baadvanjyang. 20% farms were selected as sample farm by VDCs. Altogether 15 firms representing small, medium and large size were interviewed. Census were taken in small size of farms. Primary and secondary data were applied using questionnaire, in depth interview to the farmers and other persons and institutions associated with this business were also interviewed. Simple average, cross tabulation and ratio method are used in the analysis of primary data. Aggregate & scale wise cost benefit analysis has been made. The followings findings have been found in the above study. In average, small firms are facing loss due to higher mortality and lower average price. Even if large and medium firms' mortality rate is high, both scale of firms are earning normal profit because of low cost of production compared to small firms. Broiler poultry farming business as a whole in the Thankot area is just covering cost. Mortality rate has been found high in this area which may be due to lack of good quality chicks and feed. Lack of technical knowhow among poultry farmers is another factor responsible for high mortality rate.

2.3 Research Gap

Research gap focuses that the researcher how much trying to give new things from his/her study with compare to previous studies held by different researcher. Due to changing the time and circulation of environment the previous and present may be different in many ways. This is a research gap between the present research and previous research. Most of the previous researches generally focus to the growth of poultry benefits and price trend of poultry output and input but not on the marketing practices in poultry industries. Data collected through questionnaire is presented and analysis in the research is the gap between the previous and present research. Though many affiliated researchers have been done in this area but these have been very few exclusive researchers on this subject. This study may be a new study in this field and no study have been made on marketing practices of poultry feed production in Nepal. This research differs from the above-explained researchers on various grounds. They are as follows.

- 1.** This study examines the marketing aspects of feed industries available in Kathmandu district.
- 2.** This study analyses the marketing program applied by poultry feed industries in Kathmandu district.
- 3.** This study shows the way to implement the marketing strategy on poultry feed industries.
- 4.** This study helps to solve the problems in marketing activities in feed industries.
- 5.** This study has applied the Time Series Analysis and Index numbers to analyze the facts in the statistical term in simple form to understand empirically.

Chapter Three

RESEARCH METHODOLOGY

Research methodology is the systematic method of finding solution to the research problem i.e. systematic collection, recollection, recording, analysis, interpretation, and reporting of information. This chapter deals about the research methodology by which the collected data are analyzed to get the results. In this regard, this chapter is carried out to diagnose the marketing activities of feed industries in Kathmandu district. To achieve the objective, the study has been described as follow:

3.1 Research Design

Research design is the plan, structure, and strategy of investigation conceived so as to obtain answers to the research questions. In other words, it is an integrated system that guides the researcher in planning and executing the research works. To draw inferences on the marketing practices of feed industries in Kathmandu district, different measures have been used, while collecting and interpreting relevant data, facts and figures. Simple statistical tools have been used to finish this research work. Both descriptive and analytical type of research is employed to fulfill the objective of research work. A descriptive analysis is used to analyze the variables, which is related to the marketing aspects of feed industries in Kathmandu district, even though there is a lack of comparison with previous study.

3.2 Nature & Sources of Data

This study is mainly based on primary as well as secondary data for analysis. The respondents for this study are the feed industries of Balaju area in Kathmandu district. Most information has been collected from the primary sources using the questionnaires and formal or direct interview. The primary data have been supplemented by quantitative information gathered through interviews and discussions with the concerned persons and with the managers of feed industries. The secondary sources of data are collected from the study of various books from different libraries, some periodicals, journals newspaper cuttings, poultry magazines etc. Guidelines and unpublished thesis, research work that directly related to feed industries are also collected for the betterment of the study. Other information from research articles & official publication are supplemented.

3.3 Population and Sample

It is claimed that, approximately, there are 151 feed industries available in Nepal and 29 feed industries are existed in Kathmandu. According to NFIA, the overall numbers of registered feed industries in NFIA are 135. Among them only 27 feed industries have been registered from Kathmandu District. Therefore, all the feed industries, registered in NFIA, from Kathmandu district are considered to be the total population of the research study. Out of them, existing 9 industries of Balaju area, producing poultry feed and supplying to other districts, are considered as the sample study. Though the sample size is very small in comparison to the total population, sufficient efforts have been made by applying around 30% of the sample sizes. As the poultry feed production industries are many in numbers at Balaju area, the researcher has chosen it as a famous poultry feed production place for the sample study. Followings are the sampling unit of surveyed poultry feed production industries.

1. Aadhunik Poultry Feed Products Pvt. Ltd.
2. Nepal Feed Industries Pvt. Ltd.
3. Valley Feed Industries Pvt. Ltd.
4. Sitala Feed Industries.
5. Star Feed Products Pvt. Ltd.
6. Kathmandu Poultry Feed and Company Pvt. Ltd.
7. Quality Feed Industries.
8. Ratna Feed Industries.
9. Avinash Poultry Feed Industries.

3.4 Data Collection Procedure

The required data and information have been collected from the primary as well as secondary data. Information have been taken from the annual calendar published by NFIA, monthly poultry magazine published by Nimbus, the other published and unpublished information of poultry feed, and various books, magazines, and publication obtained from different libraries have been studied and reviewed. For the collection of accurate data, schedule of structured questionnaires was developed and distributed through personal contact in which the respondents were requested to fill up the questionnaire. Multiple choice questions, yes/no questions and open-end questions were prepared in course of collecting relevant information. Altogether 9 copies of questionnaires were distributed to 9 respondents of Balaju area. Only 7

respondents provided their responses during the study period. Therefore, only 7 respondents were used for the research study. All the questionnaires were distributed and collected by the researcher himself. There was a little delay in collection of the questionnaires distributed to the feed industries' owners due to the bird flu problem that has been aroused in India, which caused the loss in poultry feed industries of Nepal as well.

3.5 Data Processing and Analysis Procedure

All the raw data collected through the questionnaires have been thoroughly checked and manually processed. They were classified and tabulated in the required format under the different headings. Once the data have been arranged sequentially, simple statistical tools were used for analysis. The processed data have also been presented in graph, bar diagram and pie chart. Simple arithmetic percentage tools were used for analysis. Major findings are based on the analysis and interpretation

of the data. The data and information have been interpreted as much as possible to attain the stated objectives of the study.

3.6 Data Analytical Tools

The statistical techniques have been used to examine the production trend. In order to test the production trend, some statistical tools such as Time Series Analysis and Index numbers are applied to analyze the data.

1. Time Series Analysis

A time series is a set of data pertaining to the values of a variable at different times. Time series are sometimes studied simply because of historical interest, but mostly because of the interest in future, in predicting the value of the variable at a future date. A time series has an important property which makes it quite distinct from any other kind of statistical data. Gupta. 1998, p. 295. The values of different phenomena such as income, sales price, share price, profit, population, temperature etc. can be recorded over different time period. This means the values of the variable may have been changing or fluctuating round a constant value over the change of time period. The time period may be yearly, monthly, weekly, daily, hourly etc. depending upon the nature of phenomena. The data which are varieties with respect to time is called times series and the statistical methods used to analyze these time

series is called time series analysis. A time series depicts the relationship between two variables, one of them being (t) another being the variables values (Y_t) under consideration.

Hence a time series can be considered as functional relationship

$$Y_t = f(t)$$

Where Y_t = Value of phenomenon (or variable) under consideration in time (t). Yadev & Khanal.

2005, p. 10.21.

2. Index Numbers

An index number is a statistical device designed to measure the relative change in the level of a phenomenon (variable or a group of variables) with respect to time, geographical location or other characteristics such as income, profession etc. In other words, index numbers are specialized type of rates, ratios, percentages which give the general level of magnitude of a group of distinct but related variables. So index numbers are devices for measuring changes in the magnitude of the phenomenon from time to time or even from place to place. Bajrachary B.C. 2061, p. 339.

3. Type of Index Numbers

Index numbers are constructed in economic activity covering a wide range of aspect. Different kinds of usually constructed index numbers are as follows.

a. Price index numbers: There are the mostly used index numbers, which measures the general change in the retail or wholesale prices of a commodity at current period as compared to some base period or reference period.

b. Quantity index numbers: Quantity index numbers study the changes in the volume of production, consumption of goods. They are extremely helpful in studying the level of physical output in an economy.

c. Value index numbers: These are designed to study the change in the total value of production such as retail sales or profits or inventories. We know that the total value is the product of the price and quantity. This type of index is used in sales of a company, foreign trade etc. Yadev & Khanal. 2005, p. 12.2.

4. Notation and Terminology

a. Base period: The period selected for comparison is called base period. It is denoted by suffix '0'. It is also sometimes known as reference period.

b. Current period: The period, for which comparisons are required, is called current period. It is denoted by the suffix '1'

Hence, $P = p_1/p_0 \times 100$ $Q = q_1/q_0 \times 100$

Where

p_0 : Price of the poultry feed in the base period.

p_1 : Price of the poultry feed in the current period.

q_0 : Quantity of a poultry feed production during the base period.

q_1 : Quantity of a poultry feed production during the current period.

Chapter Four

DATA PRESENTATION AND ANALYSIS

This chapter incorporates data presentation and analysis of the information collected directly from the manufactures of poultry feed industries. All the available information have been modified and adjusted into the required data for analyzing. This study has dealt with the primary and secondary data, to find out the marketing practices associated with feed industries of Balaju area in Kathmandu district. On the whole, it has included data presentation, interpretation and analysis using table, chart and diagram.

4.1 Types of Feed Production

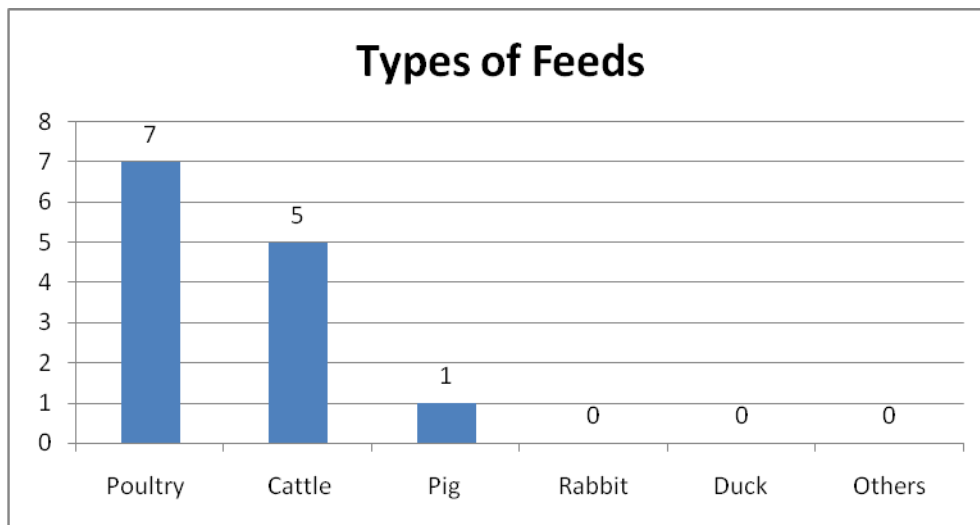
The researcher obtained data relating to different types of feed production that the Nepalese feed producing industries are producing. Their presentation and interpretation have been made as follows:

Table: 4.1 Types of Feed Production.

S.N.	Types of Feed	No. & percentage of Respondents
1	Poultry	7 (100%)
2	Cattle	5 (71.42%)
3	Pig	1 (14.28%)
4	Rabbit	—
5	Duck	—
6	Others	—

Source: Field survey, 2012

Figure: 4.1



Source: Field survey, 2012

The table above shows that the existing feed industries in Kathmandu district produce poultry feed more than the other feed types. All the feed industries produce poultry feed but only Star Feed Product, Quality Feed Industries, Nepal Feed Product and Valley feed Industries produce poultry as well as cattle feed, whereas Valley feed produce poultry, cattle and pig feed. The result of the survey shown in table 1 proves that 100% feed industries produce poultry feed, whereas 71.42% feed industries produce cattle feed and only 14.28% feed industries produce pig feed. Thus, from the table and the diagram, it can be concluded that poultry feed is the main feed production in Kathmandu district.

4.2 Types of Poultry Feed Production

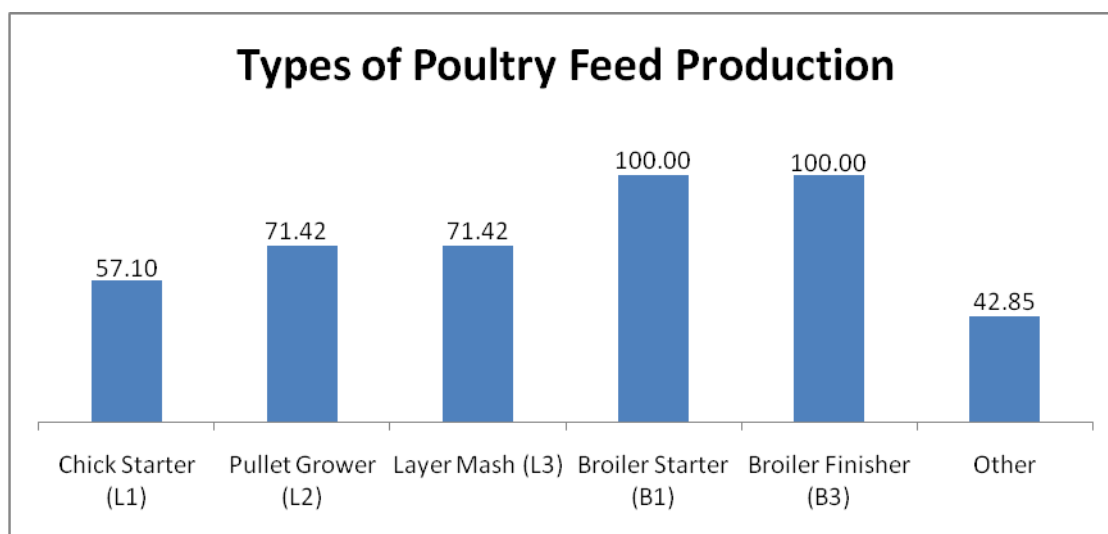
There are two categories of poultry birds, broilers and layers. The main purpose of broilers is for meat production and the layer is for egg production. Different types of feed are needed for different age of chickens. The types of poultry feed produced by the feed industries have been shown from the following table:

Table: 4.2 Types of Poultry Feed Production.

S.N.	Types of Poultry Feed	No. & Percentage of Respondents
1	Chick Starter (L ₁)	4 (57.1%)
2	Pullet Grower (L ₂)	5 (71.42%)
3	Layer Mash (L ₃)	5 (71.42%)
4	Broiler Starter (B ₁)	7 (100%)
5	Broiler Finisher (B ₃)	7 (100%)
6	Others	3 (42.85%)

Source: Field Survey, 2012

Figure 4.2



Source: Field Survey, 2012

As presented in table & figure 4.2 The most common poultry feed production are Broiler Starter and Broiler Finisher. From the survey conducted in 7 feed industries, it can be inferred that 100% of feed industries produce Broiler Starter and Broiler Finisher, 71.42% of feed industries produce Pullet Grower and Layer Mash, whereas 57.1% and 42.85% of feed industries produce chicken starter and others respectively. Aadhunik Poultry Feed, Nepal Feed Product and Sit Industries have the other types of poultry feed production such as

Parents and Broiler Grower. Thus, it can be concluded that the main poultry feed production in Kathmandu district is Broiler Starter and Broiler Finisher.

4.3 Basic Input for Poultry Feeds

Poultry feed is the mix of proteins, vitamins, carbohydrates, and minerals supplements. All of the supplements make a balanced diet for the chickens. These are the basic input requirements for the poultry feeds found from the survey.

Table: 4.3 Basic Input for Poultry Feeds.

S. N.	Particular
1	Maize
2	Rice Bran
3	Mustard Cake (Roasted)
4	Soybean Cake
5	Deoiles Cake (D.O.C)
6	Barley
7	Oats
8	Wheat Grid/Bran
9	Sunflower Cake
10	Sesame Cake
11	Groundnut Cake
12	Fish meal
13	Bone meal
14	Oyster shell
15	Marble Grit/ Limestone
16	Salt
17	Molasses
18	Other medicines

Source: Field Survey, 2012

Table 4.3 shows that there are 18 basic input requirements in poultry feeds, but different types of feed ingredients are needed for different types of chickens according to their life span in different percentages i.e. different percentages of inputs are required for the L1, L2,

L3, B1, B2, and B3. The above inputs provide proteins, vitamins, carbohydrates, and minerals to chickens. Thus, it can be concluded that all the surveyed industries are producing poultry feed by applying all the above inputs for chickens to feed balance feeds.

Table: 4.4 Name of Raw Materials which are not available

S. No.	Name of Raw Materials
1.	Soya Meal
2.	Fish Meal
3.	Til Cake
4.	Sunflower Cake
5.	Maize
6.	Rice Polish
7.	Soybean cake
8.	DCP
9.	Medicine

Source: Field Survey, 2012

There are limited numbers of raw materials in Nepal. The country cannot fulfill the current demand for raw materials for feed industries, so the feed producers have to bring raw materials from India. The above table shows the required raw materials which are not easily available in Nepal. According to NFIA, 70% of the raw materials is imported from India because of lack of enough food for the country like, Maize, rice, wheat, and Soybean etc. Depending on the feed type and season, medications are added to the feed to prevent from the diseases.

4.4 Production Aspect

The production units of all the surveyed feed industries in Kathmandu district are as follows:

Table: 4.5 Poultry Feed Production of Aadhunik Poultry Feed Products Pvt. Ltd

Year	Production of Feed (in tons)	Index (Base Year 2007)
2007	3100	100
2008	3380	109
2009	3200	103.23
2010	2880	92.9
2011	3456	111.48

Source: Field Survey, 2012

The above Table 4.5 shows that the feed production of Aadhunik Feed Products Pvt. Ltd has been increasing by 9% in FY 2007 as compared to the base year 2007. It has increased only by 3.23% in the FY 2009. But a decline in the feed production was experienced in the FY 2010 by 7.1%. However, it has indicated that an increment of 11.48% was found in FY 2011, which was higher percentage with the production of 1728 tons of feed. Hence, it is cleared that the production of Aadhunik Feed Products is fluctuating.

Table:4.6 Poultry Feed Production of Nepal Feed Product Pvt. Ltd.

Year	Production of Feed (in tons)	Index (Base Year 2007)
2007	902	100
2008	1452	160.98
2009	1928	213.75
2010	904	100.22
2011	464	51.44

Source: Field Survey, 2012

From the above Table 4.6 it is revealed that the feed production of Nepal Feed product has increased in many financial years except in the FY 2011. In the FY 2008, Nepal Feed produced 726 tons of feed with 60.98% and 964 tons in 2009, which was higher by 113.75% as compared to the base year 2007, but it has reduced drastically in 2010 & 2011 by 0.22% and 41.91%. Hence, the production of Nepal Feed is also in the condition of fluctuation.

Table: 4.7 Poultry Feed Production of Valley feed Product Pvt. Ltd.

Year	Production of Feed (in tons)	Index (Base Year 2007)
2007	14000	100
2008	11600	82.86
2009	9600	68.57
2010	4800	34.29
2011	6000	42.86

Source: Field Survey, 2012

According to the Table 4.7, it is cleared that the feed production of Valley feed product has been declining each year continuously from 2008 to the recent years. In the year 2008, it has declined by 17.14% and by 31.43% in the year 2009. In 2010 & 2011, it has declined by 65.71% and 57.14% respectively. Thus, it is proved that Valley feed Production is getting loss in production trend.

Table: 4.8 Poultry Feed Production of Sitala Feed Industries Pvt. Ltd.

Year	Production Of Feed (in Tons)	Index (Base Year 2007)
2007	1850	100
2008	2000	108.11
2009	2200	118.92
2010	2400	129.72
2011	2700	145.95

Source: Field Survey, 2012

Table 4.8, shows that the feed production trend of Sitala Feed Industries has been increasing in all the financial years. In the FY 2008, the production of Nepal Feed Product has increased

by 8.11%. Similarly in FY 2009, 2010 and 2011, it has increased by 18.92%, 29.92% and 45.95% as compared to the base year 2007. Hence, the production of Sitala Feed is in satisfactory condition of production.

Table: 4.9 Poultry Feed Production of Star Feed Products Pvt. Ltd.

Year	Production of Feed (in tons)	Index (Base Year 2007)
2007	750	100
2008	600	80
2009	530	70.66
2010	500	66.66
2011	450	60

Source: Field Survey, 2012

As presented in Table 4.9, it is obvious that the production of Star Feed Products has been declining continuously from the FY 2008 to 2011. Production was declined by 20% in FY 2008 and by 29.34% in FY 2009, whereas it was declined by 33.34% in FY 2010 and remained at 40% in FY 2011. The above table proves that the condition of reducing production is not satisfactory.

Table: 4.10 Poultry Feed Production of Kathmandu Feed Industries Pvt. Ltd.

year	Production of Feed (in tons)	Index (Base Year 2007)
2007	720	100
2008	800	111.11
2009	900	125
2010	1000	138.89
2010	1080	150

Field Survey, 2012

From the above table, it has been found that the production of Kathmandu Poultry Feed is in increasing trend. It has started increasing by 11.11% in the FY 2008 and kept on increasing by 25%, 38.89% and 50% in the FY 2009, 2010, and 2011 respectively. The analysis of Kathmandu Feed Production is satisfactory.

Table:4.11 Poultry Feed Production of Quality Feed Industries Pvt. Ltd.

Year	Production of Feed (in tons)	Index (Base Year2007)
2007	2160	100
2008	2448	113.33
2009	2880	133.33
2010	3240	150
2011	3600	166.67

Source: Field Survey, 2012

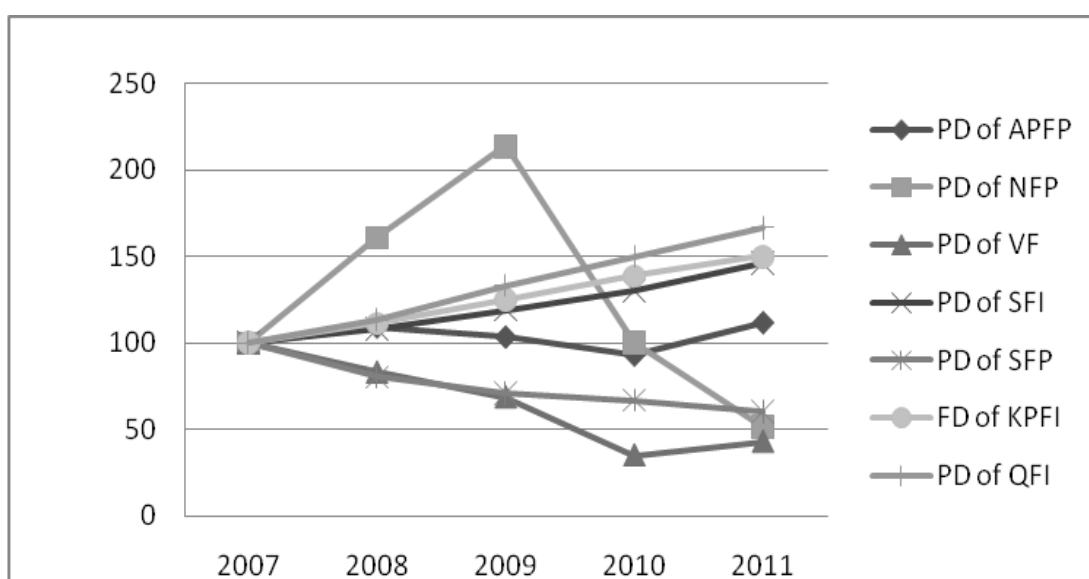
As shown in table 4.11, the production of Quality Feed is also in increasing trend. The production has increased by only 13.33% in FY 2008. It has increased by 33.33%, 50% in FY 2010 and finally it has increased by 66.67% in FY 2011, which was the highest percentage among all those years in 1800 tons of production. Thus, it can be concluded that the production of Quality Feed Industries is in satisfactory condition.

Table: 4.12 Combined Percentage of Poultry Feed Industries

Year	PD of APFP	PD of NFP	PD of VFI	PD of SFI	PD of KPFI	PD of SFP	PD of QFI
2007	100	100	100	100	100	100	100
2008	109	160.98	82.86	108.11	80	111.11	113.33
2009	103.23	213.75	68.57	118.92	70.66	125	133.33
2010	92.9	100.22	34.29	129.72	66.66	138.89	150
2011	111.48	51.44	42.86	145.95	60	150	166.67

Source: Field Survey, 2012

Figure: 4.3 Combined Percentage of Poultry Feed Industries.



Source: Field Survey, 2012

From the above table and the diagram it is obvious that the feed industries are in different trend. The production of Aadhunik Feed and Nepal Feed Products is fluctuating, whereas Valley feed is getting loss. Sitala feed is in satisfactory condition, but Star Feed is not in satisfactory level as it has the decreasing trend of feed production. The production of Kathmandu Feed and Quality Feed is also in increasing trend, so both companies are in satisfactory level.

4.5 Capacity Utilization of Production

The capacity utilization of all the surveyed feed industries in Kathmandu district is as follows:

Table: 4.13 Capacity Utilization of Aadhunik Poultry Feed Product Pvt. Ltd.

Year	Production(in ton)	Capacity (in tons)	Utilized Capacity in%
2007	3100	8800	35.23
2008	3380	8800	38.41
2009	3200	8800	36.36
2010	2880	8800	32.73
2011	3456	8800	39.27

Source: Field Survey, 2012

From the above Table, shows that the production capacity of Aadhunik Poultry Feed Product Pvt. Ltd. is 8800 tons per year. In FY 2007, the capacity utilization has found to be 35.23% It has increased to 38.41% in FY 2008. It has declined to 36.36% and 32.73% in the FY 2009 and 2010 respectively. In FY 2011, the capacity utilization is the highest among the given years. But the capacity utilization percentage isn't satisfactory as it shows the less percentage.

Table: 4.14 Capacity Utilization of Nepal Feed Product Pvt. Ltd.

Year	Production(in ton)	Capacity (in tons)	Utilized Capacity in%
2007	902	3600	25.06
2008	1452	3600	40.33
2009	1928	3600	53.56
2010	904	3600	25.11
2011	524	3600	14.56

Source: Field Survey, 2012

From the above table, it has been revealed that the production capacity of Nepal Feed Product Pvt. Ltd is 3600, ton per year. In FY 2007, the capacity utilization has become 25.06%. It has increased to 40.33% and 53.56% respectively in the FY 2008 and 2009. But it has decreased to 25.11% and 14.56% in FY 2010 and 2011. Hence, the table shows the loss percentage of capacity utilization of Nepal Feed, which has not been a satisfactory percentage.

Table: 4.15 Capacity Utilization of Valley feed Industries Pvt. Ltd.

Year	Production(in tons)	Capacity (in tons)	Utilized Capacity in%
2007	14000	8800	159.09
2008	11600	8800	131.82
2009	9600	8800	109.09
2010	4800	8800	54.55
2011	6000	8800	68.18

Source: Field Survey, 2012

As shown in table no 4.15, the production capacity of Valley feed Industries Pvt. Ltd. is 8800 ton per year. The capacity utilization of Valley feed has been decreasing year by year. In FY

2007, the capacity utilization percentage is 159.09%. It has decreased to 131.82%, 109.09% and 54.55% respectively in the FY 2008, 2009 and 2010. But it has a little increment in 2011 and has reached to a percentage of 68.18%. Though the capacity utilization percentage of Valley feed is decreasing each year, the percentage is satisfactory in compassion with the other feed industries as it has utilized more than 100% in FY 2007, 2008 and 2009. In FY 2010 and 2011, it has declined to only 54.55% and 68.18%, which is more than 50%. Hence, it is proved that the capacity utilization of Valley feed is satisfactory.

Table: 4.16 Capacity Utilization of Sitila Feed Industries.

Year	Production(in ton)	Capacity (in tons)	Utilized Capacity in%
2007	1850	5760	32.12
2008	2000	5760	34.72
2009	2200	5760	38.19
2010	2400	5760	41.67
2011	2700	5760	46.88

Source: Field Survey, 2012

The table no. 4.16, reveals that the production capacity of Sitala Feed is 5760 ton per year. The utilized capacity percentage has been increasing each year as 32.12%, 34.72%, 38.19%, 41.67% and 46.88% respectively in the FY 2007, 2008, 2009, 2010 and 2011. The above utilized capacity percentage of Sitala Feed seems to be sound in production and will be satisfactory in coming year.

Table: 4.17 Capacity Utilization of Star Feed Products Pvt. Ltd.

Year	Production(in ton)	Capacity (in tons)	Utilized Capacity in%
2007	750	5760	13.02
2008	600	5760	10.42
2009	530	5760	9.20
2010	500	5760	8.68
2011	450	5760	7.81

Source: Field Survey, 2012

The table no. 4.17, shows that the production capacity of Star Feed Products Pvt. Ltd. is 5760 ton per year. The capacity utilization of Star in FY 2007 is 13.02%. It has decreased to 10.42%, 9.20%, 8.68% and 7.81% respectively in the FY 2008, 2009, and 2010 and 2011.

The above utilized capacity percentage of Star is very low, so it is not in a satisfactory condition.

**Table: 4.18 Capacity Utilization of Kathmandu Poultry Feed Prod.
Company Pvt. Ltd.**

Year	Production(in ton)	Capacity (in tons)	Utilized Capacity in%
2007	720	2200	32.73
2008	800	2200	36.36
2009	900	2200	40.90
2010	1000	2200	45.45
2011	1080	2200	49.09

Source: Field Survey, 2012

As shown in table no. 4.18, the capital utilization of Kathmandu Poultry Feed Product & Co. Pvt. Ltd. is 2200 ton per year. The utilized capacity percentage in the FY 2007 is 32.73%. It has increased to 36.36%, 40.90%, 45.45% and 49.09% respectively in the FY 2008, 2009, 2010 and 2011. The growth percentage of capacity utilization shows the satisfactory condition of production in coming year.

Table: 4.19 Capacity Utilization of Quality Feed Industries.

Year	Production(in ton)	Capacity (in tons)	Utilized Capacity in%
2007	2160	7200	30
2008	2448	7200	34
2009	2880	7200	40
2010	3240	7200	45
2011	3600	7200	50

Source: Field Survey, 2012

From the above table, it is proved that the production capacity of Quality Feed is 7200 ton per year. The capacity utilization percentage is increasing every year simultaneously. In the FY 2006, the utilized capacity percentage is 30%. It has increased to 34%, 40%, 45% and 50% respectively in the FY 2007, 2008, 2009 and

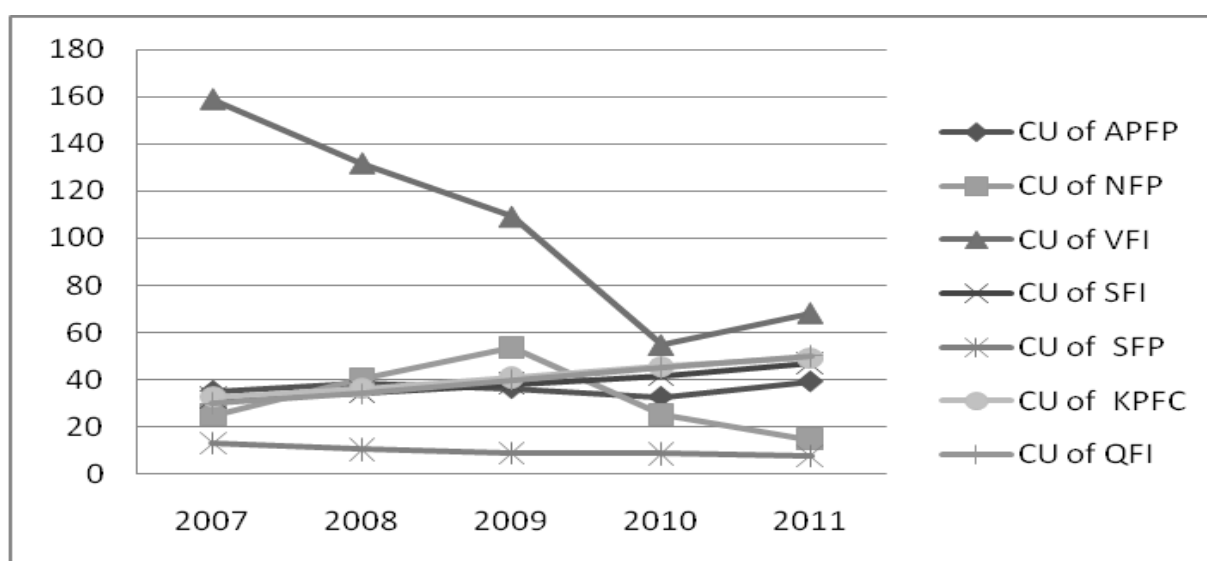
2010. As the percentage of capacity utilization has grown up to 50%, it seems to be satisfactory.

Table: 4.20 Combined Capacity Utilization Percentage of Poultry Feed Production Industries.

Year	CU of APFP	CU of NFP	CU of VFI	CU of SFI	CU of KPFI	CU of SFP	CU of QFI
2007	35.23	25.06	159.9	32.2	13.02	32.73	30
2008	38.41	40.33	82.86	108.11	80.0	36.36	34
2009	36.36	53.56	68.57	118.92	70.66	40.09	40
2010	32.73	25.11	34.29	129.72	66.66	45.45	45
2011	39.27	14.56	42.86	145.95	60.0	49.09	50

Source: Field Survey, 2012

Figure: 4.4 Combined Capacity Utilization Percentage of Poultry Feed Production Industries.



Source: Field Survey, 2012

By going through the capital utilization of all the sampled poultry feed producing industries, it has been found that among seven feed industries, the highest capacity utilized feed industry during fiscal year 2007-2011 is VFI, which has utilized more than 100% capacity of the industry. The lowest capacity utilized feed industry is SFP, which has utilized less than 8 % capacity of the industry. The capacity utilization of some feed industries is increasing, some feed industries is decreasing and some feed industries is fluctuating. The reasons for

increasing trend are the proper management system, better availability of raw materials, technical know-how , and efficient workers and staff.

The reasons for decreasing trend are poor management, non availability of raw materials, lack of technical know- how, lack of efficient workers, staff and lower demand of feed in the market. The production units and sales units of all the feed industries are equal. That means, all the feed industries sell as much as they produce. There is no stock to be replenished. When production increases, the sales also increases or vice versa.

4.6 Distribution Channel of Feed Industries in Kathmandu District

The feed industries of Kathmandu district are mainly adopting mixed channels for distributing their products. They distribute their products directly to the customers as well as to the dealers. A zero level channel and one level channel are very common in feed industries nowadays. The table below shows the channels used by the feed industries of Balaju area in Kathmandu district.

Table: 4.21 Channel used by the feed industries in Kathmandu district.

S.N.	Types of Channels	No. of Feed Industries	Percentage (%)
1	Direct to Customer	1	14.29
2	By Dealer	2	28.57
3	By Branch Officer	N/A	N/A
4	By Other Level	N/A	N/A
5	Combination of 1 & 2	4	57.14
6	Total	7	100

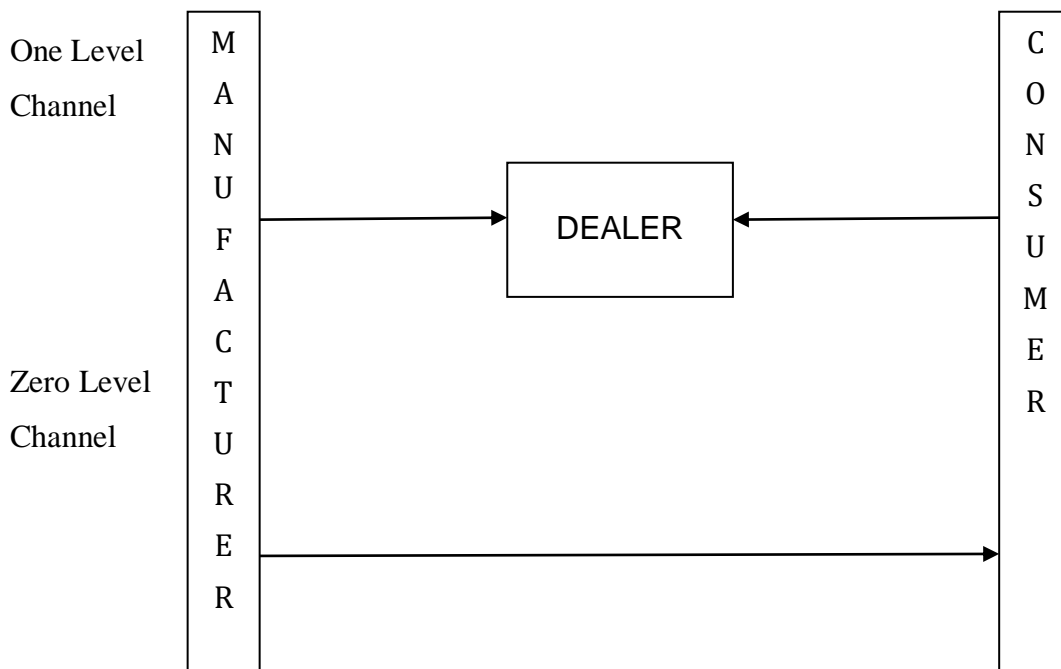
Source: Field Survey, 2012

Table 4.21, shows that 14.29% feed industries are using ‘Direct to Customer’ channel without any dealers or branch officers. 28.57% feed industries are using only ‘Dealers’ and 57.14% feed industries are using mixed channels i.e. ‘Direct to Customer and Dealer.’ The supplied districts are: Kathmandu, Lalitpur, Bhaktapur, Kirtipur, Rasuwa, Dhading, Kavre, Nuwakot, and Sarlahi. From the survey, it is found that Nepal Feed Industries supplies to Kathmandu, Bhaktapur, and Lalitpur district. Sitala Feed supplies to Kathmandu and Nuwakot district. Likewise, Valley feed supplies to Kathmandu, Bhaktapur, Lalitpur, Kavre, Kirtipur, and Sarlahi. Aadhunik Feed supplies to Kathmandu, Bhaktapur, Lalitpur, Dhading, and

Nawalparasi district. But Kathmandu Feed supplies to Kathmandu only. Quality Feed supplies to Kathmandu, Bhaktapur, and Lalitpur whereas, Star Feed supplies to Kathmandu, Rasuwa, and Lalitpur district. None of the feed industries in Kathmandu district export their poultry feed to other countries.

The above table can be shown from the following figure.

Figure: 4.5 Channel Used by the Feed Industries in Ktm. Valley



Hence, it is proved that the feed industries of Kathmandu District are following a zero level channel and a one level channel containing one selling intermediary such as a dealer.

4.7 Types of Distribution Channel Strategy

The researcher found that the feed industries in Kathmandu district have no branch offices, but they are supplying their feed products in other districts practicing selective distribution channel strategy by selecting some wholesalers or retailers for the distribution of feed. All the

surveyed poultry feed industries or 100% respondents have agreed about following the selective distribution channel strategy while supplying feed to other districts. It helps them to have the results in higher-quality coverage. and the manufacturers can select the larger, financially stronger retailers who will support to its brand.

4.8 Present Market Prices of Different Feeds

The sample feed industries regarding the price responded that the price is determined by NFIA. When interaction was made with the association, the various data have been obtained and analyzed in different tables. The current market price of different poultry feed is shown from this table.

Table: 4.22 Present Prices of Different Poultry Feeds (per kg)

Types of Poultry Feed	Chicken Starter (L1)	Pullet Grower (L2)	Layer Mash (L3)	Broiler Starter (B1)	Broiler Grower (B2)	Broiler Finisher (B3)
Rs.	41.40	37.40	37.90	41.60	41.60	41.00

Source: Field Survey, 2012

The above table shows that the prices of layer feeds and broiler feeds are not the same. In comparison with layer and broiler, the prices of layer are cheaper than the prices of broiler. When L1 is Rs. 30.70, B1 is Rs. 31.20. Likewise, when L2 is Rs. 26.70 and L3 is Rs. 27.20, B2 is Rs. 31.20 and B3 is also Rs. 30.50. Hence, it can be concluded that there is no similarity in price of layer but in broiler, B1 is expensive than B2 and B3. Prices of B1 and B2 are the same.

4.9 Previous Prices of Poultry Feed

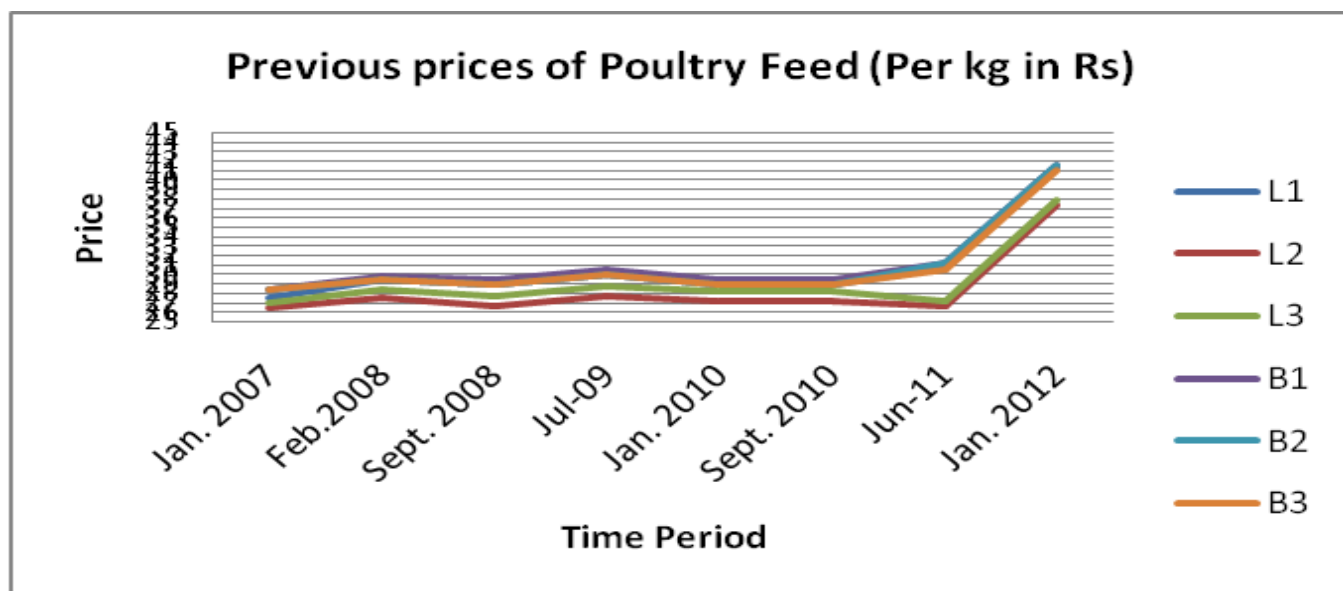
NFIA has set the price according to the fluctuation price of the raw material. Whenever prices of raw material change, the prices of poultry feed has also been changed. The price fluctuation might be yearly, half yearly, or quarterly, can't be fixed. The price of all poultry feeds which has been set by NFIA for the last 5 years has been shown from the following table.

Table: 4.23 Previous prices of poultry feed (per kg in Rs)

Type of Feed	Jan. 2007	Sept. 2007	July 2008	Jan. 2009	Sept. 2009	June 2010	Jan 2011	Jan. 2012
L1	27.5	29.5	29.0	30.0	29.0	29.0	30.7	41.40
L2	26.5	27.5	26.7	27.7	27.2	27.2	26.7	37.40
L3	27.0	28.5	27.7	28.7	28.2	28.2	27.2	37.90
B1	28.5	29.8	29.5	30.5	29.5	29.5	31.2	41.60
B2	28.5	29.8	29.5	30.5	29.5	29.5	31.2	41.60
B3	27.9	29.2	28.9	29.9	28.9	28.9	30.6	41.00

Source: Field Survey, 2012

Figure: 4.6



Source: Field Survey, 2012

Table 4.23 & figure 4.6, shows that all feed L1, L2, L3, B1, B2, and B3 have increased from January 2007 to September 2007. The prices of all feeds have decreased in July 2008. In January 2009, the prices of feeds have increased again and in September 2009, the prices of all feeds have decreased. The fluctuation rate is not constant because from January 2007 to September 2007, the prices of all feeds have increased by Rs. 1.3 to Rs. 2 per kg. In July 2008, the prices of all feed have reduced randomly because L1 only has reduced by 50 paise per kg and L2 & L3 have reduced by only 80 paise per kg, And B1, B2 & B3 have reduce by only 30 paise per kg. But in January 2009, all types of feed production have increased by

Rs.1 per kg and in September 2009 again all types of feed have decreased randomly. Only L₁, B₁, B₂, and B₃ have decreased by Rs. 1 per kg, and L₂, L₃, have decreased by the same rate of 50 paise per kg. All the prices of feed have remained the same since till June 2010. In January 2011, the prices of L₁, B₁, B₂, & B₃ increased by only Rs. 1.70, but L₂ & L₃ decreased by Rs. 0.5 & Rs. 1. In Jan 2012, drastic increase in the price of all feeds, where L₁ L₂, L₃ increase by Rs 10.7 & B₁, B₂, B₃ increase by Rs 10.4 Thus, it can be concluded that the rate of feed production can be changed according to the change rate of raw materials, which can be half yearly or yearly or quarterly. It all depends on the prices of the raw materials and the transportation rate of feed production.

4.10 Increased Price of Feed during Five Year

The prices of the feeds are equal or increasing every year due to the increasing price of raw materials. The table below shows the increased feed price and percentage in five years.

Table: 4.24 Increment of Price or Percentage of Feeds in Five Years .

Types of Feed	Price per kg (in Rs.)		Increased in Price (Rs.)	Changes by Percentage (%)
	2007	2012		
L ₁	27.5	41.40	13.9	50.55
L ₂	26.5	37.40	10.9	41.13
L ₃	27.0	37.90	10.9	40.37
B ₁	28.5	41.60	13.1	45.96
B ₂	28.5	41.60	13.1	45.96
B ₃	27.9	41.00	13.1	46.95

Source: Field Survey, 2012

Table 4.24 shows the increased price and percentage of feed during five years. The prices of L₁, L₂, L₃, B₁, B₂, and B₃ were Rs. 27.5, Rs.26.5, Rs. 27.0, Rs.28.5, Rs.28.5, and Rs.27.9 respectively, whereas current price of L₁, L₂, L₃, B₁, B₂, and B₃ are Rs.41.40, Rs. 37.40, Rs.37.90, Rs.41.60, Rs.41.60 and Rs.41.0 respectively. During five years, the prices of all feed have increased. L₁, have increased by Rs. 13.9 (50.55%), L₂, have increased by Rs. 10.90 (41.13%), L₃ have increased by Rs. 10.9 (40.37%).Likewise, B₁ have increased by

Rs.13.1 (45.96%), and B₂, have increased by Rs. 13.1 (45.96%) and at last B₃ have increased Rs. 13.1 (46.95%) in five years.

4.11 Reason for Price Fluctuation

The prices of poultry feed fluctuates every 4 to 6 months on average. From the survey, 100% respondents agreed that the price depends on raw materials and transportation cost. Therefore, if the price of raw materials increases, the prices of feed also increases, so the feeds price fluctuation is directly linked to the price fluctuation of raw materials. Therefore, it is proved that the pricing is based on cost-plus and mark up pricing method.

4.12 Advertisement used by Feed Industries

All the feed industries in Kathmandu are aware of advertisement but they do not seem to be interested in it. From the survey, only a few feed industries are using advertisement method and its media to promote their product. The table below shows the percentage of user and non user of advertisement by feed industries in Kathmandu district.

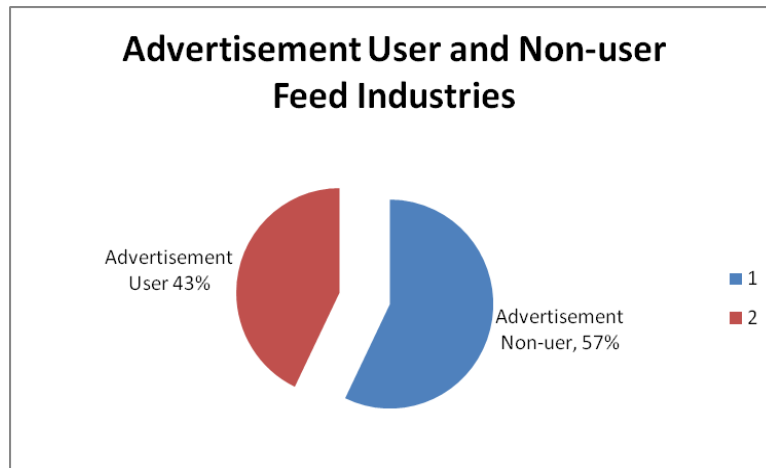
Table: 4.25 Advertisement User and Non-user Feed Industries

Particular	No. of Feed Industries	Percentage (%)
Advertisement User	4.00	57.14
Advertisement Non-User	3.00	42.86
Total	7.00	100.00

Source: Field Survey, 2012

Table 4.25 presents that 57.14% feed industries have been using advertisement, whereas 42.86% of feed industries are not using advertisement even though they are aware of advertisement. Table 14 can be cleared from the following diagram effectively.

Figure 4.7



Source: Field Survey, 2012

Advertisement User and Non-user Feed Industries

From the above figure shows that 42.86 percent feed industries are the non user of advertisement. 57.14 percent are the user of advertisement. It proves that the feed industries in Kathmandu district are not paying little bit attention to the advertisement methods and its media.

4.13 Advertisement Method and Media used by the Feed Industries in Kathmandu District.

There are different methods of advertisement such as personal selling, sales promotion, publicity and advertisement. The vast numbers and kind of media are available in Kathmandu district such as: newspaper, magazines, radios, televisions, hording boards, wall painting and electronic board etc. but it is found that the poultry feed industries in Katmandu district are using hardly any advertisement methods and its medias. Most of them are using Personal Selling for the purpose of sales as a method of promotion. The table below shows the most effective advertisement media used by the feed industries in Kathmandu district.

Table: 4.26 Advertisement Method & Media Used by the Feed Industries.

S. No.	Advertisement Media	No. of Feed Industries	Percentage (%)
1	Poultry Magazine	1	25
2	Poultry Magazine+ P. Calendar + Trade Fair + Brochure	2	50
3	Calendar + Trade Fair	1	25

Source: Field Survey, 2011

Table 4.26 shows that 57.14 percent advertisement user feed industries use poultry magazines, poultry calendars, trade fairs and brochures as the most effective advertisement media. All these media play an important role in promoting feed industries with 25 percent of all media. No budget is allocated for advertisement from feed industries in Kathmandu district. Poultry Magazines have been used by Nepal Feed and Aadhunik Feed Industries. Poultry Magazines, Calendar and Trade Fair have been used by Sitala Feed Industries. Poultry magazines, poultry Calendar, Trade Fair and Brochures have been used by Aadhunik Feed Industries Pvt. Ltd. The feed industries sometimes have to face complains about the quality of feed. Feed is of different quality due to the mixer in it containing moister and insoluble ash. Lack of quality of feed, low growth promotion of broiler chicks and low production of layer is existed. There are only 4 quality control labs in Nepal. Among them, only 2 quality control labs are located in Kathmandu. The government hasn't provided more lab facilities. Some of the feed industries, however, have their own lab, veterinary doctors. Most of the feed industries measures quality by hiring outsider's technician. Some by using own industries' lab, some by using government's lab and some by using private lab, but due to the lack of proper management in poultry feed leads to companies about the quality.

Chapter Five

Summary, Conclusions and Recommendations

5.1 Summary

Nepal is an agricultural country where the economy of the country is highly dominated by the agricultural sector. For the purpose of the national development through the industrial sectors, the due emphasis should be given to the poultry farming and development of feed industries. These types of industries serve the nation by utilizing surplus and using technical know-how. Poultry production in Nepal has undergone a rapid process of development over the past ten years. This development has been made possible by advances in production techniques. Traditionally, poultry farming was limited to raising of a number of poultry birds to meet household consumption. The feeding of poultry birds depended upon kitchen waste and farm wastes like rice husk, etc. the productivity then was very low. Egg laying by local birds does not go beyond 50-60 eggs per bird in a year. The live weight of local bird hardly exceeded one kg. in 6 months. Nowadays balanced feed for the chicks is realized to produce the healthy chickens for meat as well as for eggs.

Improved poultry breeds were firstly introduced in Parwanipur – a government farm in 1957 in order to produce cross breed because such breed could yield the local environment. Gradually, private sector was also involved in poultry business. It imported commercial chicks and supplied to the farmers. Feed industries were established during early sixties. Later on, to meet the growing demand for chicks, some hatcheries were also established to provide qualitative chicks. The eggs are the cheapest source of nutrition in Nepal. Even chicken meat is cheaper compared to goat meat, so eggs and chicken are widely consumed by most of the communities in the country. The changing food single number of tourist, suitable environment, early raising practices, technical support, credit facilities, market guarantee, and better prices are the major stimulating factors for the extension and expansion of poultry farming in Nepal. Entrepreneurs are actively involved in the supply of chicks and feeds. These altogether have advanced the poultry business in Nepal.

The poultry feed production has become very popular in Kathmandu district because of suitable weather, low investment, high profit margin and good transportation facilities.

Poultry farming could provide useful options to farmers. Poultry farming could provide useful options to farmers. Poultry feed production has received increasing impetus in the total economic and productive sector of the country. For development of poultry feed industry plays an important role by providing qualitative feed. There is no sufficient supply of raw materials in this district, so the required raw materials have to be imported from India. When the prices of raw materials fluctuate, the prices of poultry feed also influence. Therefore, the price of feed depends on the price of raw materials as well as the transportation cost. The feed industries are doing good business in the Kathmandu district even though they have problems such as lack of quality control lab, cost fluctuation of raw material, less support from government etc. Finally, there is no monopoly in this business because the price of poultry feeds is set by NFIA. Due to the increase in demand for the feed, the new industries had come forward in this business.

5.2 Conclusions

The poultry sub-sector has emerged as a most profitable and employment generating enterprise in Nepal. Beside this, it could be developed as an import substitution and export oriented enterprise. Nepal has open border with India and there is a free flow of poultry products into the country. When the poultry production cost is high in Nepal, then the Nepalese market is flooded with imported chicken meat and eggs. This is exactly the case now in cities and towns of Nepal bordering to India. From the above analysis and presentation, the following major conclusions and findings have been formulated.

- ❖ All the feed production industries are based on the traditional concept of marketing i.e. production concept. The production volume and increased percentage of surveyed feed industries are in different trend. The production of Aadhunik Feed and Nepal Feed Products is fluctuating, whereas Valley feed is getting loss. Sitala feed is in satisfactory condition, but Star Feed is not in satisfactory level as it has the decreasing trend of feed production. The production of Kathmandu Feed and Quality Feed is also in increasing trend, so both companies are in satisfactory level.
- ❖ The capacity utilization percentages of the surveyed feed industries are also different. First of all, the capacity utilization percentage of Aadhunik Feed isn't satisfactory as it shows the less percentage, and Nepal Feed isn't either. Valley feed has the highest percentage of capacity utilization, so it is in satisfactory condition even though it has

reduced the capacity percentage in 2009 and in 2010 which was only 54.55% and 68.18% respectively, which is more than 50%. Hence, it is proved that the capacity utilization of Valley feed is satisfactory. The utilized capacity percentage of Sitala Feed and Kathmandu Feed seems to be sound in production and will be satisfactory in coming year, whereas utilized capacity percentage of Star is very low, so it is not in a satisfactory condition. As the percentage of capacity utilization has grown up to 50%, Quality Feed seems to be satisfactory.

- ❖ The price of Layer and Broiler are not same. NFIA fixes the price. If the price of raw materials increases, the prices of feed also increases, so the feed price fluctuation is directly linked to the price fluctuation of raw materials and sometime of the price fluctuation of transportation as well. Therefore, the feed industry in Kathmandu district is based on the cost plus pricing. The price of feed so far has increased by 10.9 to 13.9 percent. 70% of raw materials are imported from India. The feed producers are depending upon the imported raw materials such as soybean cake, meat, bone, vitamin etc. These raw materials are not frequently supplied.
- ❖ The number of feed industries has been increasing year by year in Kathmandu district. Most of the feed producers use a direct distribution channel i.e. direct to customer or zero level channel and mixed channel i.e. one level channel or distributing through dealer plus distributing direct to customer. Distribution to the dealer is more effective in feed industries of Kathmandu district. None of the feed industries in Kathmandu district export their poultry feed products to other countries. Every feed industry wants restrictions on the import of poultry product as well as other raw material available in Nepal.
- ❖ Majority of poultry feed industries are the non user of the advertisement for the poultry feed. The poultry feed industries in Kathmandu district are using hardly any advertisement methods and its medias. Most of them are using Personal Selling or direct selling for the purpose of sales as a method of promotion and advertisement user feed industries use poultry magazines, poultry calendars, trade fairs and brochures as the most effective advertisement media. They want to help farmers by giving trainings, suggestions, and market facilities including profit which has done by Aadhunik Feed.
- ❖ Although the quality standard has been clearly specified, regular collection of feed samples, analysis and action against the violators of the standard is not non-existent. Feed standard has not been enforced yet. The available two quality control labs are

not enough to measure the quality of all the feed industries in Kathmandu district. Therefore, there are some complains about the quality of feed from the customers. Lack of high technical skills and inefficient staff, quality couldn't be maintained in feed formulation, which is directly rejected in Indian market.

- ❖ The poultry disease is a specialized branch of veterinary medicine. Poultry disease diagnostic facilities must be close to the production centers in order to provide prompt diagnostic and treatment service. At present, this specialized facility is lacking. In absence of veterinary quarantine law and regulations, the quarantine check posts are not authorized to detain the suspected diseased livestock and poultry and poultry production inputs. As a result, the poultry diseases are frequently imported along with the infected material, which flares up in the local poultry population causing high mortality of chicken and heavy economic losses to farmers.
- ❖ There is no government extension, training and market development programs to develop commercial poultry production. There are no training institutions offering short term practical courses of commercial poultry production for farmers. Therefore, the majority of poultry farmers lacks the high tech skills of modern poultry farming and is not efficient producers.
- ❖ Poultry production equipment such as plastic feeders, waterier, etc, which are not produced in Nepal, and are totally imported from India are levied custom tax, sales tax, municipality tax and chamber of commerce and industry tax which all combined increases its cost by almost 50%. Feed producers are not satisfied with the interest rates on loans provided by the ADB. Similarly, chicks boxes, egg trays, egg lighting tables, transportation vehicles, etc all are levied various levels of taxes. Feed additives such as methionine, lysine, choline chlorides etc. are also levied varying percentage of custom and sales tax. Indian producers don't have to pay such taxes on poultry production inputs, which make them more competitive.
- ❖ Even though poultry production industry is an agriculture industry, it is not considered so, rather regarded as general industry of the country. Likewise, the agriculture production promotion facilities given to other agriculture progress are not extended poultry. On the contrary, the poultry producers in India, who are our competitors, are provided interest subsidy on credit, electricity charge, veterinary inputs, etc.
- ❖ The quality standards are either unavailable or are not applicable in our condition. As a result, the feed raw materials and day-old chicks rejected in Indian market are sold

in Nepalese market. There is no effective mechanism which would ensure farmers of good quality of the available inputs.

- ❖ There is no organized market for poultry products. There are no market centers where both the buyers and sellers could meet for the trading. Market information system for poultry products is virtually absent in Nepal.

5.3 Recommendations

Development is a dynamic process. Policies and programs which appear to be undesirable at present may be highly desirable in future and vice versa. Therefore, although the issues raised in the preceding chapters demand immediate attention, the long term and the basic problem underlying this sector is the absence of a common forum/platform where everyone concerned to poultry could regularly meet, assess its performance, formulate suitable policies and advise government, poultry industrialists, concerned NGOs as well as farmers to carry out appropriated measures. It is, therefore, the following recommendations have been mentioned herewith.

For Government

- ❖ A 'poultry development board' should be established under the ministry of Agriculture in which the government should allow all concerned (e.g. broiler farmers, layer farmers, feed millers, hatchery men, financial institutions, livestock department, agriculture department, small scale and cottage industry department and finance department and finance ministry) to represent. This board should carry periodic review of to poultry sector, monitor performance and guide government in policy reforms.
- ❖ For the purpose of improving the quality of feed the government should establish some more quality control labs in Kathmandu district.
- ❖ There should be a review of the present custom and sales tax policy and required amendment should be made to it to increase the efficiency of commercial poultry sector to make it competitive at par to the producers of the neighboring country.
- ❖ Government should provide agricultural status to all the industries of poultry sector and extend them relief measures given to other agriculture projects.

- ❖ There should include some commercial poultry production and training activities under government extension program so that it would help the production of feed ingredients.
 - ❖ For the purpose of formulating appropriate quality standards for feed, raw materials, feed additives, feed products, and day old chicks; government should establish enough quality control labs in Kathmandu district. Furthermore, providing legal status to these standards; and carrying out effective monitoring and control of quality of the above items should be maintained.
 - ❖ Government should develop integrated marketing centers for poultry production input as well as poultry products near each urban center. Both the buyers and sellers meet at these centers and trade the items at most competitive price.
 - ❖ There should have broadcasting system through the radio and television for the current wholesale prices of poultry production inputs and products at these centers every day.
 - ❖ Government should control market price of feed and raw material.
 - ❖ Quarantine inspection of raw materials should be done correctly before they enter the country.
 - ❖ Upgrade and equip the existing veterinary diagnostic facilities to provide specialized poultry disease diagnostic services promptly to farmers.
-
- ❖ The rate of interest charged from poultry units should be concessional and moderate. There should be set up an agency for providing loans for maintaining poultry birds, banks for financing the poultry units with others units engaged in maintaining other livestock.
 - ❖ Government should give technical assistance and advice to feed producers to produce higher quality of feed.

For poultry feed industry owners

- ❖ The feed industry owners should train their staff and make them aware of the details of the poultry industry mainly regarding the poultry science, poultry diseases, poultry medicines and poultry feed management. This would help run the poultry units effectively.
- ❖ The owners of the poultry business should expand their business by resorting to the borrowing of fund from outside agencies and should not depend merely on their own personal resources. This would help enlarge their operation.
- ❖ Feed industry owners are not formulating their feed according to the suggested feed formulating methods. They are supplying their products without paying attention to the methods of feed formulation. They should maintain their quality as they have the complains from the customers.
- ❖ Feed producers should use a variety of advertisement media like radio, television, magazine, and newspapers to promote their business. They should not ignore the promotional methods.
- ❖ Feed industry owners should adopt the modern concept of marketing i.e. marketing concept by changing production concept where more priority is given to the customer satisfaction with customer need, taste, quality and choice.
- ❖ They should build up their strengths by producing quality products to compete not only in Indian market but also with international market as Nepal has become a member of WTO.
- The feed industry owners should aware of the two-level and three-level channel of distribution for dealing with the international markets.

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APPENDIX

Questionnaire of the primary data collection

Research is being carried out as part of the masters' degree dissertation of which this questionnaire is part. We therefore ask you to be so kind as to complete the questionnaire and take this opportunity to thank you for dedicating us your time. By filling in this questionnaire, you will have contributed to improving the quality and development of poultry feed industry in Nepal.

- 1) From which sources did you start this poultries feed industry?
 - a) Recommend by friends.
 - b) From advertisement
 - c) News & Journals
 - d) Through other peoples
- 2) How much tones feed did you product in a year?
.....tones
- 3) What is your machine capacity in a year?
.....tones
- 5) Did you get all feed raw materials in Nepal?
 - a) Yes
 - b) No
 - c) I don't know
- 6) If not from which country did you bring raw materials mostly?
.....
- 7) By which transports did you get raw materials from other countries?
 - a) By air
 - b) By truck
 - c) By train
 - d) By both train & truck
- 8) Did you think all raw materials get in Nepal at future?
 - a) Yes
 - b) No
 - c) I don't know
- 9) Did you fulfill your demand on your market?
 - a) Yes

- b) No
- c) I don't know

10) Is Nepalese poultries industries fulfilling our local market demand?

- a) Yes
- b) No
- c) I don't know

11) Did you use advertisement for your Poultry feed industries?

- a) Yes
- b) No
- c) I don't know

12) Which is the best advertisement media in your poultry feed industry?

..... media

13) Do you have any branch office?

- a) Yes
- b) No
- c) I don't know

14) Is poultry feed industry took good business in future?

- a) Yes
- b) No
- c) I don't know