

# Study on Adoption of scientific poultry Management practices by farmers of Cuttack district of Odisha

**Biswajeet Lenka, Bibhu Santosh Behera**

**e-mail:-b. behera88@gmail. com**

## **Abstract**

The study was conducted during 2013 in Cuttack district of Odisha. The main challenges facing poultry development have been proper assessment of poultry resources in terms of poultry production development of different technology on poultry farming strengthening of infrastructure for reduction of economically viable baby chicks, training for poultry farming besides taking care of the welfare of poultry farmer. A study on the "Adoption of scientific poultry management practices by farmers of Cuttack district" was designed to find out various potential factors which may revolutionize the prospects of scientific management of poultry farming in Odisha more particularly in Cuttack district. For this purpose specific objectives were selected to identify the socioeconomic profile of poultry farmers, to assess the available scientific technologies, to examine attitude, knowledge and adoption of poultry growers towards different practices of scientific management of poultry farming, to analyze constraints faced by respondents. Poultry sector growth can contribute to improved nutrition and poverty reduction in India, including direct benefits from poultry farming, employment generation along the poultry value chain, and consumption of poultry meat and egg. The study reveals that, various socio-economic factors, like extension contact with change agents, social participation, material possession education level of poultry farmers etc. play an important role in changing the knowledge, attitude and adoption level of respondents towards different practices of poultry farming. Scientific poultry farming requires a high class knowledge level for its full utilization of different scientific practices and disease management, sufficient knowledge is to be

provided to poultry farmers. Complexity of new technology, lengthy procedure for getting credit, high interest rate and low market price are the significant constraints faced by poultry farmers. Regular training and regular visit of veterinary professionals is require to aware the poultry farmers about disease management, vaccination and updating knowledge and technologies from farmers perspective are the common suggestion for upliftment of the poultry farms. . In a continual endeavor and efforts to create a strong platform for Poultry India is experimenting with new trends in poultry rearing techniques and innovations for processed chicken meat, medicines, feed additives, health products, equipments, managements & other technical services.

## **INTRODUCTION**

Poultry farming is a viable business activity and has got immense scope for growth in India. Poultry is making a significant contribution to improve the economy of rural and urban population.

Poultry farming does not only supplement the income of producer by way of eggs, meat and compost but also helps in increasing the employment avenues.

Poultry industry is suitable from all walks of life.

Since the current avg. urban annual per capita consumption of egg & meat are 100eggs &1. 2kg, avg rural consumption is 15ggs &0. 15kgmmeat compared to 400-500 in most developed countries, the industry has got a good potential in the country.

## **Scenario of Poultry in India**

Scientific poultry keeping in India was first advocated by Christian missionaries towards the

twentieth century A. D. Their flocks of exotic breeds excelled in performance and were far superior to those of desi-fowls.

However the fact remains that India is the original home of poultry which gifted to the world the species out of which progenies, domesticated the crossbreed, have emerged as 'purelines' of the west, completely outclassing their wild ancestor still found in the jungles of our country.

During third plan poultry farms emerged as a viable commercial enterprise. Development of deep litter system of poultry keeping, multiplication of exotic breeds and organization of intensive poultry development projects took place in this period.

The rapid growth of poultry industry in India was possible as a result of many factors working together; wide spread adoption of modern methods of poultry farming, availability of inputs; quick, assured and better returns form poultry; poultry's social role as a tool to overcome poverty.

Today India is the third largest producer of eggs (after china and the usa), nineteenth largest producer of broiler and fifth largest producer of poultry meat in the world(kornel, )

### Poultry industry in Odisha

Agriculture and its allied sectors dominate state economy by contributing about twenty percent to net state domestic product (NSDP).

Animal husbandry sector also contribute about 3 percent to NSDP.

Poultry enterprise has emerged as an important supplementary enterprise of the farming community of the state. It has helped to increase extra income of the farmers in the urban & semi-urban areas of the state. Poultry industry in Odisha is still at a very nascent stage. The pace of the industry is very slow. The state mainly depends on Andhra Pradesh .

### SCOPE & IMPORTANCE

Poultry and poultry products constitutes an important component of human diet in most of the developing countries of the world. This consumption is also increasing at a rapid rate due to

low fat content, easy availability & cost effectiveness.

Poultry is the least cost alternative only next to fish & produces more of animal protein from the same amount of feed compared to milch cow, sheep, Goat & Pig.

Two eggs provide 160 calories of energy and more than 20% of the daily requirement of proteins, Vit A, D & B12, Riboflabin, folic acid, Panthothenic acid, Phosphorus, Iodine along with fat.

According to nutritional Advisory committee of India at least half an egg should be made available to an average individual which workout to be 180 egg / annum.

Poultry farming require less area with high return than any other animal husbandry and agriculture activities.

Land topography & soil fertility is never a criterion for poultry like agriculture.

Poultry farming involves high grade sophisticated technology with higher Profitability for which younger generation prefer this activity as their occupation than any Other agriculture & allied activities.

In the primary sector, Agriculture provides about 100 to 120 days employment to the rural poor. Scanty land holding, land fragmentation and seasonal agriculture are not able to provide full employment to the work

### POULTRY MANAGEMENT

Poultry management usually refers to the husbandry practices or production techniques that help to maximize the efficiency of production. Sound management practices are very essential to optimize production. Scientific poultry management aims at maximizing returns with minimum investment.

**Broode Management Brooder house:** Brooder house should be draft-free, rain-proof and protected against predators. Brooding pens should have windows with wire mesh for adequate ventilation. Too dusty environment irritates the respiratory tract of the chicks. Besides dust is one of the vehicles of transmission of diseases. Too much moisture causes ammonia fumes which irritate the respiratory tract and eyes. Good

ventilation provides a comfortable environment without draft.

#### **Sanitation and hygiene:**

All movable equipments like feeders, waterers and hovers should be removed from the house, cleaned and disinfected. All litters are to be scraped and removed. The interior as well as exterior of the house should be cleaned under pressure. The house should be disinfected with any commercial disinfectant solution at the recommended concentration. Insecticide should be sprayed to avoid insect threat. Malathion spray/blow lamping or both can be used to control ticks and mites. New litter should be spread after each cleaning. The insecticides if necessary should be mixed with litter at recommended doses.

#### **Litter:**

Suitable litter material like saw dust and paddy husk should be spread to a length of 5 cm depending upon their availability and cost. Mouldy material should not be used. The litter should be stirred at frequent intervals to prevent caking. Wet litters if any should be removed immediately and replaced by dry new litter. This prevents ammoniacal odour.

#### **Brooding temperature:**

Heating is very much essential to provide right temperature in the brooder house. Too high or too low a temperature slows down growth and causes mortality. During the first week the temperature should be 95°F (35°C) which may be reduced by 5°F per week during each successive week till 70°F (21.10C). The brooder should be switched on for at least 24 hours before the chicks arrive. As a rule of thumb the temperature inside the brooder house should be approximately 20°F (-6.7°C) below the brooder temperature. Hanging of a maximum and minimum thermometer in each house is recommended to have a guide to control over the differences in the house temperature. The behavior of chicks provides better indication of whether they are getting the desired amount of heat. . When the temperature is less than required, the chicks try to get closer to the source of heat and huddle down under the brooder. When the temperature is too

high, the chicks will get away from the source of heat and may even pant or gasp. When temperature is right, the chicks will be found evenly scattered. In hot weather, brooders are not necessary after the chicks are about 3 weeks old. Several devices can be used for providing artificial heat. Hover type electric brooders are by far the most common and practical these days. The temperature in these brooders is thermostatically controlled. Many a times the heat in the brooder house is provided by use of electric bulbs of different intensities. Regulation of temperature in such cases is difficult although not impossible. Infrared lamps are also very good for brooding. The height and number of infra-red lamps can be adjusted as per temperature requirement in the brooder house.

#### **Brooder space:**

Brooder space of 7 to 10 sq inch (45-65 cm<sup>2</sup>) is recommended per chick. Thus a 1.80 m hover can hold 500 chicks. When small pens are used for brooding, dimension of the house must be taken into consideration as overcrowding results in starve-outs, culls and increase in disease problems.

#### **Brooder guard:**

To prevent the straying of baby chicks from the source of heat, hover guards are placed 1.05 to 1.50 m from the edge of hover. Hover guard is not necessary after 1 week.

#### **Floor space:**

Floor space of 0.05 m<sup>2</sup> should be provided per chick to start with, which should be increased by 0.05 m<sup>2</sup> after every 4 weeks until the pullets are about 20 weeks of age. For broilers at least 0.1 m<sup>2</sup> of floor space for female chicks and 0.15 m<sup>2</sup> for male chicks should be provided till 8 weeks of age. Raising broiler pullets and cockerel chicks in the separate pens may be beneficial.

#### **Water space:**

Plentiful of clean and fresh water is very much essential. A provision of 50 linear cm of water space per 100 chicks for first two weeks has to be increased to 152-190 linear cm at 6 to 8 weeks. When changing from chick fountain to water

through the fountains are to be left in for several days till the chicks have located the new water source. Height of the waterers should be maintained at 2.5 cm above the back height of the chicks to reduce spoilage. Antibiotics or other stress medications may be added to water if desired. All waterers should be cleaned daily. It may be desirable to hold a few chicks one at a time and teach them to drink.

### SPECIFIC OBJECTIVES

(1) To Identify The Socio-economic Profile Of People Practicing traditional and scientific poultry farming in selected areas.

(2) To find out the existing scientific technologies and assets relating to poultry

(3) To examine the attitude, awareness, extent of adoption of people towards different practices under scientific management of poultry.

(4) To analyze various constraints relating to scientific poultry farming.

### REVIEW OF LITERATURE

The review of literature is always essential for an investigator to formulate his theoretical framework of research and to know the areas in which research and to know the areas in which research is needed. It also provides an insight into the methods and procedure, suggests operation definitions of major concepts and a basis for interpretation of findings. In this chapter, a vigilant attempt has been made to present the review of most of the available studies. For conducting any research in a scientific manner, a comprehensive and systematic review of the past relevant literature is a prerequisite. A reference to the past studies provides guidelines not only to frame future areas of research to be covered and methodology to be adopted, but also to confirm and repudiate research outcome with possible reasons. The present investigation on 'scientific management of poultry farming' being a new area in the field of Extension Research, in Odisha, very limited number of studies has so far been carried out on it. The researcher could not find a good number of literatures pertinent to different objectives set forth in the study.

Bhaumic, pandit and karmakar (1992) observed that, poultry farmers degree of contact with the extension agency was found to be positive and significantly dependent with the adoption of technology by them.

Ravindra (1988) indicated that, majority (77 percent) of the respondents were found to have medium knowledge level, compared to only 7.5% in the high knowledge category.

Tyagi and shoal (1994) revealed that, farm size was negatively and non-significantly related with the level of adoption of the respondents.

Reddy revealed a positive and highly significant association between average annual income and their adoption behaviour.

Bhaumic, pandit and karmakar (1995) reported that, there was a significant and positive relationship between the socio-economic status of poultry farmers and their adoption behaviour.

The quantity of poultry litter produced in a broiler unit depends on the litter (i. e. bedding material) Management, and feed intake and its digestibility. A range of materials including wood shavings, cereal straw, husk and paper clippings are used as Bedding materials (swain and sundaram 2001)

Many studies have found income and economic status to be positively related to adoption of agricultural practices (Sanoria, 1970; Rajendra, 1973; Shukla, 1975)

In India, small (1ha–2 ha) and marginal (0.002–1 ha) farms account for 82 per cent of all holdings, and only 6 per cent of all farms are larger than 6 ha (Government of India, 2006b).

There is evidence that investments in small-scale poultry farming generate handsome returns and contribute to poverty reduction and increased food security in regions where a large share of the population keeps some poultry birds (tiwari 2003; And das 2010).

Mandal et al. (2006) reported that poultry diseases are considered the most binding constraints for poultry farmers in Uttar Pradesh, India; Good Practices show that before any intervention is carried out, mortality rate in birds due to diseases

range between a minimum of 35 to a maximum of 75 per cent.

The most common diseases in poultry are Newcastle Disease, Infectious Bursal Disease, Marek's Disease, Fowl Pox, Leucosis, Infectious Bronchitis, Fowl Cholera and Coccidiosis and, over the last few years, the Highly Pathogenic Avian Influenza. Poultry are also affected by numerous parasites, which make the birds dull and emaciated, reduce their productivity and may even kill them. Young chicks up to 2 months old are particularly affected because once they become weak they cannot compete with grown chickens for scavenging and are also liable to get killed by predators (SA PPLPP, 2009b).

A DFID (UK Department for International Development) Livestock Production Programme found that 90 per cent of village poultry were infected with intestinal parasites in Rajasthan and Tamil Nadu (Conroy 2004).

Biswas et al. (2006) find that losses due to predation are not significantly different than losses due to animal disease.

Conroy et al. (2005) report that bird mortality due to predation ranges between 19 and 24 per cent in Udaipur district of Rajasthan, and between 11 to 33 per cent in Tiruchirapalli district of Tamil Nadu.

According to Jalaludeen (2009), almost half the mortality of native chicken population in Kerala, including chicks, growers and layers, is due to predation.

Exotic birds are also supplied by large private hatcheries but only to the large commercial layer and broiler farms, which serve urban areas and have been expanding rapidly in South India, where climatic conditions are mild, and at a slower pace in the western and eastern states (Mehta and Nambiar, 2007).

According to Kumtakar and Kumtakar (1999), for example, current feeding practices are a major contributor to bird under-nutrition and malnutrition, which favour diseases and early death.

In India, in 1993, the proportion of "desi" birds to the total chicken population

was estimated at around 44 per cent, while its contribution to the total annual egg production was 12 % (Prabakaran, 2003).

Nataraju and Chinnegowda (1996) revealed that, there was difference between literate and illiterate farmers with respect to their participation in extension activities. Literate farmers had higher participation than illiterates.

Rogers (2001) reported that, rate of adoption of improved agricultural practices increased along with the increase in farm size.

Tyagi and Shoal (1988), found a positive and significant relationship between economic motivation and adoption level of the respondents.

Tyagi and Shoal (1991) reported that, increase in knowledge of respondent leads to higher adoption of technology.

Dasgupta (1999) reported that the constraint in the development of poultry apart from lack of finance and entrepreneurs, the main constraints in the way of such activities appeared to be lack of awareness about poultry farming, lack of extension activities, lack of education.

Randhir and Tripathy (1995) reported that the problems or constraints in adoption of poultry farming are (1) non availability of adequate chicks of exotic variety & extension agencies.

Reddy (1995) revealed a positive and highly significant association between average annual income and their adoption behaviour.

Family poultry is important for food security and poverty alleviation in developing countries (Gueye, 2005) where it is mainly under the traditional small-scale system. This system is faced with many challenges including diseases, predators and inadequate feed (Kitalyi, 1998).

Presently, this traditional system is a focus for pro-poor programmes (Mohan et al., 2003). And its development is promoted through improved housing, feeding, health care and introduction of higher yielding breeds (Guèye, 1999).

#### **METHODOLOGY**

This chapter deals with the methods and systematic procedures followed by the investigator during the course of investigation. The methodological details



have been described under the following major headings.

1. Selection of problem
2. Research design
3. Location of study
4. Sampling procedure
  - (a) Selection of Districts
  - (b) Selection of Block
  - (c) Selection of villages
  - (d) Selection of respondents
5. Tools and techniques of data collection
  - (a) Development of interview schedule
  - (b) Pretesting the interview schedule
  - (c) Interviewing
6. Operationalization & measurement of variables
7. Statistical measures

## 1. SELECTION OF PROBLEM

The generalized concepts indicate that the formation of a problem is often more essential than its solution. Hence, while selecting the research topic "Adoption of scientific poultry management practices by farmers of Cuttack districts of odisha" due consideration has been given to several points, such as, the current need of the people, problem, size of the sample, definition of the concepts and anticipated consequences etc. Keeping in view of the wide and valid implication of the study, it is felt that a detailed survey of each and every aspects relating to the objectives already enumerated in chapter 1 should be undertaken considering the stipulated time period, the area of investigation, sample size, methods of analysis of data, pretesting of schedules etc. Detail plan of work was formulated at presurvey stage.

## 2. RESEARCH DESIGN

The present research study was formulated on the basis of ex post facto approach. Accordingly

specific objectives were set to provide the basis of enquiry.

In the light of objectives, the scope of the study was delineated and techniques of investigations were followed, tools were used, the pattern of statistical analysis was decided.

Then the study was outlined from the observation level up to interpretation of the observation. The study then carried out in the light of set objectives and under the framework of the adopted outline.

## 3. LOCATION OF STUDY

Orissa State

The present study was conducted in the state of Orissa, which is located in the sub-tropical belt in the eastern region of India between 17°31' and 22°31' North latitude and between 81°31' and 87° 30' East longitude. The state is bounded by the state of Bihar in the North, West Bengal in the North-East, Madhya Pradesh in the North-west and Andhra Pradesh in the South-West. The Bay of Bengal has long coast of 484 kms at the East of the state. In terms of area, it is the tenth largest state in India covering an area of 155.4 lakh hectares; the state has 30 administrative districts, 30 agricultural districts, and 314 development blocks covering 51,639 villages.

The whole state is divided into 10 agro-climatic regions. The state lies in the sub-tropical belt of medium pressure. The summer is hot and dry and is followed by wet and humid rainy season. The autumn is pleasant and winter is short and mild. The state in general has the climate characterized by high temperature and medium rainfall. The average rainfall of the state is 1490mm. with 73 rainy days of which about 75 percent is received in the rainy season of mid-june to mid-october.

### 4.1 SELECTION OF DISTRICTS

The Cuttack district is located at 20.5°N 85.83°E and has average elevation of 36mtr(118ft). located at the apex of Mahanadi delta, the city is surrounded by the river Mahanadi and its tributaries from almost all sides. Cuttack features a tropical hot and dry climate. Annual rainfall is 144cm. Cuttack is more progressive in poultry farming due to distant market. Cuttack

was selected for its situation adjacent to CARI serves as chief source of advanced technology in the field of poultry farming. While selecting this particular districts; other considerations were proximity, production and productivity level, rapport building with technical institutions like OUAT, CARI which are concerned with latest technology.

#### 4. 2 SELECTION OF BLOCK

Out of 14 blocks of Cuttack district, Cuttacksadar and niali block were selected randomly on the basis of following reason

1. Closeness to advanced technical institutions.
2. Opportunity for wide market of produce.
3. High rate of transfer of technology.
4. Frequent and regular visit of scientists to the area

Cuttack sadar	manibada
120	20
	Aitalanga
100	12
Niali	jalarpur
90	21
	Kapasi
168	37
Total	
478	90

#### 4. 4 SELECTION OF RESPONDENTS

The respondents are important for any research work. The total population of poultry farmers in selected villages were asked and then from it scientific poultry growers were selected. The scientific poultry growers in the sample were selected randomly. All the total 90 respondents were selected for study from all the selected villages.

**Sample design:-** Sampling design followed for the study will be three stage random sampling design, block beings the first, village second and farmers practicing the poultry for particular problem will be the ultimate stage.

#### 5. Tools and techniques of data collection

#### 4.3 SELECTION OF VILLAGES

Villages were selected for the study on scientific poultry farming. Villages were selected randomly. Two villages each from two blocks were selected randomly.

Two villages of Cuttack sadar block were manibada and Aitalanga and other two villages were jalarpur and kapasi of niali block which were taken into consideration.

Name of the farmer	Nme of the villages
Total population	Total poultry
	Blocks

The present research project was formulated on the basis of randomized design. In order to ensure maximum objectivity to the study number of standard tools developed developed by different Indian experts of behavioural sciences, have been used.

#### 5. 1 Development of interview schedule

In course of preparation of schedule many proposals were added and discarded after judging each item with their possible linkage with specific objectives of study. The questions having less validity and reliability were dropped due to limitation of time and resources. Proper measure was taken to avoid vague and ambiguous answers. In case of open ended questions specific answers were not provided and it was decided to record answers to such such questions in exact wording.

#### 5. 2 Pretesting

The entire schedule before its use was pretested in the field on a separate sample of 10% farmers. On the basis of pretesting necessary modifications were made in the final schedule.

#### 5. 3 INTERVIEWING

An in-depth interview is a form of qualitative research that is most often used before surveys and other quantitative research. It is a loosely structured interview, or conversation, that lasts

from 10 to 30 minutes, but may go longer. These interviews can be conducted over the phone or face to face. In the interview the interviewer will start with general questions to establish a relationship before continuing with questions searching for deeper insight or information. In-depth interviews are conducted for two main purposes. The first is when a researcher requires expert knowledge. An example of a time that a researcher would need this is when the researcher is not familiar the industry or the market. Before a problem definition can be clearly identified, the researcher may need information that can only provided by an in-depth interview. The second main purpose is when information from the customer is required. This type of research is excellent for obtaining opinions, beliefs, and values of the consumer. The information gathered is often much richer in depth and goes beyond the surface to uncover responses that might not be solicited from normal survey methods.

#### 6. Operational definitions of different variables and their measurement.

Operational definitions are indispensable gradients of scientific research because they are bridges between the theory-hypothesis-construct level and the level of observation. Given below are operational definitions of some key concepts used in this study.

##### 6. 1 Age

THE age of respondents was operationalised as the chronological age of respondents. It was qualified based on the number of years completed as on the date of interview as expressed by them. The respondents were categorized into following three categories on the basis of their distribution over the age.

Categories on the basis of the age of the respondents.

- i) upto35 years
- ii) 36-50years
- iii) >50years

##### 6. 2 Caste

The term caste has been conceived as the endogamy, exclusive an functional group to which an individual belongs. The respondents were categorised into following groups

Categories on the basis of caste of the respondents.

- i)General
- ii) O. B. C
- iii) S. C

##### 6. 3 Education

Education status has been operationalised as the extent of literacy or number of years of formal education attained by the respondents at the timeof interview. The farmers were categorized into following four categories after observing their distribution over the level of education. Categories on the basis of educational status of the respondents.

- i) illiterate
- ii) upto primary
- iii) primary to highschool
- iv) Above high school

##### 6. 4 FARM SIZE

Farm size is the total cultivated and uncultivated land of the farmer whether in singly or along with his family members. As per the conveniency farm size is described in 3 categories i. e i) up to 1 hac

- ii) 1-2 hac
- iii) >2 hac

##### 6. 5 Annual income

It has been operationalized as the gross income received by the respondent per annum from agriculture/non-agricultural sources. After observing the distribution of respondents over their annual income, they were categorized under five categories as follows.

Category basis on the average annual income of the respondents.



- i. upto Rs. 10, 000/-
- ii. Rs. 10, 000/- to Rs. 20, 000/-
- iii. Rs. 20, 000/- to Rs. 30, 000/-
- iv. Rs. 30, 000/- to Rs. 40, 000/- (v). Above Rs. 40, 000/-

#### 6. 6 Material possession

Material possession includes all the materials included either agricultural or non-agricultural as per the need for their day to day life and possession is calculated as percentage.

#### 6. 7 Social participation

In the present study, social participation indicates the degree of involvement of the respondents in different formal organizations either as a member or its office bearer. In order to measure these variables the farmers were categories into following categories basing on their involvement with the different formal organizations.

##### Categories

1. Panchayat
2. Co-operative society
3. Labour organization
4. Socio-cultural organization
5. Poultry association

The percentage is used to know the extent of participation in different organization for different respondents.

#### 6. 8 Extension contact.

It has been conceived as the degree to which an individual contacts different extension personnel at district, block, and village level. The respondents were categorized into four categories based on the officials with whom he has contact out of the four categories officials.

1. Field level extension workers.
2. Block level officials.
3. District level officials
4. State level officials.

The percentage is used to know the frequency of contact by the respondents with different extension agents. Frequency is classified into 5 classes i. e weekly, Fortnightly, monthly, yearly and never.

#### 6. 9 Existing Technologies

In order to identify the available technologies and assets which are useful for the poultry growers are i) Baby chicks ii) Management practices iii) Materials and iv) advisory services as described in the questionnaire. The response of each statement is marked as given by the respondent.

#### 6. 10. Knowledge Level, Attitude and Adoption technology

Knowledge refers to principal knowledge of respondents, different practices and tech nology related to scientific management of poultry farming. The schedule consist of six statements for the knowledge level then frequency, percentage and ranking order of each statement is also obtained. For attitude level experts, teachers, and workers working in the field of poultry management were consulted and relevant literature was collected. Basing on these, 9 statements were selected for the instrument. Then percentage, frequency and ranking order is obtained. Adoption in the present study refers to the degree to which an innovation or practice on scientific management of poultry farming is in use by the respondents at the time of interview. Different practices on scientific management of poultry farming were discussed and out of which 7 statements for adoption level test were contained and tabulated. The frequency, percentage and ranking order is then obtained.

##### Statistical measures

The following non-parametric and parametric statistical methods were used in this study, based on the nature of data and type of information required.

**Percentage:-** Percentages were used in descriptive analysis for making simple comparison. For calculating percentages, the frequency of particular cell was multiplied by

100 and divided by the total no. of respondents in that particular category to which cell they belonged.

**Mean score:-**

It is also another simple comparison, which was calculated by using the following formula:-

$$M. S = \sum F_x / n$$

M. S = Mean score,  $\sum F_x$  = sum of the total scores obtained by individual n = total no. of respondents

**Rank Analysis:-** on the basis of mean score & %rank order was made. The item securing highest mean score was given 1<sup>st</sup> rank and then next highest was given 2<sup>nd</sup> rank, so on ranking was done in the case of different information sources and diff. adoption practices and also various constraints faced during scientific poultry farming.

**Frequency-** Frequency is the no of times the event occurred in an experiment or study.

**Pearson's co-efficient of correlation:-**

This test was used to find out zero order correlation between the socio-economic characteristics of the poultry farmers with their knowledge, attitude, and adoption variables.

The formula used for calculating co-efficient of correlation is as follows.

$$r = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{n(\sum x^2) - (\sum x)^2} \sqrt{n(\sum y^2) - (\sum y)^2}}$$

**RESULTS & DISCUSSIONS**

The study on scientific management of poultry was conducted in Cuttack district of odisha. A

**Table – 1. 1 Age distribution of poultry farmers(n=90)**

Sl. No.	Age group	Frequency	Percentage
1	Up to 35 years	28	31.11
2	36-50 years	46	51.11
3	>50 years	16	17.77

It is observed from the above table that majority of the poultry farmers belongs to middle age group i. e. 36-50Yrs. Youngs framer within the age group of 35 years were also doing scientific poultry to some extent only 17.77% of the respondents were above 50 years which concluded that farmer belonging to middle age group were doing scientific poultry than other age category.

total of 90 poultry farmers from 4 villages belonging to Cuttack Sadar and Niali blocks were personally Interviewed with a structured schedule. Analysis were made basing on the objectives and results were presented herewith. The findings and the interpretations are cited side by side in order to have more insight to the findings.

**Objective – 1**

**To study the socio-economic profile of people practicing traditional and scientific poultry.**

Socio-economic condition of a farmer is positively related with use of advanced technologies. It is assumed that poultry farmers practicing scientific poultry farming have better socioeconomic Status. Therefore investigation was made to find out the socio-economic condition under which the poultry farmers live and practicing scientific poultry farming. Altogether 8 numbers of socio-economic variables were chosen for investigation findings are presented herewith.

**1) Age**

Age of the the respondent very often determines the extents of involvement and use of modern technologies for the enterprises he is undertaking. It is commonly agreed that younger farmer are more exposed & using modern technologies particularly on poultry farming. Age distribution of the respondent under taking poultry farming is presented in table - 1. 1.

**2. Caste**

distribution of the respondents undertaking scientific poultry farming is appeared in table -1. 2 In odisha culture, with advanced technologies and profitability of the enterprise, poultry farming is now being taken by all caste people. Poultry

farming is also considered as one of the potential enterprise for self-employment. Caste.

Table-1. 2 Caste distribution of respondents(n=90)

Sl. No.	Caste	Frequency	Percentage
1.	GENERAL	28	31.11
2.	O. B. C	50	50
3.	S. C	12	13.33

It is revealed from the table that majority the poultry growers were belonging to *other backward caste* (50%) followed by general caste people (31.11%). But the study indicates, that only 25% respondent was doing scientific poultry farming. Since scientific poultry farming requires Land, which all management practice, more investment scheduled caste people are not offering to that extent and could not practicing poultry farming. But the study as a whole indicates that poultry family considered as a traditional caste occupation for which majority of the other backward caste people were doing scientific poultry farming.

Table-1. 3 Educational status of poultry farmers (n=90)

Sl. No.	Education Level	Frequency	Percentage
1.	Illiterate	7	7.77
2.	Up to primary	10	11.11
3.	Primary to high school	53	58.88
4.	Above high school	20	22.22

Table-3 indicates that a majority of 58.88% of the poultry growers were educated at high school and above level. This clearly indicates that poultry farmers were better educated. It is an established fact that scientific poultry farming requires sophisticated technologies particularly with management, feeding management and disease control for which farmers having low educational status could not able to practice necessary recommendation. This is the main reason for which better-educated people were practicing scientific poultry farming.

### 3. Farm size

### 3. Education

Education is linked with the psychological and mental ability of an individual to decide,

Understand as well as new ideas, and put them into action. It also regulates, exposure to scientific poultry farming acquiring necessary skill analyzing marketing opponent, for running enterprise in profitable way. Attempt made to access the educational level of the scientific poultry farming is presented in table -1.3

Size of holding of an individual determines varieties enterprise undertaken. Any individual need food security first then go for economic security and lastly require Social status when he is self sufficient in food as well as financial status. It is expected that unless a farmer has a competitively more farm area, he will not go for poultry farming by sparing some cultivable land for install a poultry farm. Therefore, attempt was made to know the holding size of the respondents. Information so collected were presented in table-1.4

**Table-1. 4 Size of holding the responding (n=90)**

Sl. No.	Size	Frequency	Percentage
1.	Up to 1 hac	56	62. 22
2.	1 to 2 hac	30	33. 33
3.	> 2 hac	04	4. 44

It is observed from the table that majority of the poultry farmers were small farmer and marginal farmers. Only 4% of the respondents were big farmers having holding size more than 2 hac. It can be concluded here that, poultry farming was

definitely a profitable enterprise for which a marginal farmers and small farmer were doing poultry farming for maintaining their their livelihood.

**5. Annual income**

Scientific poultry farming requires good investment. It requires at least a land of Sizeable area. Release of quality chicks and poultry managements and at the last not the least disease managements. There is every possibilities of proliferate by the miscreant for which regular

watch and ward is necessary so unless a farmer is economically sound he will not go for scientific poultry farming. Information were also collected to know the income position of poultry farmers which are presented 1. 5

Table – 1. 5 annual income of the respondent. (90)

Sl. No.	Income	Frequency	Percentage
1.	Below Rs. 10, 000	10	11. 11
2.	Rs. 10, 000-Rs. 20, 000	22	24. 44
3.	Rs. 20, 000-Rs. 30, 000	12	13. 33
4.	Rs. 30, 000-Rs. 40, 000	42	46. 66
5.	>Rs. 40, 000	4	4. 44

A look into the table revealed that majority of the respondent of the poultry growers having income in between Rs. 30, 000 to Rs. 40, 000. A negligible of 4% Of the respondents doing poultry farming having annual income more than Rs. 40, 000 it is also interesting to mention here that 24. 44% the respondents doing poultry farming with annual income in between Rs. 10, 000 to Rs. 20, 000, this indicates that poultry farming is not restricted with annual income of the farmer. The energetic educated having better perception were doing poultry farming as a vocation for maintaining their livelihood and availing credit facilities from

different credit institution operation in their areas.

**6. Material possession**

Possession of materials determines the progressiveness of a farmer. It is an assumption that farmer having more possession of materials are doing commercial farming. Attempt was also made to study the material possession by sample respondent through open-ended questions, which were analyzed and presented in table-1. 6.

Table -1. 6 possession of materials by the respondents(n=90)

Sl. No.	Materials	Possession		Uses	
		F	%	F	%

1.	TV	90	100	90	100
2.	Radio	60	66.66	60	100
3.	Motor cycle	80	88.88	70	77.77
4.	Tractor	20	22.22	12	13.33
5.	Power tiller	12	13.33	8	8.88
6.	Iron plough	34	34	15	16.66

This is observed from the table that all the respondents were having T. V followed by motorcycle iron plough and television. They were also using regularly. This clearly that indicates that the people are listening to radio and watching T. V for enriching their knowledge with day to day development in poultry farming. As high as 88.88% respondent were having motorcycle, which they use regularly for arrangement of inputs and contacting businessman and market for disposal of harvested poultry at reasonable price. It is therefore concluded that scientific poultry farming regulates regular use of mass media particularly T. V and radio for informing themselves with up-to-date knowledge and good mobility for arrangement of different input as well

Table – 1. 7 Social participation of respondents (n=90)

Sl. No.	Organization	Member (%)	Office bearer (%)	Participat ion
				%
1	Panchayat	12	8	20
2	Co-operative society	5	12	17
3	Labour organization	3	11	14
4	Sociocultural organization	5	6	11
5	Poultry association	40	15	55

As revealed from the table that almost all respondent was number of either of the organization mentioned in the table. Among them majority respondents were the member of village panchayat and poultry association followed by social-cultural organization, co-operative society, labour organization with their capacity as member and office-bearer majority of respondent participated regularly in meetings, conferences and other activities done for the welfare of their community.

as disposal of poultry.

### 7. Social participation

The extent of involvement in variety activities tells about the progressiveness and social position of a person in the society. A man with mass social contact is suppose to be exposed to up to date information being involved in many organization and program which in turn lead to motivation from the use of change practice. Further attempt was made to know the involvement of partner in different organization existing in their situation. Responses obtained are presented in Table-1. 7.

### 8. Extension contact

There is a well-established extension network for the development of poultry farming in the state. Central institute were also transforming the technology particularly in Cuttack district though the scientist belonging to main institute as well as KVKs. There is no doubt that a person doing scientific poultry farming will get required information at any time if he desires. Attempt was also made in the study to access the extent of



change agents, contact that is appeared in table -1. 8.

**Table 1. 8 Extent of contact with change agents (n=90)**

Sl. No.	Change agents	Frequency									
		Weekly		Fortnightly		Monthly		Yearly		Never	
		F	%	F	%	F	%	F	%	F	%
1.	Field level extension workers	7	7.77	5	5.55	4	4.44	5	5.5	6	6.6
2.	Block level official	35	38.8	5	5.55	15	16.6	6	6.6	4	4.4
3.	District level official	4	4.44	6	6.66	5	5.55	3	3.3	2	.22
4.	State level official	0	0	0	0	0	0	4	4.4	0	0

It is observed from the table that only 38.88% respondents are weekly contacted with block level official and 7.77% field level extension functionaries. State level officials were not visited. As per the data obtained from the table, it is concluded that the poultry farmers were very low level contact with extension agencies so far poultry farming is concerned.

#### Objective-2

#### To find out the existing scientific technologies and assets relating to poultry farming

Scientific poultry farm involved a lot of complex technologies. Poultry farming requires stepwise activities like brooding management, litter management, feeding management, disease control and harvesting at appropriate period. An individual going for poultry farming has to be sufficiently equipped with detailed knowledge and skills involved in doing different activities as

mentioned above. Unless a poultry farmer acquired sufficient knowledge and equipped with skills, he will not manage the farm in perfect way. Poultry farming also require materials like brooder house, brooder guard, floor space, floor space etc. Attempt was made in the study to find out the existing scientific technologies and assets relating to poultry. Different aspects of scientific technologies and assets relating to poultry.

#### 1. chicks

Baby chicks is one of the important parameter for obtaining desired yield. The growth habit, resistant to disease and quality of chicken depends upon the quality of the baby chicks released to the poultry farm. At the same time choicable species affordable by price and mortality of the baby chicks during transportation are also considering for scientific poultry farming. Attempt made in the study to study the details of baby chicks which are presented in table 2.1

**Table 2. 1 Availability of baby chicks(n=90)**

Sl. No.	Baby chicks	Available		Not Available		Mean score	Rank
		F	%	F	%		
1.	Choicable species	60	66.66	30	33.33	2.04	I
2.	Required size of baby chicks	40	44.44	25	27.77	1.52	II
3.	Affordable price	30	33.33	32	35.55	1.45	III

4.	Less Mortality	10	11.11	18	20	0.54	IV
5.	Good quality	5	5.55	8	8.88	0.30	V

It is observed that from the table that around 66.66% of the respondents only opined for the availability of all the mentioned criteria that is choicable variety, required size of chicks, affordable price and good quality. Only 11.11% of the respondents opined less mortality of baby chicks which indicates that there is considerable mortality occur in between the source of purchase and releasing to the farm.

## 2.2 farm house management(n=90)

Sl no.	practices	Frequency	%	Rank
1.	Supplementary feeds in time	12	13.333	V
2.	Affordable price of feeds	18	20	IV
3.	Putting poultry feeds	54	60	II
4.	Use of litters	62	68.88	I
5.	Medicines & materials for disease control	32	35.55	III

It is observed from the above table that the respondent expressed the availability of poultry feeds and to some extent affordable price of supplementary feeds. They also use the litter materials in the farm for better sanitation and better yield. They use saw dust and paddy husk for litter material. They are some extent concerned about the disease management practices properly.

## 2.3 Materials possessed by poultry farmer(n=90)

Sl. no.	materials	frequency	%age	Rank
1.	Brooder house	44	48.88	III
2.	Water space	54	60	I
3.	Floor space	52	57.77	II
4.	Brooder guard	28	31.11	IV

## 2. Poultry farmhouse Management-

Farm house management plays avital role for the better production. It is an important aspect in poultry farming. It requires adding of litter material for better growth of the baby chicks. Putting supplementary feeds in time, then control of the disease by application of the medicines in right time interval.

## 3. Materials

Poultry farming require different materials such as brooder house materials, floor space, brooder guard, hovers, drinker, feeders. For getting good quality baby chicks one can go for own breeding house.

**4. Advisory services**

Transfer of poultry technology is another important dimension which educate the farmer with up to date knowledge, skill and change their behaviour. It also results in acceptance of improved technologies by the grower, which in turn increase

the production and productivity. All these require adequate extension support from the organisation in the poultry production. Advisory services must be available adequately from the grower perspectives. In finding the availability of advisory services by the poultry growers, the responses so obtained are presented in table 2. 4

Table2. 4 Availability of advisory services(n=90)

Sl no.	Activities	frequency	%age	Rank
1.	Training facility	12	13. 33	III
2.	Demonstration	18	20	II
3.	Other extension activities	6	6. 66	IV
4.	Visit of veterinary personnel	20	22. 22	I
5.	Supply of literature	2	2. 22	V
6.	Exposure visit	3	3. 33	VI

It is observed from the table that the advisory services are not sufficiently available to the poultry farmer. However visit of veterinary demonstration, training facility are some extent available. Supply of literature were not adequately distributed to poultry farmer hich they requires day-to-day use andact as reference during future use. So the study as a whole indicates that poor advisory services for updating knowledge and skill of the farmers in scientific poultry management practices.

**Objective-3**

**To examine the attitude, knowledge, extent of adoption of people towards different practices under scientific management of poultry farming.**

Poultry farming is usually considered as an profitable and income generating enterprise for the rural people. There is also growing demand of poultry with good price which will not be saturated in near future. To make the enterprise a profitable business, it is essential that a farmer should know the recent development in poultry-farming and acquired all the necessary skills involved in its management. Possession of

awareness i. e knowledge is always associated with acceptance of technology. Change of attitude for acceptance of improved technology is also eqally responsible for scientific poultry farming. All these require good extension approach for transfer of technology and create favourable atmosphere in farmers situation. Unless the growers change his behaviour and equipped with adequate knowledge along with skills adoption of improved practice will not result much. Keeping these in view, attempt was made study to examine the attitude, awareness, adoption of poultry farmer about different practices on scientific management of poultry farming. All the pertinent production parameters i. e land requirement for farm, litter management, brooder house management, water management, feeding , disease management , harvesting and post harvest management.

- 1) knowledge about farm house requirement-Scientific poultry farming requires a feasible farm area for better production. Brooderhouse should be draft free and rain proof and protected against predators. Good ventilation also a comfortable environment without draft. water maintained 50 linearcm and height of waterers should be 2. 5cm. Brooder guard length is 1. 05-1. 5m.

Table no. 3. 1 knowledge about farm house management(n=90)

Sl no.	statements	frequency	%age	rank
1	Ideal brooderhouse	15	16. 66	IV
2	Brooder guard1. 05-1. 5m	28	31. 11	II
3	Water space50linearcm	64	71. 11	I
4	Litter depth 5cm	20	22. 22	III

As revealed in the table, it is observed that poultry farmers had a better knowledge about farm house management. They were lacking little in maintaining ideal brooder house management. Whatever knowledge the poultry farmers acquired, it is always advisable that the poultry growers should acquire detail knowledge about management of farmhouse since it depends on the growth of the chicks.

2) Knowledge about poultry species

Lots of research have been conducted on breeding of poultry. Number of species have been developed both exotic species. different species is recommended for better yield.

Table no. 3. 2 knowledge about poultry species(n=90)

Sl no.	statements	frequency	% age	rank
1.	Whiteleghorn	3	3. 33	III
2.	Broiler	80	88. 88	I
3.	Australian variety	2	2. 22	IV
4.	Desi variety	5	5. 55	II

It is observed from the table that the poultry growers have better knowledge about the species grown in tehe farm. The demand of broiler is more as compared to the other varieties. It generally gives maximum yield in a very shorter time period.

3) knowledge about feeding management

Chicken feeding is a highly perfected science that ensures a maximum intake of energy for growth and fat production. High quality and well-balanced protein sources produce a maximum amount of muscle, organ, skin, and feather growth. The

essential minerals produce bones and eggs, 3 to 4 percent of the live bird being composed of minerals and 10 percent of the egg. Calcium, phosphorus, sodium, chlorine, potassium, sulfur, manganese, iron, copper, cobalt, magnesium, and zinc are all required. Vitamins A, C, D, E and K and all 12 of the B vitamins are also required. Water is essential, and antibiotics are almost universally used to stimulate appetite, control harmful bacteria, and prevent disease. Modern rations produce a pound of broiler on about 2 pounds (0. 9 kg) of feed and a dozen eggs from 4. 5 pounds (2 kg) of feed.

Table no. 3. 3knowledge about feeding management (n=90)

Sl. no	Statements	frequency	%age	Rank
1.	Corn&soyabean are common supplementary feed	10	11. 11	III
2.	Feeding daily with broken rice/millet/wheat	60	66. 66	I
3.	Use of prestarter-starter-finisher	45	50	II
4.	Supplement it with greens, sraps, grains, coarsesand/eggshell	5	5. 55	IV
5.	Clean drinkers and feeders everyday	3	3. 33	V
6.	Provides clean waters all the times	2	2. 22	VI
7.	Good results with mixing with a little	0	0	VII

	EM(effective micro-organism)			
--	------------------------------	--	--	--

It is observed from the table that the farmers possessed good knowledge about feeding management except mixing effective micro-organism. Similarly adding corn and soyabean in equal proportion is also attract chickens for supplementary feeding. First pre-starter doses were applied then after 7 days starter dose application and at end they were applied finisher dose. Since the , the poultry growers were not adequate knowledge about these aspects, the study recommended that various activities are to be undertaken by the extension system to fully equip the poultry growers with sufficient knowledge about feeding management.

Poultry are quite susceptible to a number of diseases; some of the more common are fowl typhoid, pullorum, fowl cholera, chronic respiratory disease, infectious sinusitis, infectious coryza, avian infectious hepatitis, infectious synovitis, bluecomb, Newcastle disease, fowl pox, avian leukosis complex, coccidiosis, blackhead, infectious laryngotracheitis, infectious bronchitis, and erysipelas. Strict sanitary precautions, the intelligent use of antibiotics and vaccines, and the widespread use of cages for layers and confinement rearing for broilers have made it possible to effect satisfactory disease control. Parasitic diseases of poultry, including hexamitiasis of turkeys, are caused by roundworms, tapeworms, lice, and mites. Again, modern methods of sanitation, prevention, and treatment provide excellent control.

4. Knowledge about Poultry Disease Management

Table no. 3. 4 knowledge about disease management(n=90)

Sl. No.	Statements	Frequency	%age	Rank
1.	Advice at first sign of disease of flock	50	55. 55	II
2.	Removal of dead bird immediately. burying/burning	85	94. 44	I
3.	Vaccination regime below is recommended for commercial chicks	34	37. 77	III
4.	Provide new litter, install& fill the feeders & drinkers	12	13. 33	IV
5.	Disinfect usinglime wash.	5	5. 55	VI
6.	Using ITKfor coccidiocis	6	6. 66	V

It is observed from the table that the poultry growers had better knowledge about attack of different diseases, but little lacking in doing all the remedial measures. 90%of the respondent remove the dead birds at the first sign of the disease. Few people knows about the itk for the disease coccidiosis and crd . The study therefore concluded that the farmers should possess sufficient knowledge in disease management and more specifically with preventive measures.

Attitude of Respondents towards scientific poultry farming(n=90)

Though poultry farming is considered as profitable enterprise, it largely depends on the attitude of the person concerned to take up the enterprise. It is a tedious job in which a person has to involve intensively and do a lot of operations even he has to maintain very closely and provide



utmost watch and ward in both day and night of the farm. Therefore a farmer has to develop a strong attitude towards poultry farming before going for

scientific poultry farming. Attempt was also made in the study to assess the attitude of growers towards scientific poultry farming

Table 3. 5 Attitude or reaction of respondent towards scientific poultry farming(n=90)

Sl No.	Statement	Frequency	%age	Rank
1.	Poultry will be managed by woman&children	0	0	IX
2.	Compositepoultry-layer/broiler is moreprofitable	10	11. 11	VIII
3.	Family labour is properly utilized	15	16. 66	VII
4.	Improved B. . P breeds are more economic than indigenous	74	82. 22	II
5.	Scientific poultry farming is costly	80	88. 88	I
6.	Backyard poultry is feasible in rural condition	65	72. 22	III
7.	Good demand of poultry in locality	56	62. 22	IV
8.	Technology are not easily available	20	22. 22	VI
9.	No problem in marketing	54	60	V

It is observed from the table that the poultry growers have favourable attitude towards scientific poultry farming, but it is costly. Since the study conducted in Cuttack areas were there good marketing facility at different places. Moreover Regionalcentre of central avian research institute is established in these areas and transferring technical know-how to the grower regularly, since technologies, easily transferred input readily available, heavy demand of Broiler and availability of suitable land, naturally an individual will develop strong attitude towards scientific poultry management practices.

#### Adoption of Scientific poultry Farming

Adoption of technology is the last item of extension approach. If the individual changes his behaviour, acquire sufficient knowledge and not adopt the technology, it will be a great loss to the extension system. Lot of efforts were taken by the state govt. To make the state self sufficient in poultry production. Attempt was also made in the study to assess the adoption level of respondents towards scientific poultry farming. Information in this regard were analyzed and presented in the following table.

Table3. 6Adoption level of respondents towards scientific poultry farming(n=90)

Sl. No.	Statements	Frequency	%age	Rank
1.	Supplementary feeding	15	16.66	VI
2.	Proper care of disease attack	25	27.77	V
3.	Maintain prestarter-starter-finisher doses	75	83.33	I
4.	Feeders and waterers provide	10	11.11	VII
5.	Litter materials provide	45	50	III
6.	Vaccination against Ranikhet disease	42	46.66	IV
7.	Harvesting at proper stage	55	61.11	II

It is observed from the table that almost half of the poultry growers maintain the prestarter-starter and finisher dose for better production followed by harvesting at proper stage i. e within 45 days. They provide required amount of litter material and change it time to time for better results. They are also aware about the disease control and vaccination.

**Objective-4**

To analyze various constraints relating to scientific poultry farming.

So far Odisha has not been able to exploit her potential in poultry farming. Like other enterprises poultry is associated with a number of constraints at different levels. Here the investigator has tried to find out all those constraints perceived by the farmers, as important problems, which inhibit them from taking poultry farming and also results in discontinuation of practice by growers in later stages. This finding may go a long way in helping the researchers, policy makers and implementing agencies in their future work.

These problems are broadly classified into.

- 1) production constraints
- 2) Technological constraints
- 3) Financial constraints
- 4) Social constraints
- 5) Marketing constraints

**1. production constraints**

The constraints are described below. Unavailability for suitable land create a lot of problem for obtaining good poultry yield. Unavailability of baby chicks is the important aspect, which determines the yield. Untimely supply of chicks and other materials creates a problem to get desired yield. High cost of human labour or scarcity of labour also important which hampers in care of the poultry species. Lack of modern poultry equipments hampers in handling and transferring the chicks in an optimum scientific manner.

**Table 4. 1 Production constraints faced by respondents(n=90)**

Sl. no.	constraints	frequency	%	Rank
---------	-------------	-----------	---	------

1.	Unavailability of suitable land	24	26.66	II
2.	Unavailability of baby chicks	36	40	I
3.	Untimely supply of chicks & other materials	12	13.33	IV
4.	Unavailability of balanced poultry feed	16	17.77	III
5.	Scarcity & high cost of human labour	11	12.22	V
6.	Lack of modern poultry equipments	9	10	VI

It is clearly observed from the table that maximum number of respondents are in favour that there is un-availability of baby chicks followed by unavailability of suitable land. The respondent do not face much more problem in balanced feed and scarcity or high cost of human labour.

## 2. Technological constraints

Scientific poultry farming needs a detailed knowledge about poultry growing. The normal technological constraints are informed here.

Complexity of new technology may create various farmers to adopt it fully in a systematic manner. Inadequate and untimely technical advice by the staff create the poultry production hindrance to get optimum yield. High cost technology repels the poor farmers to adopt it fully in a scientific way. Unavailability of technology makes the poultry growers to know the way and technology of poultry farming scientifically to get a good yield of poultry. Unavailability of tools and equipments also creates problem in handling the baby chicks and other equipments required for poultry production are creating problem to obtain good response in poultry production.

Table no 4. 2 Technological constraints faced by respondents (n=90)

Sl. no.	Constraints	Frequency	% age	rank
1.	Complexity of new technology	35	38.88	I
2.	Untimely technical advice by staff	18	20	III
3.	High cost of technology	20	22.22	II
4.	Unavailability of tech.	7	7.77	V
5.	Unavailability of equipments, tools	10	11.11	IV

It is revealed from the table that maximum number of respondents are saying that they face more problem due to the complexity of new technology followed by high cost of technology. Unavailability of technology and unavailability of equipments are not the general problems.

## 3. Financial Constraints

It includes constraints faced by poultry farmers in getting credit. If credit is not available as per the

requirement in the time of need, it create problem for getting the optimum poultry yield due to improper care supported by poultry growers. Lengthy procedures for getting credit is a major hinderance for the poultry growers which ultimately lead to mental tension of poultry farmers creating direct or indirect influence on poultry production. High interest rate is also a constraint to take loan and get risk of returning it a huge amount in due time. Attempt made to know the economic

constraints faced by poultry growers, which were analyzed appeared in table 4. 3

Table no. 4. 3 Financial constraints faced by respondents(n=90)

Sl. no.	constraints	Frequency	%	rank
1.	Credit not available as per requirement	10	11. 11	IV
2.	Lengthy and cumbersome procedure for getting credit	42	46. 66	I
3.	Stringent recovery procedure	12	13. 33	III
4.	High interest rate	26	28. 88	II

It is revealed from the table that lengthy procedure for getting credit is the most important factor faced by poultry grower followed by High interest rate. As per the requirement , credit needed by the poultry grower may be a constraint, but stringent recovery is not aconstraint faced by poultry farmers. Therefore the study concludes thatlengthy procedure for getting credit should be made easier and also recovery of loan from the poultry growers should be made simpler to get free from financial burden in a great manner.

#### 4. Social constraints:

For diffusion and adoption of anew technology society plays an important role. Mis-conception about the technology among the villagers may upset the entire programme. But awareness on the advantages , of the technology and appositve attitude towards it enhance the rate of its adoption among the villagers. Attempt was made to know the social problems faced by fish growers and is appeared in the following table.

Table no. 4. 4 Social constraints faced by respondents(n=90)

Sl no.	Constraints	Frequency	%	Rank
1.	No social recognition	2	2. 22	III
2.	No family support	0	0	IV
3.	Strong religious&caste support	15	16. 66	II
4.	Groupism	30	33. 33	I

It is revealed that family support is always in the favour of poultry growers. Groupism is also a social constraint which creates problem to do anything or any work in asystematic way. Religious and family support are maximum with the poultry growers, because these are not serious problem in the case of its deficiencies.

Marketing of harvested poultry i. e chickens in proper time is very important. Constraints faced by poultry growers in marketing lead poultry farmers towards difficult in getting their in getting their income in full sense. Attempt was made to study constraints faced by respondents in marketing the chickens and which is prepared in table no. 4. 5

#### 5. Marketing Constraints:

Table 4. 5 Marketing constraints faced by respondents(n=90)

Sl. no.	Constraints	Frequency	%	Rank
1.	Lack of good marketing network	32	35.55	I
2.	Lack of transportation facilities	6	6.66	IV
3.	Low price in local market	26	28.88	II
4.	Poor market demand	8	8.88	III

It is revealed that lack of good marketing network is a major constraint followed by low price in local market. Lack of transport facility is not a major constraint as so faced by poultry growers.

**CONCLUSION:-**By practicing scientific method of poultry farming the farmers can able to cultivate best and innovative way of poultry farming in context of Odisha. We hope this must be a best suited model for coming generations.

#### BIBLIOGRAPHY

Ravindra, M. 2004 A study on knowledge adoption and perception of recommended poultry management practices among poultry farmers of Bangalore district. M. Sc(AG). Thesis. Univ. Agric. Sci. Bangalore.

Rangnekar D and Rangnekar S. (1996). Traditional poultry production system - A need for fresh look from rural development perspective. XX World's Poultry Congress, New Delhi, 2-5 Sept. , pp. 405-408.

Reddy, H. C. V1987. Attitudes and adoption Behaviour of farmers relating to watershed development programme in Bangalore district. M. Sc(AG) Thesis U. A. S Bangalore.

Tyagi, K. C and Sohal, T. S 1984 Ind. j Extn Edn. 20(3&4).

Saha D. (2003). Status of rural poultry production in North 24 Parganas district of West Bengal. M. V. Sc. Thesis, Division of Extension Education, IVRI, Izatnagar.

Singh D. (2000). Kadaknath the native fowl needs to be conserved. *Indian Farming*, March 1990, pp. 29-32.

Sasidhar P V K, Semmaran M, Majumdar S, Chander M A and Hema Tripathi. 2008. Factors

Influencing Adoption of Backyard Poultry by Farmers in India. *World Poultry Science Journal* 2: 315.

Ahire M C, Birari D and Kamble D K. 2007. Adoption of poultry management practices in Solapur, India. *The Asian Journal of Animal Science* 2(1/2): 55-58.

Nandi S, Sharma K, Pawan Kumar and Nandi D. 2007. Poultry farming: A rapidly growing profitable business. *poultry line*7(12):19-20

Nimje N R, Choudhari D P and Kulkarni V V. 1993. Knowledge and management of poultry by poultry entrepreneurs. *Maharashtra Journal of Extension Education* 12: 209-212.

Khandekar N. 2003. Future Development of Backyard poultry in India. *Poultry Year Book* pp73-76.

Sasidhar P V K, Semmaran M, Majumdar S, Chander M A and Hema Tripathi. 2008. Factors Influencing Adoption of Backyard Poultry by Farmers in India. *World Poultry Science Journal* 2: 315. **Khandait et al. 113**

Gayatri H R, Kemparaja and Narayanswamy B K. 1998. Role of women in small scale poultry production in rural India. *Scientific proceeding of Second Pan Commonwealth Veterinary Conference*, Vol. 1, Bangalore.

Subrahmanyam S. and C. A. Roy (2006) *Economics of Small Ruminant, Pigs and Backyard Poultry Production in Orissa*. Centre for Economics and Social Studies, Hyderabad Indo-Swiss Natural Resource Management Programme, Orissa (Livestock Delivery System), Bhubaneswar.



Rao K. R. and C. O. Reddy (2002) Financing Rural Poultry Production Activities in India. *NABARD Technical Digest* No. 6, National Bank for Agriculture and Rural Development, Mumbai.

Thorat, G. N. (2005) . An analysis of poultry entrepreneurs knowledge about poultry management practices. M. Sc (Agri. ) thesis, G. A. U. , Sardarkrushinagar.

Patel, G. R; Vyas, H. U. and Patel, K. F. (2002). Constraints faced by poultry farmers in

**B. Lenka , Instructor, Govt. Agro Polytechnic, Panposh, Rourkela**

**B. S. Behera, PhD Research Scholar, Dept. of Extension Education, OUAT, Bhubaneswar**

Vadodara adoption of improved poultry farming. *Rural India*; **65** (2 & 3) :39-40.

Nimbalkar, A. (1998). An Analytical study of poultry entrepreneurs with special references to production, productivity and management aspects. M. Sc (Agri. ) thesis (Unpublished ) M. P. K. V, Rahuri (M. S)

Amudha, S. and Veerabhadraiah, V(2000) . Perceived training needs and problems of farm women in poultry farming.

IJournals