STUDY ON CONSTRAINTS IN ADOPTION OF POULTRY FARMING IN KHEDA DISTRICT OF GUJARAT STATE

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ABSTRACT
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STUDY ON CONSTRAINTS IN ADOPTION OF POULTRY FARMING
IN KHEDA DISTRICT OF GUJARAT STATE

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In earlier time chicken were kept primarily as game birds. People were interested in fancy or exhibition type chicken. In India, scientific poultry keeping was first initiated and advocated by Christian missionaries. They introduced small flocks of improved breeds from their countries. The performance of these birds was better than local fowls. This attracted the attention of Government officials and it started with the establishment of Poultry Research Station at the Indian Veterinary Research Institute, Izatnagar, about fifty years back. A modest beginning towards commercial poultry farming was made during the first five year plan of the country. The annual egg production increased from 2880 million in 1960-61 to 17,500 million in 1988 and annual broiler production increased from 4 million in 1971 to 120 million in 1988. Today annual per-capita consumption of eggs is only 20, against 300 to 350 in some developed countries. This might be due to inadequate poultry production. The poultry keepers are faced many difficulties in adoption of poultry farming. The present
study entitled "Study on Constraints in Adoption of Poultry Farming in Kheda district of Gujarat State" was therefore carried out.

Objectives of the study
1. To study the socio-economic and psychological characteristics of the poultry farmers.
2. To determine the sources of information utilized by the poultry farmers.
3. To determine the level of adoption of the selected improved poultry farming practices by the poultry farmers.
4. To determine the relationship between socio-economic and psychological characteristics of the poultry farmers and the overall adoption of selected improved poultry farming practices.
5. To study the constraints in adoption of poultry farming as perceived by the poultry farmers.
6. To ascertain the suggestions of the poultry farmers to overcome the constraints in adoption of poultry farming.

Methodology
The present study was carried out in Kheda district of Gujarat State, which is located in middle of Gujarat (Charotar area) State. Kheda district is spread over in ten talukas, all talukas were selected for the present study. The total population of poultry farms were 118 in the Kheda
district. Out of them 80 respondents were selected by random sampling with proportional allocation procedure for the present investigation. All the selected poultry farmers were personally interviewed.

The tool of the study was interview schedule which was administered to the respondents by the investigator himself. The socio-economic and psychological characteristics of the poultry farmers, sources of information utilized by the poultry farmers, constraints in adoption of poultry farming and suggestions of the poultry farmers were studied and presented in terms of frequency and percentage. Level of adoption was measured by mean (\( \bar{X} \)) and standard deviation (S.D.). For testing the relationship the chi-square (\( X^2 \)) test and contingency coefficient value was applied.

Major findings

1. Majority of the respondents belonged to the middle age and higher caste, whereas one half of the respondents were secondary level of education.

2. Majority of the respondents had farming occupation with poultry farming.

3. Nearly more than one half of the respondents had large size and nuclear type of family.

4. Slightly more than one half of the poultry farmers were having membership in one organisation.
5. One half of the poultry farmers were owning up to 5,000 birds and nearly more than one third of poultry farmers were medium size of land holdings.

6. Majority of the poultry farmers were having medium socio-economic status.

7. Majority of the poultry farmers had medium level of economic motivation, scientific orientation and risk preference.

8. Among different sources and media of information, formal sources were most accessible sources for poultry farmers.

9. As regards to overall adoption two thirds (66.25 per cent) of the respondents were found in medium level of adoption, followed by 18.75 per cent and 15.00 per cent in high and low level of adoption categories.

10. Among all the constraints in poultry farming high cost of feed, high charge of electricity, difficulty in getting electric power supply, difficulty in getting loan, non-availability of inputs and risk and uncertainty were the major constraints reported by majority of the poultry farmers.

11. Majority of the respondents had suggested quick and timely supply of feed with reasonable price to the poultry farmers directly from factory, long term credit facilities with more number of instalments should be provided, quick and timely finance should be provided
to the poultry keepers as per requirements from the bank and charge of electricity should be reasonable.

12. Among various socio-economic and psychological characteristics, age, education, social participation, land holding, socio-economic status, number of birds and scientific orientation were found significant relationship, indicating that there were significant association with overall adoption of selected improved poultry farming practices.
CERTIFICATE

This is to certify that the thesis entitled "Study on constraints in adoption of poultry farming in Kheda district of Gujarat State" submitted by Shri Hematlal Bavanji Gardharia in partial fulfilment of the requirements for the degree of Master of Science (Agriculture) in the subject of Extension Education of the Gujarat Agricultural University is a record of bonafide research work carried out by him under my guidance and supervision and the thesis has not previously formed the basis for the award of any degree, diploma or other similar title.

ANAND
Date: December 7, 1989.

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A special reference is being made to the poultry farmer respondents who rendered co-operation regarding supply of required information.

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Anand, December 7, 1989. (H.B. Gardharia)
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INTRODUCTION
CHAPTER I

INTRODUCTION

The term poultry refers to the birds which can be raised under domestication to serve as an economic use, which are reared for their flesh (meat) eggs or feathers and includes bonndoor fowls or "chickens", ducks, geese, turkeys, guinea-fowls, pigeons, pea-fowls, quails and pheasants. Most of the poultry population in India consists of chickens raised both for meat and eggs. In earlier time chickens were kept primarily as game birds. People were interested in fancy or exhibition type chickens.

In India, scientific poultry keeping was first initiated and advocated by Christian missionaries. They introduced small flocks of improved breeds from their countries. The performance of these birds was certainly better than local (Deshi) fowls. This attracted the attention of Government officials and motivated them to establish several model poultry farms in various parts of the country. It started with the establishment of Poultry Research Station at the Indian Veterinary Research Institute, Izatnagar, about fifty years back. The institute undertook fundamental research on important problems relating to poultry keeping and also initiated training schemes. A number of research and extension organisations were later set up in all the states. During the second World War, the demand for
eggs and meats increased considerably and provided a great
impetus for the development of the industry. Several large
farms with improved breeds were speedily established. These
farms eventually contributed to the raising of nucleus stock
of improved birds.

A modest beginning towards commercial poultry farming
was made during the first five year plan of the country.
Pilot investigations conducted by the Indian Council of
Agricultural Research on large scale rearing of chicks,
intensive system of poultry farming and distribution of
compounded poultry feeds gave encouraging results.

During subsequent plan periods various national and
international agencies like Applied Nutrition Programme,
United States Agency for International Development, United
Nations Development Programme, Small Farmer's Development
Agency etc, helped to a great extent the poultry development
programme in India.

Agricultural Universities also played a significant
role by providing well trained personnel to mass poultry
extension and research work during this period. Many Univer-
sities have created full fledged department of poultry
science. These Universities are busy in solving many practical
problems related to poultry farming adoption through research.

The annual per capita consumption of eggs in India
is one of the lowest in the world. In India it is only 20 eggs
against 300 to 350 eggs in some developed countries and per
capita consumption of broilers (meat) is just about 250 grams against 32 broilers in Gulf, 26 broilers in U.S.A. (Rao, 1989). India's poultry has galloped through the decade of seventies at an incredible pace. The annual egg production increased from 2880 million in 1960-61, 16,300 million in 1984-85 to 17,500 million in 1988. The annual growth rate in layers is around 7 to 10 per cent (Rao, 1989). The annual broiler production registered an increase from 4 million in 1971, 30 million in 1982 (Pathak, 1984), to about 120 million in 1988 with the growth rate of 25 per cent (Rao, 1989).

The importance of poultry in the production of human food and income is frequently overlooked. Poultry population can be increased more rapidly than the numbers of other farm animals and therefore, offers a good opportunity for rapid development. The rapidly increasing demand for poultry products and the stimulus provided by Government development plans have combined to attract in recent years more and more persons both in villages and towns towards poultry husbandry. So, today poultry farming has become like a well organized industry and at present it contributes considerably to our national economy. Poultry also serves as an important nutritional source for human protein.

Since last two decades poultry business has gained the status of chief profitable enterprise instead of remaining subsidiary business. The Gujarat State has made a rapid progress in the field of poultry production within remarkable
period of decade only. Further, there was 18.48 million egg production during the year 1985-86 (Anonymous, 1987). During this span so many leading poultry pockets emerged in the district of Kheda. The department of Animal Husbandry, Gujarat State, Ahmedabad is engaged in providing every facilities in different aspects of the training, technical guidance, practical education, diagnostic facilities through its about nineteen projects and blocks, two main state owned hatcheries with two replacement hatcheries, in each district of Gujarat State.

This rapid growth was possible as a result of many factors working together viz., widespread adoption of modern methods of poultry farming, availability of inputs assured and better returns from poultry as compared to other avenues in agriculture and animal husbandry, poultry's social role as a tool to overcome poverty and malnutrition.

Adoption is the mental process through which an individual passes from first hearing about an innovation to final adoption. People generally do not adopt a new practice or an idea as soon as they hear about it. They may wait several months or even years, before trying the idea for the first time and still longer for permanent adoption.

There are several farmers who have adopted the poultry farming in a very short period after its first hearing, whereas there are some, who have taken years together to reach the present stage. It may be observed that several
personal factors as well as other factors might have influenced the adoption of poultry farming.

The degree or rate of adoption might also be the result of the influence of their personal, socio-economic and psychological characteristics. Keeping in view the said facts the influence of socio-economic and psychological characteristics of the poultry farmers, constraints in adoption of poultry farming and sources of information utilized by the poultry farmers has been undertaken for the present study.

1.1 STATEMENT OF THE PROBLEM

Poultry keeping is an ancient business in India, but scientific upkeep of poultry is very recent. It has got economic, nutritional, industrial, recreational and research importance. It also plays an important role in the economic life of the poultry keepers.

Beside techno-economic factors, socio-cultural variables such as complexities of orthodoxy, education, caste and religion also influence the acceptance and rejection of poultry as economic enterprise. The study of the relationship between these variables and the acceptance of poultry enterprise would provide varied information to organise this enterprise on a sound footing. Acceptance of new technology has not been easy on the part of the people particularly in the rural areas. In the same proportion it
has been difficult for the extension workers to accelerate the process of poultry adoption. Traditions, superstitions and false convictions about poultry farming and its consumption are deep rooted in the rural culture and to the some extent. People should not only accept poultry farming but also consume the poultry products, is a challenge. To meet this situation a fuller and deeper understanding of the people in relation to poultry farming seems imperative.

In India, crop production is less in comparison to level of increasing population, so additional food requirement is necessary to balance both the side. Poultry farming and fisheries can give this additional food for population of India. It is very important to improve both the faculties. We have to increase the number of poultry farms as well as fisheries. It is possible when more and more number of people who adopt the scientific poultry farming. It is possible when the adoption become fast and quick.

The adoption of scientific poultry is required to be made faster. Hence, the scientific studies regarding the constraints in adoption of poultry farming, the adopters' characteristics, their economic status, the suggestion to overcome the constraints in adoption of poultry farming are worth to undertake.
In view of the above circumstances, the present investigation on "Study on constraints in adoption of poultry farming" in Kheda district of Gujarat State, has been considered worth by the investigator.

1.2 OBJECTIVES OF THE STUDY

The overall objective of this investigation was to "Study the constraints in adoption of poultry farming in Kheda district". The specific objectives of the study were as under:

1. To study the socio-economic and psychological characteristics of the poultry farmers.
2. To determine the sources of information utilized by the poultry farmers.
3. To determine the level of adoption of the selected improved poultry farming practices by the poultry farmers.
4. To determine the relationship between socio-economic and psychological characteristics of the poultry farmers and the overall adoption of selected improved poultry farming practices.
5. To study the constraints in adoption of poultry farming as perceived by the poultry farmers.
6. To ascertain the suggestions of the poultry farmers to overcome the constraints in adoption of poultry farming.
1.3 HYPOTHESES

The hypotheses formulated for the study in the light of the objectives were as under:

1. There is no difference in socio-economic and psychological characteristics of the poultry farmers.

2. Poultry Training-Research Station is most utilized source of information than the other sources and media.

3. There is low level of adoption of selected improved poultry farming practices by the poultry farmers.

4. There is no constraints in adoption of poultry farming faced by the poultry farmers.

5. There is no association between poultry farmers' level of adoption of selected improved poultry farming practices and their socio-economic characteristics, viz., age, caste, education, occupation, family type and size, social participation, land holding, number of poultry birds, and socio-economic status.

6. There is no association between poultry farmers' level of adoption of selected improved poultry farming practices and their psychological characteristics, viz., economic motivation, scientific orientation and risk preference.

1.4 SCOPE OF THE STUDY

The statement of the objectives mentioned first would indicate the practical utility of this study. The study would focus on the constraints faced by the poultry farmers in
adoption of poultry farming. An attempt was also made in this study to know the level of adoption of selected improved poultry farming practices by the poultry farmers as well as suggestions to overcome the constraints in adoption of poultry farming as perceived by the poultry farmers.

Finally, the study would bring out certain factors, viz., socio-economic and psychological characteristics, sources of information utilized, level of adoption of selected improved poultry farming practices, constraints in adoption of poultry farming and suggestions to overcome the constraints as perceived by the poultry farmers.

The findings of this study will be proved beneficial to the planners, administrators, extension workers, teachers and students of extension education who are directly or indirectly related with rural development programmes and especially poultry development programmes. The findings will also be greatly useful to the poultry keepers as well as voluntary agencies working for the development of poultry industry.

1.5 Working Definition of the Terms Used

The working definition of the terms as they were employed in this study are as under:
1. **Adoption**: Adoption is a decision to continue full use of an innovation. The adoption process is a mental process, through which an individual passes from first hearing of an innovation to final adoption.

2. **Improved practices**: Scientifically derived practices recommended to the poultry farmers for adoption of poultry farming.

3. **Constraints**: This refers to the item of difficulties faced by the poultry farmers in adoption of poultry farming.

4. **Economic motivation**: Economic motive, according to Good (1959) is a drive that is based on consideration of wealth getting or wealth using as a means of achieving status or survival.

   This means that an individual is oriented towards achievement of the maximum economic ends, e.g. maximization of profit in poultry farming.

5. **Scientific orientation**: It is characterized by a belief in science and scientific approaches to solve problems of poultry farming.

6. **Risk preference**: This refers to the degree to which farmers were oriented towards risk and uncertainty and have a courage to face the problems in adoption of poultry farming.
1.6 LIMITATIONS OF THE STUDY

There were many aspects of the poultry farming to be studied. Due to limited time and resources available with the single investigator, only a few of them were taken up for the present study e.g. socio-economic and psychological characteristics, sources of information utilized, level of adoption of selected improved poultry farming practices, constraints in adoption of poultry farming and suggestions to overcome these constraints as perceived by the poultry farmers. The following were specific limitations of the study.

1. The area of the present study was restricted to only one district i.e. Kheda district of the Gujarat State.
2. Only 80 respondents were selected from 10 talukas of the Kheda district.
3. The findings reported in this study are based on the orally expressed opinions of the respondents.
REVIEW OF LITERATURE
CHAPTER - II
REVIEW OF RELATED LITERATURE

The main purpose of this chapter is to present some of the findings of research studies, which are related to the present study. An attempt is therefore made to present a brief account of some studies related to the present investigation which are carried out in our country.

A brief account of related studies has been furnished under the following heads:

2.1 Socio-economic and psychological characteristics of the poultry farmers.
2.2 Sources of information utilized by the poultry farmers.
2.3 The level of adoption of selected improved poultry farming practices.
2.4 Constraints in adoption of poultry farming.

2.1 SOCIO-ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF THE POULTRY FARMERS

2.1.1 Age:

The age has been studied by different research workers. Some studies related to this aspect clearly indicate that the age is an important characteristic contributing in adoption of poultry farming.
Gupta (1966) stated that young and middle aged persons had adopted poultry farming more than older persons.

Varma (1966) reported in his study that age of the poultry farmers has a close relationship with the adoption of poultry farming occupation, whereas Gill and Sinha (1969) reported that age of the respondents did not seem to have any influence on the adoption of poultry farming.

Varma and Prasad (1971) reported that good number (45.00 per cent) of the poultry farmers were from middle age group. Similar findings were also reported by Khan (1973) and Jothiraj (1974).

Thumar et al. (1981) reported that the majority (74.00 per cent) of the respondents belonged to the middle age group.

Patel (1983) reported that slightly more than three fourths (76.00 per cent) of the poultry farmers belonged to middle age group.

Saiyad (1986) observed that the majority (73.33 per cent) of the respondents belonged to middle age group.

Choudhary et al. (1988) concluded that the age of the farmers was associated with level of adoption, whereas chi-square value (9.487) indicating significant relationship.
2.1.2 Caste:

Varma and Prasad (1971) observed that Muslim and Rajput caste-groups were more in number, who had adopted the poultry farming, next in the rank were schedule caste, Khatri, Kayasth and Christian etc.

Thumar et al. (1981) concluded that almost all the castes were involved in poultry farming but their degree of involvement differed from caste to caste.

Singh and Shriballabh (1971) reported that various castes and religions influenced the adoption of poultry farming. Similar finding was reported by Singh and Singhpal (1967).

Patel (1983) reported that good number of the poultry farmers (42.00 per cent) belonged to the intermediate caste.

Saiyad (1986) concluded that the majority of the poultry farmers (83.33 per cent) belonged to higher caste.

2.1.3 Education:

Education is the process of bringing desired changes in adoption. So, it is generally believed to have the effect on widening the mental horizons of a person and thereby prepares him to come forward in the society. The studies conducted revealed that the adoption of poultry farming has been found to be influenced by various level of education.
Bhatia (1966) reported that education was found to have direct bearing on the poultry farming adopters. The respondents having up to matric and above educational level, adopted poultry farming much more than that of illiterate and up to a middle level educated respondents.

Gupta (1966) reported that education of the respondents seemed to have played a great role in the adoption of poultry farming. Majority of the poultry raisers were educated up to middle class, matric and above matric.

Varma and Prasad (1971) concluded that educated persons were more prone for having poultry farming occupation.

Bhatia (1972) reported that increase in the educational level had a positive effect on the respondents with respect to poultry adoption.

Gill and Sinha (1969) found a positive correlation between the educational level of the poultry farmers and the adoption of poultry practices.

Jothiraj (1974) found positive relationship between the educational level and adoption of poultry farming practices. Similar findings were reported by Rogers (1962), Sharma (1961), Rahudkar (1962) and Joon et al. (1972).

Patel (1983) reported that more than one third (34.00 per cent) of poultry farmers were educated up to secondary level.
Saiyad (1986) reported that majority of the poultry farmers (55.00 per cent) were educated upto secondary level.

Malyadri (1989) reported that majority of the respondents (70.00 per cent) were educated upto intermediate level 30.00 per cent were illiterate.

Choudhary et al. (1988) concluded that the education of the farmers was associated with level of adoption, whereas chi-square value (9.375), indicating significant relationship.

2.1.4 Occupation:

As regard the occupation, Gupta (1966) reported that agriculturist and labour class adopted poultry farming in rural areas, whereas in the urban area, most of the poultry raisers belonged to service class people. Similar finding was reported by Bhatia (1966).

Varma and Prasad (1971) reported that majority of the poultry farmers were from rural areas and having occupation as agriculture and agricultural labourers.

Thumar et al. (1981) concluded that majority of the respondents had adopted poultry as a subsidiary occupation along with other main occupation like farming, service, labour work and business etc., whereas Gill and Sinha (1969) concluded that differences in occupation did not have any significant influence on the behaviour of the respondents.
Patel (1983) concluded that slightly more than one half of the poultry farmers had farming occupation with poultry farming.

Saiyad (1986) reported that the majority of the poultry farmers (81.67 per cent) were having farming occupation with poultry farming.

2.1.5 Family type and size:

Family type and the number of members in family is also a social characteristic which influences the adoption of poultry farming.

Gupta (1966) stated that more number of poultry adopters belonged to the nuclear families.

Thumar et al. (1981) concluded that the majority of the poultry farmers belonged to the joint family and more than fifty per cent of the poultry farmers belonged to the medium size of family.

Patel (1983) noted that majority of the poultry farmers had small size and nuclear type of family.

Saiyad (1986) reported that the majority of the poultry farmers had small size and nuclear type of family.

Malyadri (1989) reported that the average size of the poultry farmers family was 6.7 members.

Choudhary et al. (1988) concluded that the family size of the farmers was not associated with level of adoption, as the chi-square value (4.252) was non-significant.
2.1.6 Social participation:

Bhatia (1966) reported that persons with little social participation were higher adopters than those with higher social participation.

Varma (1966) concluded that participation in village panchayat and co-operatives, influenced the poultry adoption to a greater extent.

Gupta (1966) reported that the respondents with little social participation had adopted poultry farming more. This finding was in conformity with the findings of Varma and Prasad (1971).

Patel (1983) noted that majority of the poultry farmers were having membership in one organisation either in panchayat or co-operative society.

Saiyad (1986) reported that a good number of the poultry farmers (46.67 per cent) occupied membership in one organisation in the village.

2.1.7 Land holding:

Bertrand (1958), Reddy (1962), Sinha (1963) and Kaul (1964) reported that adopters of poultry farming had larger farm size. But Rao and Raheja (1959) and Sharma (1961) found that the size of the land holding of farmers did not affect to the poultry adoption.

Gupta (1966) also observed that those who did not possess land, had adopted poultry farming more than those who possessed land.
Narayanmurthy (1970), Satishchandra (1970) and Jothiraj (1974) have reported that increase in farm size influenced to the adoption of poultry farming.

Subramanian et al. (1978) reported that increase in farm size would follow with an increase in the extent of adoption of improved practices.

Patel (1983) reported that a good number of the poultry farmers (46.00 per cent) possessed small size of land holding.

Saiyad (1986) concluded that one half of the poultry farmers (50.00 per cent) possessed medium size of land holding.

Choudhary et al. (1988) reported that there was an association between size of land holding and level of adoption, whereas chi-square value (10.82) which was indicating significant relationship.

Malyadri (1989) reported that the 40.00 per cent of the respondents had small size of land, 37.50 per cent marginal size of land and 22.50 per cent of respondents were landless labourers.

2.1.8 Socio-economic status:

The socio-economic status of the person in society also influences the adoption of poultry farming.

Singh and Sinha (1970) reported that higher the socio-economic status, higher will be the poultry adoption.
Bhatia (1972) found a direct relationship between poultry adopters and their socio-economic status. The similar finding was reported by Singh and Singh Pal (1967). Patel (1983) reported that majority of poultry farmers belonged to medium socio-economic status. Saiyad (1986) concluded that majority of poultry farmers belonged to medium socio-economic status.

2.1.9 Number of poultry birds:

The number of poultry birds also influences the adoption of poultry farming.

Gill and Sinha (1969) reported that the number of poultry birds had a significant association with the adopters and drop-outs of poultry farming.

Poultry farmers owning up to 300 and 301 to 600 poultry birds who had 51 per cent and 15 per cent drop-outs respectively, as against only 7 per cent drop-outs who had more than 600 poultry birds.

2.1.10 Economic motivation:

Subramanian et al. (1978) found that the level of economic motivation of the respondents did not influence the extent of adoption of poultry farming.

Similar finding was reported by Subramanian et al. (1980).
Patel (1983) concluded that majority of poultry farmers had medium level of economic motivation.

Saiyad (1986) reported that more than three fourths of poultry farmers had medium level of economic motivation.

2.1.11 Scientific orientation:

Subramanian et al. (1976) reported that the extent of adoption of improved poultry farming practices increased with increasing in the level of scientific orientation, whereas Subramanian et al. (1980) reported nonsignificant relationship between the scientific orientation and adoption of poultry farming.

Patel (1983) concluded that majority of the poultry farmers had medium level of scientific orientation.

Saiyad (1986) found that majority of the poultry farmers had medium level of scientific orientation.

Patel (1985) reported that the majority (62.00 per cent) of the respondents were found to have medium level of scientific orientation, followed by 23.00 per cent of the respondents having high scientific orientation. Only 15.00 per cent of the respondents were having low scientific orientation.

2.1.12 Risk preference:

Subramanian et al. (1978) observed that the majority of the poultry farming practices were adopted with either high or medium risk preference and none with low risk.
preference, whereas Subramanian et al. (1980) found non-significant relationship between the risk preference and adoption of poultry farming practices.

Patel (1983) concluded that majority of the poultry farmers had medium level of risk preference.

Saiyad (1986) reported that majority of the poultry farmers had medium level of risk preference.

Patel (1985) concluded that more than three fourths (78.00 per cent) of the respondents were found in medium level of risk preference category, followed by 16.00 per cent and 6.00 per cent low and high risk preference category respectively.

2.2 SOURCES OF INFORMATION UTILIZED BY POULTRY FARMERS

The communication sources are important stimuli to the individual in the adoption process. It provides a link to transfer of technology between the diffusion of an innovation and its final adoption. Thus, adoption of innovation is a function of contact with the source of information. There are various sources of information from which the respondents can get information of poultry farming practices.

Joon et al. (1972) found that among the various sources of information utilized, the poultry keepers used the formal personal sources to a significantly greater extent than the non-poultry keepers.
Rao and Moulik (1966) concluded that personal type of formal sources play more important role at "awareness" "interest" and "trial" stages of adoption.

Subramanian et al. (1978) reported that among the major sources of information of improved poultry practices, formal sources stand first, followed by neighbourhood agencies/informal sources, mass media and commercial agencies.

Kamble and Shinde (1988) concluded that the personal/formal sources of information are mostly sought by farmers at different stages of adoption.

2.3 THE LEVEL OF ADOPTION OF SELECTED IMPROVED POULTRY FARMING PRACTICES

Subramanian et al. (1978) reported that practices, viz., maintaining improved strain, feeding and giving prophylactic vaccination were found to be adopted by almost all the respondents. The next practice adopted by almost all the poultry farmers (92.00 per cent) was the control of endoparasites. While practices viz., debeaking, record keeping and culling of the birds were adopted only by one third of the respondents.

Khan Ahmed and Somasundaram (1974) reported that almost all (93.12 per cent) respondents had adopted feed management practices of poultry farming.
Subramanian *et al.* (1978) reported that the culling of the birds practice was adopted by only one third of the respondents.

Bhatia (1966) reported that marketing and transport facilities had a direct relationship with the adoption of poultry farming.

Singh and Shriballabh (1971) reported that the record keeping practice was adopted by 44.40 per cent of the respondents.

Patel (1983) reported that two thirds of the poultry farmers (66.00 per cent) adopted the selected improved poultry farming practices at medium level of adoption.

Saiyad (1986) concluded that slightly more than three fourths of the poultry farmers (76.67 per cent) adopted the selected improved poultry farming practices at medium level of adoption.

2.4 CONSTRAINTS IN ADOPTION OF POULTRY FARMING

Ayyadurai and John Knight (1961) concluded that the lack of knowledge about institutional help, dislike among family members, risk and uncertainty, lack of finance and difficulty in getting loan were the major constraints reported by the majority of the poultry farmers. Similar findings have been reported by Joon *et al.* (1972).
Bhatia (1966) reported that the most important influencing factors in adoption of poultry farming practices were economic assistance, physical factors of transportation and marketing facilities.

Ravindra (1980) reported that the low prices for the outputs, high prices for the inputs, need for better veterinary help, extension services and inadequate resources were the major constraints of poultry farmers which were influencing to adoption of improved poultry farming practices.

Patel (1983) reported that "high cost of feed", "lack of finance", "lack of manpower to look after" and "difficult poultry farming system" were major constraints in adoption of poultry farming.

Saiyad (1986) observed that "higher price of feed", "inability of pay constant attention", "non-availability of labour", "non-availability of inputs", "difficulty in getting electric power supply", "difficulty in getting loan" and "lack of finance" were the major constraints in adoption of poultry farming.

Patel and Trivedi (1985) reported that "higher price of feed", "lack of finance", "lack of man power to look after", "difficult poultry farming system", "difficulty in getting electric power supply" and "non-availability of inputs" were major constraints in adoption of poultry farming.
Panda (1989) reported that the major constraints in the rapid development of poultry in some of the South Asian countries are increasing cost of feed, lack of suitable health care, facilities and lack of efficient marketing structure.
MATERIALS & METHODS
CHAPTER III
METHODOLOGY

The purpose of this chapter is to describe the methods and procedures used for measuring the dependent and independent variables, collection and analysis of data. Scientific study of any problem requires the investigator to adopt appropriate methods and procedures in order to reach at reliable, unbiased and specific conclusion. In this chapter investigator has described methodology indicating where and how the study was carried out. The methodology is described under following sections:

3.1 Plan of study
3.2 Area of study
3.3 Sample of the study
3.4 Construction of the interview schedule
3.5 Pre-testing of the interview schedule
3.6 Procedure followed for collection of data
3.7 Statistical framework for the analysis of data

3.1 PLAN OF STUDY

The present study was conducted to know the socio-economic and psychological characteristics, sources of information utilized by the poultry farmers, level of their adoption of selected improved poultry farming practices and constraints in adoption of poultry farming as well as the
suggestions of the poultry farmers to overcome the constraints in adoption of poultry farming. This study was conducted in Kheda district of Gujarat state. So far, no such work in this direction was scientifically done in this area under study. The review of some research studies and other related literature on this aspect in our country, inspired the investigator to take up such a study. After deep thinking on the subject and consultation with various individuals concerned with the problem, some more detail studies considered as important in present days, the plan of this study was finalised.

3.2 AREA OF STUDY

The present study was carried out in Kheda district of Gujarat state. The Gujarat state is located at the Western side of India. Kheda district is located in middle of Gujarat (Charotar area) state. The Southern side boundary of the district touches the river Mahi, while the Northern side boundary touches the Sabarkantha district. In West of Kheda district there is Ahmedabad district, while Panchmahals district is in Eastern side of this district. The major reason for selection of this district was that so far, no such type of work thoroughly done in this area previously.

There are ten talukas as per the revenue record of Kheda district. All talukas were selected for the present study.
3.3 SAMPLE OF THE STUDY

The list of poultry farmers of Kheda district was obtained from the Poultry Training-Research Station, Anand and Project Officer, Poultry Project Office, Nadiad, which is presented in Table 1.

TABLE 1

POPULATION OF POULTRY FARMS IN KHEDA DISTRICT

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Taluka</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anand</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>Nadiad</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Petlad</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Borsad</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Kapadwanj</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Balasinor</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Thasara</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Khambhat</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Matar</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Bahemdadab</td>
<td>2</td>
</tr>
</tbody>
</table>

| Total  | 118 |

Out of total population, 68 per cent i.e., 80 respondents were considered under present investigation. For selecting the respondents, the proportional allocation procedure was employed. The distribution of selected poultry farms according to total respondents in respective talukas is presented in Table 2 and Fig. 1.
Fig. 1 Map of Kheda District showing locations of selected villages
TABLE 2

DISTRIBUTION OF SELECTED POULTRY FARMS ACCORDING TO TOTAL RESPONDENTS IN RESPECTIVE TALUKAS

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Taluka</th>
<th>Selected respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anand</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>Nadiad</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Petlad</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Borsad</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Kapadwanj</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Balasinor</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Thasara</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Khambhat</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Matar</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Mahemdabad</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
</tr>
</tbody>
</table>

3.4 CONSTRUCTION OF THE INTERVIEW SCHEDULE

The basic instrument used for the study was an interview schedule. To obtain necessary correct responses and information from the poultry farmers, the interview technique was considered the most appropriate tool. Keeping in view the objectives of the study, the interview schedule was developed in local language (Gujarati) which was common for all the respondents. In formulating the questions and statements for schedule, the investigator secured
technical guidance from major advisor, available literature, assistance from teaching staff of Extension Education, Anand and staff of the Poultry Training and Research Unit, Anand.

The interview schedule was developed with five major parts as under:

First part devoted to study the socio-economic and psychological characteristics of the respondents. The socio-economic and psychological characteristics included in this study were:

(i) age
(ii) caste
(iii) education
(iv) occupation
(v) family type and size
(vi) number of poultry birds
(vii) social participation
(viii) land holding
(ix) socio-economic status
(x) economic motivation
(xi) scientific orientation and
(xii) risk preference

Second part of the interview schedule was developed to study the sources of information utilized by the respondents.

Third part of the interview schedule was developed to measure the level of adoption of selected improved poultry farming practices of the poultry farmers.
Fourth part of the interview schedule was developed to study the various constraints as perceived by the poultry farmers in adoption of poultry farming.

Fifth part of the interview schedule was developed to ascertain the suggestions to overcome the constraints in adoption of poultry farming from the respondents.

3.5 PRE-TESTING OF THE INTERVIEW SCHEDULE

Before finalising the interview schedule, it was pre-tested with three respondents who were not included in the study. The purpose of pre-testing was to know the administerability of each question or statement and also accuracy and clarity with respondents. The interview schedule which was originally prepared in English was translated in local language (Gujarati) to help the respondents in understanding the questions. At the time of pre-testing the purpose of the interview and study was explained to the respondents. Taking into consideration the result of pre-testing certain changes were made in the schedule and used for the final data collection.

3.6 PROCEDURE FOLLOWED FOR COLLECTION OF DATA

The interview schedule developed for this study was used for collecting information by personal interview from 80 poultry farmers of Kheda district in all (ten) talukas during July, 1989. The respondents were contacted individually at their poultry farms and in some cases at their homes. At
the time of interview, all possible efforts were made to establish due rapport with them. The objectives of the study were explained to them with a view to facilitate them in giving correct responses. The questions from the schedule were readout one by one and their responses were recorded in the schedule.

3.7 STATISTICAL FRAMEWORK USED FOR ANALYSIS OF DATA

All the responses recorded in the interview schedule were transferred to the master table and frequencies were marked wherever necessary, the number and percentage were given to the various frequency items. The data were tabulated, organised, analysed and presented in a way that it may give proper representation and answer to the specific objectives of study.

1. SOCIO-ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS

According to their socio-economic and psychological characteristics, the respondents were grouped into various categories on the basis of available data as under:

1. **Age:**

   The data regarding age of the respondents were collected and divided into three age groups i.e.
   (a) Young age group (upto 30 years)
   (b) Middle age group (31 to 45 years)
   (c) Old age group (above 45 years)
2. Education:

Information regarding formal education was collected according to the level of education and respondents were categorised into four categories i.e.
(a) Illiterate (can not read and write)
(b) Primary (1 to 7 standard)
(c) Secondary (8 to 12 standard)
(d) College (above 12 standard)

3. Caste:

The respondents were classified into three categories according to their caste.
(a) Higher caste (Prestigious caste, Patel etc.)
(b) Medium caste (Rajput, Muslim, Rana etc.)
(c) Lower caste (Schedule caste and other lower caste etc.)

4. Land holding:

It was categorised into four groups according to the actual area of land cultivated by the poultry farmers.
(a) Landless
(b) Small land holding (upto 2 hectares)
(c) Medium land holding (2.1 to 4 hectares)
(d) Large land holding (above 4 hectares)

5. Social participation:

Information regarding membership in formal organisation was collected and categorised as under:
(a) No membership
(b) Membership in one organisation
(c) Membership in more than one organisation
(d) Holding position in organisation

6. **Occupation:**

The respondents were classified into four categories according to their occupation.

(a) Poultry + labour work
(b) Poultry + business
(c) Poultry + farming
(d) Poultry + service

7. **Family type and size:**

According to the family type, the respondents were grouped into two categories as under.

(a) Nuclear family
(b) Joint family

As regards size of the family, it was measured on the basis of the total number of members in the respondent's family. The information collected was categorised into two groups viz., (a) small size (upto 5 members), (b) large size (more than 5 members).
8. **Socio-economic status:**

The respondents were classified into three categories according to their socio-economic status.

(a) Low status
(b) Medium status
(c) High status

9. **Number of birds:**

It was categorised into four groups.

(a) Upto 5,000 birds
(b) 5,001 to 10,000 birds
(c) 10,001 to 15,000 birds
(d) Above 15,000 birds

10. **Economic motivation:**

It was measured with the help of a scale developed by Supe (1969). The scale consisted of six statements. The responses of the poultry farmers were obtained against each statement in terms of their agreement or disagreement with the statement on a five point continuum ranging from strongly agree to strongly disagree.

The positive and negative statement were scored as follows:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Negative</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>
The economic motivation score of an individual respondent was the sum total of the scores of all the statements including in the scale.

11. **Scientific orientation:**

Poultry farmer's scientific orientation was measured with the help of scale developed by Supe (1969). The scale consisted of six statements. The scoring procedure for positive and negative statements was followed as under:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
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<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Negative</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>

The scientific orientation score of an individual respondent was the sum total of the scores of all the statements included in the scale.

12. **Risk preference:**

Poultry farmer's willingness to take risk was measured with the help of risk preference scale developed by Supe (1969). The responses of the poultry farmers were obtained against each item in terms of their agreement or disagreement on a five point scale ranging from strongly agree to strongly disagree. The positive and negative statements were scored as follows:
The procedure was adopted by Supe (1969) assuming that the greater the total score of an individual on any one of the five dimensions, the more positive his attitude or greater value is placed on that dimension. The risk preference score of an individual respondent was the sum total of scores of all the statements included in the scale.

### II. MEASUREMENT OF SOCIO-ECONOMIC STATUS

Socio-economic status (SES) of the respondents was measured by a S.E.S. scale developed by Pareek and Trivedi (1965). This scale was used for the measurement of socio-economic status of the poultry farmers.

**Scoring procedure**

As per the suggestion given in the S.E.S. scale, the total score were calculated for each respondent by summing up the score of each item in the S.E.S. scale. The mean score was calculated as under (Chandel, 1978).

\[
\bar{X} = \frac{\sum_{i=1}^{n} X_i}{n}
\]

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
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<td>2</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>
where, $\bar{X}$ = Mean score  
$X_i$ = Score of $i^{th}$ respondent  
n = number of the respondent

After that all the respondents were grouped into three categories as follows:

1. Low socio-economic status
2. Medium socio-economic status
3. High socio-economic status

The statistical procedure adopted for grouping the above three categories is given below.

Firstly, the deviation were computed from the mean ($\bar{X}$) for each respondent's score. Later on all the deviations were squared up and finally the standard deviation (S.D.) was estimated. For standard deviation the total score obtained by each respondent were calculated as under (Chandel, 1978).

$$S.D. = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}}$$

where, $X_i$ = Individual score  
$\bar{X}$ = Mean of the sample  
n = Total number of respondents

To form of S.E.S. categories, the maximum and minimum score limit was calculated by the following formula:
Form of S.E.S. Limit
(a) High $\geq \bar{X} + S.D.$ score
(b) Medium In between upper and lower limit ($\bar{X} \pm S.D.$)
(c) Low $\leq \bar{X} - S.D.$ score

III. SOURCES OF INFORMATION

Use of information sources was measured by taking into consideration all possible sources available to the poultry farmers. These sources were listed and classified into four categories.

(1) Formal sources of information
(2) Informal sources of information
(3) Mass media and
(4) Others

Each respondent was asked to indicate, from which sources he got information for use of poultry farming practices. Afterward, a percentage was calculated for each source of information and rank order was given according to the sources used by respondents.

IV. MEASUREMENT OF LEVEL OF ADOPTION

The information regarding the level of adoption of each of the selected poultry farming practices was collected.

To compute the score of adoption of each selected improved poultry farming practices by the poultry farmers,
the scoring of each practice was determined by seeking the opinions of the five experts from the Poultry Unit, Gujarat Agricultural University, Anand.

The total score obtained by individual poultry farmer and sum of the total of all the respondents were calculated separately for each selected improved poultry farming practices. With the help of mean ($\bar{X}$) and standard deviation (S.D.) the respondents were categorised as low, medium and high with respect to their level of adoption.

<table>
<thead>
<tr>
<th>Form of adoption</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) High</td>
<td>$\bar{X} + S.D.$ score</td>
</tr>
<tr>
<td>(b) Medium</td>
<td>In between upper and lower limit of ($\bar{X} \pm S.D.$)</td>
</tr>
<tr>
<td>(c) Low</td>
<td>$\bar{X} - S.D.$ score</td>
</tr>
</tbody>
</table>

V. CONSTRAINTS IN ADOPTION OF POULTRY FARMING PRACTICES

To measure the constraints in adoption of selected improved poultry farming practices, a simple technique was applied. Each respondent was asked to mention his main constraints in adoption of selected improved poultry farming practices. Afterward percentage was calculated for each constraint faced by respondents.
VI. STATISTICAL PROCEDURE FOR FINDING OUT RELATIONSHIP BETWEEN DIFFERENT VARIABLES

The chi-square test developed by Chandel (1975) was employed to test the independence between socio-economic and psychological characteristics of the poultry farmers and their overall adoption of selected improved poultry farming practices.

The formula employed was:

(i) For Chi-square test:

\[ x^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \]

where, \( \sum \) = Summation
\( O_{ij} = \) Observed frequency of the cell in the \( i^{th} \) row and \( j^{th} \) column
\( E_{ij} = \) Expected frequency of the cell in the \( i^{th} \) row and \( j^{th} \) column

(ii) For calculating expected frequency \( E_{ij} \) of each cell, following formula was employed:

\[ E_{ij} = \frac{R_i C_j}{N} \]

Where,
\( E_{ij} = \) Expected frequency for a cell belonging to \( i^{th} \) row and \( j^{th} \) column
\( R_i = \) Total of \( i^{th} \) row
\( C_j = \) Total of \( j^{th} \) column
\( N = \) Total number of respondents
All the cell frequencies were found with the help of this formula.

(iii) Degree of freedom

\[ r = (m - 1) (n - 1) \]

where,
- \( r \) = Degree of freedom
- \( m \) = Number of groups in row
- \( n \) = Number of groups in column

If the variables will be found dependent than their relationship will be measured by contingency coefficient (Sidney Siegel, 1956).

(iv) Contingency coefficient 'C':

The following formula was used to calculate 'C' (contingency coefficient) value, when the chi-square value was found significant.

\[ \text{Contingency coefficient (C)} = \sqrt{\frac{x^2}{N + x^2}} \]

where,
- \( x^2 \) = Calculated Chi-square value
- \( N \) = Total number of respondents
RESULTS & DISCUSSION
CHAPTER IV
FINDINGS AND DISCUSSIONS

This chapter deals with the presentation, analysis, interpretation and discussion of the data. The data collected through interview schedule in light of objectives of this study were classified, tabulated, analysed, presented and discussed in a systematic way. Descriptive as well as inductive statistics have been used for analysing the data collected from the respondents. The facts and findings of the study have been presented under the following heads:

4.1 Socio-economic and psychological characteristics of the poultry farmers.

4.2 Sources of information utilized by the poultry farmers.

4.3 Level of adoption of selected improved poultry farming practices.

4.4 Relationship between the socio-economic and psychological characteristics of the poultry farmers and the overall adoption of selected improved poultry farming practices.

4.5 Constraints in adoption of poultry farming as perceived by the poultry farmers.

4.6 Suggestions given by the respondents to overcome the constraints in adoption of poultry farming.

4.1 SOCIO-ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF THE POULTRY FARMERS

The adoption of poultry farming is viewed as a complex process which is influenced by various socio-economic
and psychological characteristics of the poultry farmers like age, caste, education, occupation, family type and size, land holding, social participation, number of poultry birds, economic motivation, risk preference, scientific orientation and socio-economic status etc. In this investigation some of the most important characteristics have been studied and results are presented as under:

1. **Age:**

The respondents were asked to indicate their age in complete years. On the basis of their responses, they were grouped into three categories namely: (i) young age (upto 30 years), (ii) middle age (31 to 45 years) and (iii) old age (above 45 years). The data collected from the respondents about their age are presented in Table 3.

### TABLE 3

DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR AGE

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young age group</td>
<td>13</td>
<td>16.25</td>
</tr>
<tr>
<td>Middle age group</td>
<td>56</td>
<td>70.00</td>
</tr>
<tr>
<td>Old age group</td>
<td>11</td>
<td>13.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
The data presented in Table 3 indicated that the majority of the respondents (70.00 per cent) were found to be in the middle age group i.e., 31 to 45 years, followed by 16.25 per cent in young age group (upto 30 years). While 13.75 per cent of the respondents were found in old age group (above 45 years).

It is clear from Table 3 that the majority of the poultry farmers were in middle age group. The possible reason for this might be that the farmers of middle age group have better experience and interest than the other groups, whereas the other possible reason for less adoption of poultry by old age group might be due to their reduced physical capacities, less initiative and personal attitudes. The findings are similar to the findings reported by Gupta (1966), Varma and Prasad (1971), Khan (1973), Jothiraj (1974), Thumar et al. (1981), Patel (1983) and Saiyad (1986).

2. Caste:

Caste is an important social characteristic which individually affect in the adoption of poultry farming. The respondents were asked to state their caste and they were classified into three groups viz.,

(i) Higher caste: Prestigious caste, Patel, Parsi etc.

(ii) Intermediate caste: Muslim, Mahida, Rajput, Gohel etc.

(iii) Lower caste: Schedule caste, other lower caste etc.
The data in this regards are presented in Table 4.

**TABLE 4**

**DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR CASTE**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>64</td>
<td>80.00</td>
</tr>
<tr>
<td>Intermediate</td>
<td>13</td>
<td>16.25</td>
</tr>
<tr>
<td>Lower</td>
<td>3</td>
<td>3.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The data presented in Table 4 shows that four fifths (80.00 per cent) of the respondents were from higher caste, followed by 16.25 per cent in intermediate caste and only 3.75 per cent from lower caste.

It could be seen from Table 4 that four fifths of the poultry farmers were from the higher caste. The probable reason for this might be due to the dominance of these castes in the villages of Kheda district and higher castes respondents were better educated, had more adequate resources and enjoyed more contacts with extension agents. This finding is in concurrence with the findings reported by Singh and Shriballabh (1971), Thumar et al. (1981) and Saiyad (1986).
3. **Education:**

With a view to study the influence of education on adoption of poultry farming, the information about formal education obtained by poultry farmers were collected and the respondents were classified into following four categories i.e., (i) illiterate (can not read and write), (ii) primary education (1 to 7 standard), (iii) secondary education (8 to 12 standard) and (iv) college level education (above 12 standard). The data with respect to education are presented in Table 5.

**TABLE 5**

**DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR EDUCATION**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate (can not read and write)</td>
<td>3</td>
<td>3.75</td>
</tr>
<tr>
<td>Primary (1 to 7 standard)</td>
<td>15</td>
<td>18.75</td>
</tr>
<tr>
<td>Secondary (8 to 12 standard)</td>
<td>40</td>
<td>50.00</td>
</tr>
<tr>
<td>College level (above 12 standard)</td>
<td>22</td>
<td>27.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The data presented in Table 5 reveal that one half (50.00 per cent) of the respondents were educated upto secondary level, followed by 27.50 per cent of the respondents were upto college level and 18.75 per cent were upto primary level. Only 3.75 per cent of the respondents were illiterate.
It is clear from Table 5 that one half of the poultry farmers were found in secondary education level category. The possible reason for this might be that due to since past good facilities of education, as well as higher caste of family. The finding is in the line with the findings of Bhatia (1966), Gupta (1966), Varma and Prasad (1971), Bhatia (1972), Patel (1983), Saiyad (1986) and Malyadri (1989).

4. Occupation:

Occupation of the respondents is another contributing factor that influence the adoption of poultry farming. For the purpose of the presentation, the respondents were divided into four categories viz., (i) poultry farming + labour work, (ii) poultry farming + business, (iii) poultry farming + farming and (iv) poultry farming + service. The data collected from the respondents as regards to their occupations are presented in Table 6.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry + labour</td>
<td>6</td>
<td>7.50</td>
</tr>
<tr>
<td>Poultry + business</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>Poultry + farming</td>
<td>57</td>
<td>71.25</td>
</tr>
<tr>
<td>Poultry + service</td>
<td>7</td>
<td>8.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
The data presented in Table 6 indicate that the majority of the respondents (71.25 per cent) were having farming occupation with poultry, followed by 12.50 per cent with business occupation and 8.75 per cent with service. Only 7.50 per cent of the respondents were found to have labour work with poultry farming.

It is evident from the above figures that majority (71.25 per cent) of the poultry farmers were having farming occupation with poultry. The probable reason for this might be that those who adopted poultry with farming occupation can give more attention to poultry, avoid greater risk and byproducts of poultry can be used for farms. This finding is in the line with the findings of Thumar et al. (1981), Varma and Prasad (1971), Gupta (1966), Bhatia (1966), Patel (1983) and Saiyad (1986).

5. Type and size of family:

The type and size of family are important social factors. There are two types of family viz., nuclear and joint. A nuclear family consists of husband, wife and children, while joint family consists of more than one primary families on the basis of close blood relation and common residence. As regards the size of family of respondents, they were grouped into two categories viz., (i) small (upto 5 members) and (ii) large (more than 5 members). Information regarding the type and size of the family is presented in Table 7.
TABLE 7
DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR TYPE AND SIZE OF FAMILY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family type:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear</td>
<td>43</td>
<td>53.75</td>
</tr>
<tr>
<td>Joint</td>
<td>37</td>
<td>46.25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Family size:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>36</td>
<td>45.00</td>
</tr>
<tr>
<td>Large</td>
<td>44</td>
<td>55.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80</td>
<td>100.00</td>
</tr>
</tbody>
</table>

It is evident from Table 7 that nearly more than one half of the respondents (53.75 per cent) belonged to nuclear families, while 46.25 per cent of the respondents were from joint families. This indicates that nearly more than one half of the poultry farmers had nuclear families. The probable reason for this might be due to old rural social system and social custom to live in nuclear families.

So far as family size is concerned, 55.00 per cent respondents belonged to large size of family, while 45.00 per cent to small size of family. Thus, it could be seen that majority of the respondents were from families having more than 5 members. The probable reason for this might be that
nearly about half (46.25 per cent) of the respondents were from joint families. The findings are similar to the findings reported by Thumar et al. (1981), Patel (1983), Saiyad (1986) and Malyadri (1989).

6. **Social participation:**

Raising of poultry requires a good deal of care and management on the part of the person concerned. Obviously, those who took active part in social life of the community by way of their membership and holding position in different village organization like milk co-operative society, village panchayat and co-operative societies. For the purpose of finding out the social participation the respondents were divided into four classes viz., (i) no membership, (ii) membership in one organisation, (iii) membership in more than one organisation and (iv) holding position. The data collected from the respondents are presented in Table 8.

**TABLE 8**

**DISTRIBUTION OF THE RESPONDENTS, ACCORDING TO THEIR SOCIAL PARTICIPATION**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No membership</td>
<td>30</td>
<td>37.50</td>
</tr>
<tr>
<td>Membership in one organisation</td>
<td>41</td>
<td>51.25</td>
</tr>
<tr>
<td>Membership in more than one organisations</td>
<td>6</td>
<td>7.50</td>
</tr>
<tr>
<td>Holding position</td>
<td>3</td>
<td>3.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
Data from Table 8 reveal that slightly more than one half (51.25 per cent) of the respondents occupied membership in one organisation, while 37.50 per cent of the respondents were not members in any organisation. Only 7.50 per cent and 3.75 per cent of the respondents were having membership in more than one organisations and holding position respectively.

It is clear from Table 8 that slightly more than one half of the poultry farmers occupied membership in one organisation. The probable reason for this might be that there are some co-operative societies working at village level, like milk co-operative society, agricultural co-operative society and other co-operative societies which provide with more opportunities for becoming members of those societies, for meeting the mainly finance need of the respondents were member of co-operative societies to obtain these benefits. This finding is similar to that reported by Bhatia (1966), Varma (1966), Gupta (1966), Varma and Prasad (1971), Patel (1983) and Saiyad (1986).

7. Land holding:

The size of land holding is an important factor that determine economic status of the respondents. This refers to the total land owned and cultivated by the respondents. The information was collected from the respondents about the land holdings operated by them and classified into four groups.
viz., (i) land less, (ii) small size of land holding (upto 2 hectares), (iii) medium size of land holding (2.1 to 4 hectares) and (iv) large size of land holding (above 4.0 hectares). The data in this regard are presented in Table 9.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land less</td>
<td>23</td>
<td>28.75</td>
</tr>
<tr>
<td>Small size</td>
<td>20</td>
<td>25.00</td>
</tr>
<tr>
<td>Medium size</td>
<td>28</td>
<td>35.00</td>
</tr>
<tr>
<td>Large size</td>
<td>9</td>
<td>11.25</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The data presented in Table 9 indicated that nearly more than one third of the respondents (35.00 per cent) possessed medium size of land holding, while 28.75 per cent and 25.00 per cent of respondents were land less and having small size of land holding respectively. Only 11.25 per cent were found in large size of land holding category.

It is clear from the above data that nearly more than one third (35.00 per cent) of the respondents were having medium size of land holding. The possible reason for this might be that the average size of land holding of Kheda district is 2 to 4 hectares. Therefore, nearly more
than one third of the respondents fall in this group. The medium size of land holders can give more attention to the poultry as well as in farming. and they can use byproducts of poultry farming in their farm. This finding is in concurrence with those reported by Narayanmurthy (1970), Subramanian et al. (1978), Malyadri (1989) and Saiyad (1986).

8. Socio-economic status:

The socio-economic status of the poultry farmers may also play significant role in adoption of new technology at a faster rate. In view of this, the level of socio-economic status of the respondents, were acquired during the investigation. For the purpose of proper presentation of the data, the respondents were classified into three categories viz., (i) low status, (ii) medium status and (iii) high status. The data in this regard are presented in Table 10.

<table>
<thead>
<tr>
<th>SOCIO-ECONOMIC STATUS</th>
<th>NUMBER</th>
<th>PER CENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>Medium</td>
<td>49</td>
<td>61.25</td>
</tr>
<tr>
<td>High</td>
<td>21</td>
<td>26.25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
The data presented in Table 10 reflect that majority (61.25 per cent) of the respondents belonged to medium socio-economic status. The respondents belonging to high status were next in number (26.25 per cent), while the low socio-economic status class were only 12.50 per cent in this study.

It can be stated that the majority of the poultry adopters predominantly consisted of medium socio-economic status group. This finding is in line with those reported by Singh and Sinha (1970), Bhatia (1972), and Patel (1983).

9. **Number of the poultry birds**:

The number of the poultry birds is an important factor in relation to the adoption of poultry farming. Indirectly number of the birds determine their economic conditions. The information was collected from the respondents about the number of the birds owned by them and classified into four groups viz., (i) Upto 5,000 birds, (ii) 5,001 to 10,000 birds, (iii) 10,001 to 15,000 birds and (iv) above 15,000 birds. The data in this regard are presented in Table 11.

The data presented in Table 11 indicated that one half of the respondents (50.00 per cent) owning upto 5,000 birds, while 26.25 per cent and 12.50 per cent of respondents were owning 5,001 to 10,000 and 10,001 to 15,000 birds respectively. Whereas 11.25 per cent of the respondents owning above 15,000 birds.
TABLE 11

DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR
NUMBER OF POULTRY BIRDS

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 5,000 birds</td>
<td>40</td>
<td>50.00</td>
</tr>
<tr>
<td>5001 to 10,000 birds</td>
<td>21</td>
<td>26.25</td>
</tr>
<tr>
<td>10,001 to 15,000 birds</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>Above 15,000 birds</td>
<td>9</td>
<td>11.25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80</td>
<td>100.00</td>
</tr>
</tbody>
</table>

It is clear from the above data that one half of the respondents were owning upto 5,000 birds. The possible reason for this might be that owning upto 5,000 birds can give more attention to the poultry as well as other occupation and avoid greater risk. This finding is in agreement with those of Gill and Sinha (1969).

10. Economic motivation:

The economic motivation of the poultry farmers was measured with the help of scale developed by Supe (1969). The responses of the poultry farmers were scored as per the procedure followed in the original scale. The data in respect of economic motivation were categorised as low, medium and high on the basis of total score value obtained. The distribution of the respondents according to their economic motivation is presented in Table 12.
TABLE 12

DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR ECONOMIC MOTIVATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>Medium</td>
<td>57</td>
<td>71.25</td>
</tr>
<tr>
<td>High</td>
<td>13</td>
<td>16.25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

It is evident from the data presented in Table 12 that the majority of the respondents (71.25 per cent) were found to have medium economic motivation, followed by 16.25 per cent having high economic motivation. Only 12.50 per cent were found to have low economic motivation.

It could be inferred from Table 12 that majority of the poultry farmers had medium (71.25 per cent) to high (16.25 per cent) economic motivation. This finding is in conformity with the findings as reported by Subramanian et al. (1978), Subramanian et al. (1980), Patel (1983) and Saiyad (1986).

11. Scientific orientation:

The scientific orientation of the poultry farmers was measured with the help of scale developed by Supe (1969). The responses of the poultry farmers were scored as per the
procedure followed in the original scale. The data in respect of scientific orientation were categorised as low, medium and high on the basis of the total score value obtained. The distribution of the respondents according to their scientific orientation is presented in Table 13.

TABLE 13
DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR SCIENTIFIC ORIENTATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>15</td>
<td>18.75</td>
</tr>
<tr>
<td>Medium</td>
<td>51</td>
<td>63.75</td>
</tr>
<tr>
<td>High</td>
<td>14</td>
<td>17.50</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.00</td>
</tr>
</tbody>
</table>

It is evident from the data presented in Table 13 that the majority (63.75 per cent) of the respondents were found to have medium scientific orientation, followed by 18.75 per cent of the respondents having low scientific orientation. While 17.50 per cent of the respondents were having high scientific orientation.

It is evident from the above data that the majority of the poultry farmers were found to have medium scientific orientation. This finding is in line with those reported by Patel (1983) and Saiyad (1986).
12. **Risk preference:**

The risk preference of the poultry farmers was measured with the help of a scale developed by Supe (1969). The responses of the poultry farmers were scored as per the procedure followed in the original scale. The data in respect of risk preference were categorised as low, medium and high on the basis of total score value. The distribution of the respondents according to their risk preference is presented in Table 14.

**TABLE 14**

**DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR RISK PREFERENCE**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>11</td>
<td>13.75</td>
</tr>
<tr>
<td>Medium</td>
<td>50</td>
<td>62.50</td>
</tr>
<tr>
<td>High</td>
<td>19</td>
<td>23.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

It is evident from the data presented in Table 14 that the majority (62.50 per cent) of the respondents were found in medium risk preference category, followed by 23.75 per cent and 13.75 per cent in high and low risk preference categories respectively.

It could be seen from the above data that majority of the poultry farmers were having medium (62.50 per cent) to
high (23.75 per cent) risk preference. This finding is in line with that reported by Patel (1983) and Subramanian et al. (1978).

4.2 SOURCES OF INFORMATION UTILIZED BY THE POULTRY FARMERS

The adoption of innovation is viewed as a process and it requires some sort of information at different stages. There are many sources which people use to get information about improved poultry farming practices. The preference and selection of particular source may vary from person to person.

In order to study the various sources of information as felt by the poultry farmers for getting technical guidance about improved poultry farming practices, they were asked to furnish information about the sources through which they are to know about improved poultry farming practices in order of preference. For this, the sources of information have been divided in three groups viz., (A) formal sources, (B) informal sources and (C) mass media sources. The responses obtained were tabulated and data in this respect are presented in Table 15.
TABLE 15
DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR
UTILIZATION OF SOURCES OF INFORMATION

<table>
<thead>
<tr>
<th>Sources of information</th>
<th>Number</th>
<th>Percent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Formal sources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Poultry training research station</td>
<td>44</td>
<td>55.00</td>
<td>II</td>
</tr>
<tr>
<td>2. Veterinary Officer</td>
<td>40</td>
<td>50.00</td>
<td>IV</td>
</tr>
<tr>
<td>3. Intensive poultry development unit/agency</td>
<td>18</td>
<td>22.50</td>
<td>VIII</td>
</tr>
<tr>
<td>4. District poultry extension centre</td>
<td>5</td>
<td>6.25</td>
<td>XVI</td>
</tr>
<tr>
<td>5. Poultry feed and production unit</td>
<td>33</td>
<td>41.25</td>
<td>V</td>
</tr>
<tr>
<td>6. Poultry breeding farm(Hatchery)</td>
<td>64</td>
<td>80.00</td>
<td>I</td>
</tr>
<tr>
<td>7. Poultry project officer</td>
<td>16</td>
<td>20.00</td>
<td>IX</td>
</tr>
<tr>
<td>8. District rural development agency</td>
<td>8</td>
<td>10.00</td>
<td>XV</td>
</tr>
<tr>
<td>9. Village level worker</td>
<td>18</td>
<td>22.50</td>
<td>VIII</td>
</tr>
<tr>
<td>10. Subject matter specialist</td>
<td>15</td>
<td>18.75</td>
<td>X</td>
</tr>
<tr>
<td>11. Private veterinary doctor</td>
<td>41</td>
<td>51.25</td>
<td>III</td>
</tr>
<tr>
<td>12. Taluka development officer</td>
<td>9</td>
<td>11.25</td>
<td>XIV</td>
</tr>
<tr>
<td><strong>B. Informal sources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Neighbours</td>
<td>23</td>
<td>28.75</td>
<td>VII</td>
</tr>
<tr>
<td>2. Local leader</td>
<td>15</td>
<td>18.75</td>
<td>X</td>
</tr>
<tr>
<td>3. Friends</td>
<td>11</td>
<td>13.75</td>
<td>XII</td>
</tr>
<tr>
<td>4. Relatives</td>
<td>10</td>
<td>12.50</td>
<td>XIII</td>
</tr>
<tr>
<td><strong>C. Mass media</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Radio</td>
<td>3</td>
<td>3.75</td>
<td>XVII</td>
</tr>
<tr>
<td>2. Television</td>
<td>12</td>
<td>15.00</td>
<td>XI</td>
</tr>
<tr>
<td>3. News paper</td>
<td>5</td>
<td>6.25</td>
<td>XVI</td>
</tr>
<tr>
<td>4. Printed literature</td>
<td>30</td>
<td>37.50</td>
<td>VI</td>
</tr>
<tr>
<td>5. Exhibition</td>
<td>16</td>
<td>22.50</td>
<td>VIII</td>
</tr>
</tbody>
</table>
The data presented in Table 15 indicated that all 21 different sources of information have been utilized by the poultry farmers. Out of these, the poultry breeding farm/hatchery had been mentioned as the most utilized source of information by 80.00 per cent of the poultry farmers for obtaining poultry farming information. The second important source was Poultry Training-Research Station, which served 55.00 per cent of the respondents. The private veterinary doctors were third important source of information utilized by poultry farmers, which served 51.25 per cent. Other important utilized sources were veterinary officer, poultry feed and production unit and printed literature which were mentioned as utilized sources by 50.00 per cent, 41.25 per cent and 37.50 per cent of respondents respectively.

Neighbours, intensive poultry development unit, village level worker, exhibition and poultry project officer were mentioned as utilized sources by 28.75 per cent, 22.50 per cent, 22.50 per cent, 22.50 per cent and 20.00 per cent of respondents respectively. While subject matter specialist, local leaders and television which have been utilized by 18.75 per cent, 18.75 per cent and 15.00 per cent of respondents respectively.

A minute observation of the data presented in Table 15 indicated that formal sources of information were utilized by the poultry farmers as significantly greater than other sources. Formal sources like, poultry breeding farm/hatchery, poultry
training research station, private veterinary doctor, veterinary officer and poultry feed and production unit were major formal sources of information as utilized by the poultry farmers. While different informal and mass media sources were less important sources of information for poultry farmers.

The probable reason might be that formal sources are authentic and reliable for getting information. Also due to their good economic condition and high level of education they got information by these sources. This finding is in concurrence with that reported by Rao and Moulik (1966), Joon et al. (1972), Subramanian et al. (1978) and Kamble and Shinde (1988).

As such in light of the above finding the hypothesis \( H_2 \) that Poultry Training Research Station is most utilized source of information than the other sources and media is rejected.

4.3 LEVEL OF ADOPTION OF SELECTED IMPROVED POULTRY FARMING PRACTICES

The success of poultry development depended upon basic principles of breeding, feeding, management and disease control. Hence, it was felt necessary to know to what extent the poultry farmers have adopted the improved poultry farming practices.
In the present study, an attempt was made to find out the level of adoption of selected improved poultry farming practices by the poultry farmers. For this investigation, ten practices of poultry farming were identified and included in the study. They were as under:

1. Improved strain,
2. Feed management,
3. Water management,
4. Lighting,
5. Culling,
6. Health care,
7. Rearing system,
8. Summer and winter management,
9. Record keeping and
10. Marketing

The respondents were classified according to their level of adoption of selected improved practices viz., low level of adoption, medium level of adoption and high level of adoption.

With a view to find out the level of adoption of selected improved poultry farming practices the respondents were asked to give information about the practices adopted by them. The data in this regard are presented in Table 16.
TABLE 16
DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR
LEVEL OF ADOPTION OF SELECTED IMPROVED POULTRY
FARMING PRACTICES

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Practices</th>
<th>Level of adoption</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Improved strain</td>
<td>Low</td>
<td>4</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>60</td>
<td>75.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>16</td>
<td>20.00</td>
</tr>
<tr>
<td>2</td>
<td>Feed management</td>
<td>Low</td>
<td>5</td>
<td>6.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>55</td>
<td>68.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>20</td>
<td>25.00</td>
</tr>
<tr>
<td>3</td>
<td>Water management</td>
<td>Low</td>
<td>3</td>
<td>3.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>62</td>
<td>77.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>15</td>
<td>18.75</td>
</tr>
<tr>
<td>4</td>
<td>Lighting</td>
<td>Low</td>
<td>4</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>64</td>
<td>80.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>12</td>
<td>15.00</td>
</tr>
<tr>
<td>5</td>
<td>Culling</td>
<td>Low</td>
<td>13</td>
<td>16.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>57</td>
<td>71.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>6</td>
<td>Health care</td>
<td>Low</td>
<td>15</td>
<td>18.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>53</td>
<td>66.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>12</td>
<td>15.00</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>----</td>
<td>-----------</td>
<td>-----------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>7</td>
<td>Rearing system</td>
<td>Low</td>
<td>2</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>64</td>
<td>80.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>14</td>
<td>17.50</td>
</tr>
<tr>
<td>8</td>
<td>Summer and winter management</td>
<td>Low</td>
<td>6</td>
<td>7.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>65</td>
<td>81.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>9</td>
<td>11.25</td>
</tr>
<tr>
<td>9</td>
<td>Record keeping</td>
<td>Low</td>
<td>16</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>54</td>
<td>67.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>10</td>
<td>Marketing</td>
<td>Low</td>
<td>5</td>
<td>6.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>65</td>
<td>81.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>10</td>
<td>12.50</td>
</tr>
<tr>
<td>11</td>
<td>Overall adoption</td>
<td>Low</td>
<td>12</td>
<td>15.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>53</td>
<td>66.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>15</td>
<td>18.75</td>
</tr>
</tbody>
</table>

1. Improved strain

A perusal of the data presented in Table 16 indicate that three fourths (75.00 per cent) of the respondents had medium level of adoption, while 20.00 per cent of respondents had high level of adoption and only 5.00 per cent of respondents had a low level of adoption of improved strain practices.
It is evident from the above data that three fourths of the poultry farmers had medium level of adoption of improved strain practice of poultry farming. The possible reasons for the above situation might be that (1) lack of technical knowhow, (2) lack of such type of facilities like finance etc. and (3) lack of proper guidance etc. The findings are similar to the findings reported by Subramanian et al. (1978).

2. Feed management

Feed management is one of the most effective practice of poultry farming. This practice include balance feed (type and quantity of feed) equipments of feeder, time of feeding and number of feeding in a day. The output of eggs or meat and input of feed is having direct relationship. So management of feeding has direct relationship with poultry profit.

The data presented in Table 16 indicate that the respondents having medium level of adoption of feed management practice were in more than two third's (68.75 per cent), followed by 25.00 per cent respondents having high level of adoption and 6.25 per cent had low level of adoption. It is evident from the above data that more than two third's of the poultry farmers had medium level of adoption of feed management practice in poultry farming. The probable reasons for this might be : (1) high cost of feed, (2) feed is also not easily available, (3) lack of marketing facilities and
(4) lack of technical knowledge about proper feeding. This finding is in line with that of Khan Ahmed and Somasundaram (1974) and Subramanian (1978).

3. Water management

This practice include equipment, number, time of watering and cleanliness of the water served to the birds. Responses of the poultry farmers in this regard are presented in Table 16.

The findings presented in Table 16 reveal that more than three fourths of the respondents (77.50 per cent) have adopted watering practice at medium level, followed by 18.75 per cent of respondents adopted at high level. Only 3.75 per cent of the respondents come under low level of adoption category.

The results help to infer that more than three fourths of the poultry farmers adopted watering practice at medium level. The probable reasons for the above situation may be lack of sufficient facility of clean water and difficulty of water supply. The farmers had to depend mostly on the limited water which they try to use economically. This findings are supported by Patel (1983) and Saiyad (1986).

4. Lighting

The lighting system in laying house has significant effect on production performance of the birds. It is therefore, quite essential for the poultry farmers to maintain
good lighting system for better production. The data in this regard are presented in Table 16.

The data presented in Table 16 reveal that four fifths (80.00 per cent) of the respondents were found in medium level of adoption of lighting practice, followed by 15.00 per cent of respondents who had high level of adoption. Only 5.00 per cent of respondents had low level of adoption.

It is evident from the data that four fifth of the poultry farmers had medium level of adoption of lighting practice of the poultry farming. The possible reasons for the above situation might be: (1) high charge of electricity, (2) irregularity of electric supply and (3) costly lighting system etc. This finding is in agreement with the findings reported by Patel (1983) and Saiyad (1986).

5. Culling

"Cull birds means non-productive birds". Feed cost constitutes 70 to 75 per cent of the total cost of egg production. The success or failure of poultry farming depends to a large extent on availability of quality feed and cost of feed. It is therefore, quite essential for the poultry farmers to remove cull birds or non-productive birds from the poultry farms. In view of this, the level of adoption of culling practice by the poultry farmers was studied during the investigation.
The data presented in Table 16 reveal that the majority (71.25 per cent) of the respondents were found to have medium level of adoption, followed by 16.25 per cent and 12.50 per cent of respondents in low and high level of adoption of culling practice respectively.

The data indicate that majority of the poultry farmers have adopted this practice at medium level. The possible reason for above finding might be that such families in rural area are orthodox having strong religious bond and also false conviction about poultry farming. Hence, they did not adopt this practice at higher level. This finding is in line with the finding of Subramanian et al. (1978).

6. Health care

For effective disease prevention special attention should be required about birds' health care. In poultry farming most of the birds' are affected by number of disease, like endoparasites and ectoparasites. The health of the birds is closely related with egg production. So it is quite necessary to maintain health of poultry birds for the higher profit. In order to know the level of adoption of health care practice by the poultry farmers, the data collected are presented in Table 16.

The data presented in Table 16 reveal that out of 80 respondents two thirds (66.25 per cent) of the respondents
had adopted medium level of health care practice, followed by 18.75 per cent who had low level of adoption. While 15.00 per cent of the respondents come under high level of adoption category.

It is evident from the above data that two thirds of the poultry farmers had medium level of adoption of health care practice of poultry farming. The probable reasons for the situation might be (1) absence of veterinary centre, (2) lack of technical knowhow and (3) lack of proper guidance. The findings are similar to the findings reported by Patel (1983) and Saiyad (1986).

7. Rearing system

Rearing system is one of the most effective practice of poultry farming, for preventing the diseases, round worm and parasites. The data in this regard are presented in Table 16.

The data presented in Table 16 reveals that four fifth (80.00 per cent) of the respondents were found in medium level of adoption, followed by 17.50 per cent and only 2.50 per cent of respondents were found in high and low level of adoption of rearing practice respectively.

The results indicate that four fifth of the poultry farmers had medium level of adoption of this practice of poultry farming. The possible reason for this might be that they adopted poultry farming with farming occupation. As a
result they could not adopt rearing practice at high level of adoption. This finding is in agreement with those of Patel (1983) and Saiyad (1986).

8. **Summer and winter management**

In this practice the poultry birds are protected against the heat, cold weather as well as other atmospheric factors. The poultry birds are susceptible to heat and cold and hence, special attention is required to protect them from these factors. Thus, to know the level of adoption of this practice by the poultry farmers, the data obtained from them are presented in Table 16.

The data presented in Table 16 indicate that majority of the respondents (81.25 per cent) had adopted this practice at medium level, followed by 11.25 per cent of the respondents who had adopted at high level. Only 7.50 per cent respondents were found in low level of adoption category.

It is evident from the data that majority of the poultry farmers had adopted this practice at a medium level of adoption. The possible reasons for this might be that (1) they were not aware of this practice and (2) due to their situational conditions. This finding is in the line with the findings of Patel (1983) and Saiyad (1986).

9. **Record keeping**

A daily records of feed consumption, egg production, mortality, vaccination, medicine, body weight and egg weight,
income and expenditure are essential registers to improve poultry farming efficiency and pinpoint troubles as well as their solutions. It is therefore, quite essential for the poultry farmers to maintain all types of records pertaining to the poultry farms. The data in this regards obtained from the poultry farmers are presented in Table 16.

The data presented in Table 16 indicate that slightly more than two thirds (67.50 per cent) of respondents were found in medium level of adoption of record keeping practice, followed by 20.00 per cent respondents adopting this practice at low level. Only 12.50 per cent respondents come under high level of adoption.

It shows that slightly more than two thirds of the poultry farmers were adopting record keeping practice of poultry farming at medium level. The probable reason for adoption of this practice at medium level might be lack of knowledge of the importance of this practice. This finding is similar to the finding reported by Singh and Shriballabh (1971).

10. Marketing

Marketing facility is one of the most effective factor to the poultry profits. It includes market price of egg, table birds, culled hens which the producer gets after paying for commission to wholesale agents, packing, forwarding, freight, breaking and sale tax etc. The profit from
poultry enterprise is greatly influenced by the market. The data obtained from the respondents regarding marketing practice are presented in Table 16.

Data presented in Table 16 indicate that the majority of the respondents (81.25 per cent) were found in medium level of adoption, followed by 12.50 per cent in high level of adoption, whereas only 6.25 per cent of respondents come under low level of adoption of marketing practice of poultry farming.

The result indicate that majority of the respondents had medium level of adoption of marketing practice. The possible reasons for the situation might be (1) absence of poultry co-operative society and (2) lack of local market of eggs and cull birds. This finding is in the line with findings reported by Bhatia (1966) and Patel (1983).

11. Overall adoption

An attempt was also made to find out overall adoption level of the selected improved poultry farming practices. The data were collected, analysed and grouped into three categories viz., low, medium and high level of adoption. The data in this respect are presented in Table 16 and Fig. 2.

It could be seen from the data that two thirds of the respondents (66.25 per cent) were found in medium level of adoption, followed by 18.75 per cent and 15.00 per cent
Fig. 2  Distribution of the respondents according to their level of adoption of selected improved poultry farming practices.
were found in high and low levels of adoption respectively.

It is evident from the above data that two-thirds of the poultry farmers were found in medium level of overall adoption category of selected improved poultry farming practices. The probable reasons for this might be that (1) lack of technical knowhow, (2) lack of such type of facilities like finance, (3) high cost and non-availability of inputs in a regular time like feed, clean water and electric supply, etc. (4) absence of veterinary centre, (5) lack of proper guidance and (6) lack of local market of eggs and cull birds. This finding is in conformity with the findings of Khan and Somasundaram (1974), Subramanian et al. (1978), Patel (1983) and Saiyad (1986).

On the basis of above finding the hypothesis \( H_3 \) that there is low level of adoption of selected improved poultry farming practices by the poultry farmers is rejected.


One of the objectives of the study was to know the relationship between socio-economic and psychological characteristics of the poultry farmers and the overall adoption of selected improved poultry farming practices. The different characteristics such as age, caste, education, occupation,
land holding, family type and size, social participation, number of birds, socio-economic status, economic motivation, scientific orientation and risk preference etc. These different factors play an important role in deciding the adoption or rejection of an innovation. The data were statistically analysed by using the chi-square \( (x^2) \) test in order to ascertain the existence or non-existence of relationship between the socio-economic and psychological characteristics and overall adoption of selected improved poultry farming practices.

The null hypothesis "there is no association between socio-economic and psychological characteristics of the poultry farmers and the overall adoption of selected improved poultry farming practices" was tested.

The relationships are presented and discussed in the subsequent paragraphs along with the data collected. The characteristic-wise distribution of respondents was presented under the attributes as low, medium and high level of overall adoption.

1. Age and adoption

The data collected in order to find out the relationship between age of the poultry farmers and overall adoption of selected improved poultry farming practices have been presented in Table 17 and Fig. 3.
Fig. 3. Level of adoption according to the age of the respondents.
**TABLE 17**

RELATIONSHIP BETWEEN AGE OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Age group</th>
<th>Adoption level</th>
<th>Total</th>
<th>(X^2) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Young age</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(7.50)</td>
<td>(8.75)</td>
</tr>
<tr>
<td>Middle age</td>
<td>9</td>
<td>41</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(11.25)</td>
<td>(51.25)</td>
<td>(7.50)</td>
</tr>
<tr>
<td>Old age</td>
<td>3</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(3.75)</td>
<td>(7.50)</td>
<td>(2.50)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level; d.f. = 4**

Figures given in parentheses indicate percentage.

"C" value = 0.40

The data presented in Table 17 indicate that nearly more than one half (51.25 per cent) of the poultry farmers from middle age group had medium level of adoption. The next lower adopters 11.25 per cent and higher adopters 7.50 per cent were from middle age group (31 to 45 years). While 8.75 per cent and 7.50 per cent were high and medium adopters from young age group respectively. In case of old age group 7.50 per cent, 3.75 per cent and 2.50 per cent were medium, low and high adopters respectively. The calculated chi-square value (14.9978) was found to be significant, at 0.01 level of significance. The contingency coefficient value was 0.40. This indicates that there is moderate association between age of the poultry farmers and their overall adoption of selected...
improved poultry farming practices. Hence, the null hypothesis is rejected. The probable reason for significant result might be that young and middle age group respondents possessed greater reception power than old age group of poultry farmers. This finding is in line with the findings reported by Rao and Raheja (1959), Varma (1966), Gupta (1966), Varma and Prasad (1971) and Choudhary et al. (1988).

2. Caste and adoption

The data collected in order to find out the relationship between caste of the poultry farmers and overall adoption of selected improved poultry farming practices have been presented in Table 18.

**TABLE 18**

RELATIONSHIP BETWEEN CASTE OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Caste group</th>
<th>Adoption level</th>
<th>Total</th>
<th>$X^2$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Lower</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Intermediate</td>
<td>3</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Higher</td>
<td>8</td>
<td>43</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
</tbody>
</table>

NS = Nonsignificant at 4 d.f.

Figures given in parentheses indicate percentage.
The data presented in Table 18 reveal that more than one half (53.75 per cent) of the respondents were from higher caste had medium level of adoption, followed by 16.25 per cent and 10.00 per cent respondents were from higher caste who had high and low level of adoption respectively. Whereas in intermediate caste group the percentage of medium, low and high adopters were 10.00 per cent, 3.75 per cent and 2.50 per cent respectively.

The calculated chi-square value (2.2597) was found nonsignificant at 0.05 level of significance. This indicated that there was no significant relationship between caste of the respondents and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis was accepted. This finding is correlated with the findings of Thumar et al. (1981) and Singh and Shriballabh (1971).

3. Education and adoption

In order to study the impact of education on adoption, further statistical operations were made to examine the relationship between education of the poultry farmers and their overall adoption of selected improved poultry farming practices. The data in this regard are presented in Table 19 and Fig. 4.
Fig. 4. Level of adoption according to the educational level of the respondents.
TABLE 19

RELATIONSHIP BETWEEN EDUCATION LEVEL OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Adoption level</th>
<th>Total</th>
<th>X² value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Illiterate</td>
<td>(2.50)</td>
<td>(1.25)</td>
<td>(0.00)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(6.25)</td>
<td>(12.50)</td>
<td>(0.00)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(5.00)</td>
<td>(37.50)</td>
<td>(7.50)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(15.00)</td>
<td>(11.25)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level; d.f. = 6

Figures given in parentheses indicate percentage.
"C" value = 0.46

The data presented in Table 19 indicated that more than one third (37.50 per cent) of the respondents having education upto secondary level were medium adopters. While in group of respondents having primary education level percentage of medium and low adopters were 12.50 per cent and 6.25 per cent respectively. In case of respondents educated upto college level 15.00 per cent had medium and 11.25 per cent had high level of adoption.

Thus, data indicated that with increase in education level the adoption level was increased. The calculated chi-square value (21.8143) was found to be significant, at 0.01
level of significance. The contingency coefficient value was 0.46. This indicates that there was a moderate association between education of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis is rejected. The probable reason for significant result might be that educated respondents possessed greater reception power than low educated and illiterate farmers. This finding is in line with findings reported by Bhatia (1966), Gupta (1966), Varma and Prasad (1971), Bhatia (1972), Gill and Sinha (1969), Jothiraj (1974) and Choudhary et al. (1988).

4. Occupation and adoption

The data regarding occupation of the respondents were studied and further analysed to ascertain the relationship between occupation and overall adoption of selected improved poultry farming practices. The data in this regard are presented in Table 20.

A perusal of data presented in Table 20 reveal that slightly more than one half (51.25 per cent) of the respondents having poultry and farming occupation were medium adopters of poultry farming practices, whereas rest of 11.25 per cent and 8.75 per cent were high and low adopters respectively. In case of poultry and business occupation 6.25 per cent, 3.75 per cent and 2.50 per cent of the respondents had medium, high and low level of adoption
respectively. While 5.00 per cent and 3.75 per cent of the respondents had poultry and doing service having medium and high level of adoption respectively.

### TABLE 20

RELATIONSHIP BETWEEN OCCUPATION OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Adoption level</th>
<th>Total</th>
<th>(X^2) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Poultry + labour work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Poultry + business</td>
<td>(3.75)</td>
<td>(3.75)</td>
<td>(0.00)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(2.50)</td>
<td>(6.25)</td>
<td>(3.75)</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>41</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>(8.75)</td>
<td>(51.25)</td>
<td>(11.25)</td>
</tr>
<tr>
<td>Poultry + service</td>
<td>0</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(5.00)</td>
<td>(3.75)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

NS = Nonsignificant at 6 d.f.

Figures given in parentheses indicate percentage.

The calculated chi-square value (11.6367) was found nonsignificant at 0.05 level of significance, indicating that there is no significant relationship between occupation of the poultry farmers and overall adoption of selected improved poultry farming practices. Hence, the null hypothesis is accepted. This finding is similar with finding of Gill and Sinha (1969).
5. **Family type and adoption**

The data collected in order to find out relationship between family type of the poultry farmers and overall adoption of selected improved poultry farming practices have been presented in Table 21.

**TABLE 21**

**RELATIONSHIP BETWEEN FAMILY TYPE OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION**

<table>
<thead>
<tr>
<th>Family type</th>
<th>Adoption level</th>
<th>Total</th>
<th>$X^2$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Nuclear</td>
<td>7</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>Joint</td>
<td>5</td>
<td>26</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
</tbody>
</table>

NS = Nonsignificant at 2 d.f.

Figures given in parentheses indicate percentage.

The data presented in Table 21 indicate that proportion of the respondents in nuclear family having medium level of adoption and joint family having medium level of adoption, were nearly equal 33.75 per cent and 32.50 per cent respectively, followed by 11.25 per cent and 8.75 per cent of the respondents from nuclear family having high and low level of adoption respectively. While 7.50 per cent and 6.25 per cent of the respondents from joint family having high and low level of adoption respectively.
The calculated chi-square value (0.5050) was found nonsignificant at 0.05 level of significance, indicating that there is no significant relationship between family type of the poultry farmers and overall adoption of selected improved poultry farming practices. Hence, the null hypothesis is accepted. This finding is supported by Gupta (1966).

6. Family size and adoption

In order to ascertain the relationship between family size of the poultry farmers and overall adoption of selected improved poultry farming practices, the data were collected and presented in Table 22.

| TABLE 22 |
| RELATIONSHIP BETWEEN FAMILY SIZE OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION |
| N = 80 |

<table>
<thead>
<tr>
<th>Family size</th>
<th>Adoption level</th>
<th>Total</th>
<th>X² value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Small size</td>
<td>4</td>
<td>26</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(5.00)</td>
<td>(32.50)</td>
<td>(7.50)</td>
</tr>
<tr>
<td>Large size</td>
<td>8</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>(10.00)</td>
<td>(33.75)</td>
<td>(11.25)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

NS = Nonsignificant at 2 d.f.
Figures given in parentheses indicate percentage.

The data presented in Table 22 reveal that one third (33.75 per cent) of the poultry farmers belonging to large size family having medium level of adoption, followed by
high adopters 11.25 per cent and low adopters 10.00 per cent. In case of small size of family, the percentage of medium, high and low adopters were 32.50 per cent, 7.50 per cent and 5.00 per cent respectively.

The calculated chi-square value (1.1638) was found nonsignificant at 0.05 level of significance, indicating no influence of family size of the respondents on adoption of selected improved poultry farming practices. Hence, the null hypothesis was accepted. This finding is supported by Thumar et al. (1981) and Choudhary et al. (1988).

7. Social participation and adoption

The data were collected to find out the relationship between social participation of the poultry farmers and overall adoption of selected improved poultry farming practices. The data in this regards are presented in Table 23 and Fig. 5.

A perusal of data presented in Table 23 indicate that one third (33.75 per cent) of the respondents were participated in one organisation who had medium level of adoption, followed by high and low adopters who were 11.25 per cent and 6.25 per cent respectively. In case of no participation group, the percentage of medium, low and high adopters were 28.75 per cent, 7.50 per cent and 1.25 per cent respectively.
Fig. 5  Level of adoption according to the social participation of the respondents.
TABLE 23

RELATIONSHIP BETWEEN SOCIAL PARTICIPATION OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Social participation</th>
<th>Adoption level</th>
<th>Total</th>
<th>( x^2 ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>No membership</td>
<td>6</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(7.50)</td>
<td>(28.75)</td>
<td>(1.25)</td>
</tr>
<tr>
<td>Membership in one organisation</td>
<td>5</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>(6.25)</td>
<td>(33.75)</td>
<td>(11.25)</td>
</tr>
<tr>
<td></td>
<td>13.9659*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership in more than one organisation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(2.50)</td>
<td>(3.75)</td>
</tr>
<tr>
<td>Holding position</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(1.25)</td>
<td>(2.50)</td>
</tr>
<tr>
<td></td>
<td>80</td>
<td>(15.00)</td>
<td>(66.25)</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level; d.f. = 6

Figures given in parentheses indicate percentage.
"C" value = 0.39

The calculated chi-square value (13.9659) was found to be significant at 0.05 level of significance. The contingency coefficient value was 0.39. This indicated that there was fairly correlation between social participation of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis was rejected. The probable reason for significant result might be that social participation developed social organisation and cosmopolite contact of respondents which influenced the adoption to a greater extent. This finding
is in line with findings reported by Bhatia (1966), Varma (1966), Gupta (1966) and Varma and Prasad (1971).

8. Land holding and adoption

The data collected in order to find out the relationship between land holdings of the poultry farmers and overall adoption of selected improved poultry farming practices have been presented in Table 24 and Fig. 6.

**TABLE 24**

RELATIONSHIP BETWEEN LAND HOLDING OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Land holding</th>
<th>N</th>
<th>Adoption level</th>
<th>Total</th>
<th>x² value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Landless</td>
<td>23</td>
<td>12</td>
<td>6</td>
<td>(28.75)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.25)</td>
<td>(15.00)</td>
<td>(7.50)</td>
</tr>
<tr>
<td>Small size</td>
<td>20</td>
<td>11</td>
<td>3</td>
<td>(25.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.50)</td>
<td>(13.75)</td>
<td>(3.75)</td>
</tr>
<tr>
<td>Medium size</td>
<td>28</td>
<td>25</td>
<td>2</td>
<td>(35.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.25)</td>
<td>(31.25)</td>
<td>(2.50)</td>
</tr>
<tr>
<td>Large size</td>
<td>9</td>
<td>5</td>
<td>4</td>
<td>(11.25)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.00)</td>
<td>(6.25)</td>
<td>(5.00)</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>53</td>
<td>15</td>
<td>(100.00)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level; d.f. = 6

Figures given in parentheses indicate percentage.

"C" value = 0.42

The data presented in Table 24 indicated that about one third (31.25 per cent) of the respondents having medium size of land holding were medium adopters. In case of land
Fig. 6 Level of adoption according to the land holding of the respondents.
less respondents, 15.00 per cent, 7.50 per cent and 6.25 per cent were medium, high and low adopters respectively. Whereas, the respondents having small size of land holding were 13.75 per cent medium, 7.50 per cent low and 3.75 per cent high adopters. In case of large size of land holding 6.25 per cent and 5.00 per cent of respondents were medium and high adopters respectively. The calculated chi-square value (16.9437) was found to be significant at 0.01 level of significance. The contingency coefficient value was 0.42. This indicated that there was moderate association between the land holding of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis is rejected. The possible reason for this might be better economic position of the respondents to meet the expenditure as well as capacity to take risk in investment of capital in adoption of selected improved poultry farming practices. This finding is in line with the findings of Narayanmurthy (1970), Subramanian et al. (1978), Sinha (1973) and Choudhary et al. (1988).

9. **Number of the poultry birds and adoption**

The data collected in order to ascertain the relationship between number of the poultry birds of the poultry farmers and overall adoption of selected improved poultry farming practices have been presented in Table 25 and Fig. 7.
Fig. 7 Level of adoption according to the number of the poultry birds of the respondents.
### Table 25

**Relationship between Number of the Poultry Birds of the Poultry Farmers and their Level of Adoption**

<table>
<thead>
<tr>
<th>Number of the birds</th>
<th>Adoption level</th>
<th>Total</th>
<th>(X^2) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Upto 5,000</td>
<td>11</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(13.75)</td>
<td>(32.50)</td>
<td>(3.75)</td>
</tr>
<tr>
<td>5,001 to 10,000</td>
<td>1</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(20.00)</td>
<td>(5.00)</td>
</tr>
<tr>
<td>10,001 to 15,000</td>
<td>0</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(7.50)</td>
<td>(5.00)</td>
</tr>
<tr>
<td>Above 15,000</td>
<td>0</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(6.25)</td>
<td>(5.00)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level; d.f. = 6**

Figures given in parentheses indicate percentage.

"C" value = 0.42

The data presented in Table 25 indicates that about one third (32.50 per cent) of the respondents owning upto 5,000 birds were medium adopters, followed by 13.75 per cent and 3.75 per cent were low and high adopters respectively. In case of 5,001 to 10,000 birds owner of the respondents 20.00 per cent, 5.00 per cent and 1.25 per cent were medium, high and low adopters respectively. Whereas, the respondents owning 10,001 to 15,000 birds were 7.50 per cent medium and 5.00 per cent high adopters. In case of above 15,000 birds owner 6.25 per cent and 5.00 per cent were medium and high adopters respectively. The calculated
chi-square value (17.2994) was found to be significant at 0.01 level of significance. The contingency coefficient value was 0.42. This indicates that there is moderate association between the number of the birds of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis was rejected. The possible reason for significant result might be better economic position of the respondents to meet the expenditure as well as capacity to take risk in investment of capital in adoption of selected improved poultry farming practices. This finding is in line with finding reported by Gill and Sinha (1969).

10. Socio-economic status and adoption

Socio-economic status refers to the position of poultry farmers in the society determined by various factors viz. social and economic factors. Influence of socio-economic status of the poultry farmers on overall adoption of selected improved poultry farming practices, the data in this regards are presented in Table 26 and Fig. 8.

The data presented in Table 26 indicate that good number (43.75 per cent) of the poultry farmers having medium socio-economic status were medium adopters, followed by equal 8.75 per cent who were high and low adopters. In case of high socio-economic status of the poultry farmers 15.00 per cent, 10.00 per cent and 1.25 per cent were medium,
Fig. 8 Level of adoption according to the socio-economic status of the respondents.
TABLE 26
RELATIONSHIP BETWEEN SOCIO-ECONOMIC STATUS OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Socio-economic status</th>
<th>Adoption level</th>
<th>Total</th>
<th>x^2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>4</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(5.00)</td>
<td>(7.50)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Medium</td>
<td>7</td>
<td>35</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(8.75)</td>
<td>(43.75)</td>
<td>(8.75)</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(15.00)</td>
<td>(10.00)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53.00</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level; d.f. = 4
Figures given in parentheses indicate percentage.
"C" value = 0.37

high and low adopters respectively. The calculated chi-square value (12.7583) was found to be significant at 0.01 level of significance. The contingency coefficient value was 0.37. This indicated that there is moderate correlation between the socio-economic status of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis was rejected. The possible reason for this might be that respondents have cosmopolite contact, more land holding and other favourable conditions led them to adoption of selected improved poultry farming practices. This finding is in consonance with the findings reported by Singh and Sinha (1970) and Singh and Singh Pal (1967).
11. Economic motivation and adoption

In order to ascertain the relationship between economic motivation of the poultry farmers and overall adoption of selected improved poultry farming practices, the data were collected and the same are presented in Table 27.

**Table 27**

<table>
<thead>
<tr>
<th>Economic motivation</th>
<th>Adoption level</th>
<th>Total</th>
<th>$X^2$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>3</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(3.75)</td>
<td>(8.75)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Medium</td>
<td>8</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>(10.00)</td>
<td>(48.75)</td>
<td>(12.50)</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(8.75)</td>
<td>(6.25)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

NS = Nonsignificant at 4 d.f.
Figures given in parentheses indicate percentage.

The data presented in Table 27 reveal that nearly about half (48.75 per cent) of the respondents having medium economic motivation were medium adopters, followed by 12.50 per cent high and 10.00 per cent low adopters having medium economic motivation. In case of high economic motivation the percentage of medium and high adopters were 8.75 per cent and 6.25 per cent respectively. While 8.75 per cent
and 3.75 per cent of respondents belonged to low economic motivation were medium and low adopters respectively. The calculated chi-square value (6.9750) was found nonsignificant at 0.05 level of significance, indicating that there was no significant relationship between economic motivation of the poultry farmers and overall adoption of selected improved poultry farming practices. Hence, the null hypothesis is accepted. This finding is in line with the findings of Subramanian et al. (1978) and Subramanian et al. (1980).

12. Scientific orientation and adoption

In order to ascertain the relationship between scientific orientation of the poultry farmers and overall adoption of selected improved poultry farming practices, the data were collected from the respondents and same are presented in Table 28 and Fig. 9.

<table>
<thead>
<tr>
<th>Scientific orientation</th>
<th>Adoption level</th>
<th>Total</th>
<th>( x^2 ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>6</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(7.50)</td>
<td>(10.00)</td>
<td>(1.25)</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>38</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>(6.25)</td>
<td>(47.50)</td>
<td>(10.00)</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(8.75)</td>
<td>(7.50)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level; d.f. = 4

Figures given in parentheses indicate percentage.
"C" value = 0.40
Fig. 9 Level of adoption according to the scientific orientation of the respondents.
The data presented in Table 28 indicate that nearly about half (47.50 per cent) of the respondents had medium scientific orientation were medium adopters, followed by 10.00 per cent and 6.25 per cent of respondents having high and low adopters respectively. In case of low scientific orientation of the poultry farmers, 10.00 per cent, 7.50 per cent and 1.25 per cent were medium, low and high adopters respectively. While 8.75 per cent and 7.50 per cent of respondents having high scientific orientation were medium and high adopters of poultry farming practices respectively. The calculated chi-square value (14.9678) was found to be significant at 0.01 level of significance. The contingency coefficient value was 0.40. This indicates that there is fairly association between the scientific orientation of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis was rejected. The possible reason for this might be that high and medium scientific orientation in general may go with high education and the respondents may use variety of sources causing better understanding leading to final adoption. This finding is in line with that of Subramanian et al. (1978) and Sinha et al. (1974).
13. Risk preference and adoption

The data collected in order to find out the relationship between risk preference of the poultry farmers and overall adoption of selected improved poultry farming practices. The data collected from the respondents are presented in Table 29.

TABLE 29

RELATIONSHIP BETWEEN RISK PREFERENCE OF THE POULTRY FARMERS AND THEIR LEVEL OF ADOPTION

<table>
<thead>
<tr>
<th>Risk preference</th>
<th>Adoption level</th>
<th>Total</th>
<th>( \chi^2 ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>3</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(3.75)</td>
<td>(8.75)</td>
<td>(1.25)</td>
</tr>
<tr>
<td>Medium</td>
<td>7</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(8.75)</td>
<td>(45.00)</td>
<td>(8.75)</td>
</tr>
<tr>
<td>High</td>
<td>2</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(2.50)</td>
<td>(12.50)</td>
<td>(8.75)</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>(15.00)</td>
<td>(66.25)</td>
<td>(18.75)</td>
</tr>
</tbody>
</table>

NS = Nonsignificant at 4 d.f.
Figures given in parentheses indicate percentage.

The data presented in Table 29 indicated that a good number (45.00 per cent) of the respondents had medium risk preference having medium adopters, followed by equal 8.75 per cent were high and low adopters. In case of high risk preference group the percentage of medium, high and low adopters were 12.50 per cent, 8.75 per cent and 2.50 per cent respectively. Whereas in low risk preference group
8.75 per cent were medium and 3.75 per cent were high adopters. The calculated chi-square value (6.6592) was found nonsignificant at 0.05 level of significance. This indicated that there was no significant relationship between risk preference of the poultry farmers and their overall adoption of selected improved poultry farming practices. Hence, the null hypothesis was accepted. This finding is in agreement with those of Subramanian et al. (1980).

4.5 CONSTRAINTS FACED BY THE POULTRY FARMERS IN ADOPTION OF SELECTED IMPROVED POULTRY FARMING PRACTICES

Constraints refer to the items of difficulties faced by the poultry farmers in adoption of poultry farming.

Constraints in adoption of poultry farming never be ended, however, it may be minimized, through conscious planned efforts. Constraints are inter-related within themselves. Inadequate poultry production is due to varieties of constraints.

Various researchers viz., Ayyadurai and John Knight (1981), Bhatia (1966), Ravindra (1980), Patel and Trivedi (1985) and Panda (1989) have studied various constraints in adoption of poultry farming. For the present investigation, constraints in adoption of poultry farming have been grouped into following major categories:
1. Knowledge constraints
2. Personal and family constraints
3. Situational constraints and
4. Economic constraints

The respondents were asked to report the constraints they faced in adoption of poultry farming, which were tabulated and presented in Table 30 and Fig. 10.

It could be seen from Table 30 that the constraint namely high cost of feed was reported by 92.50 per cent of the poultry farmers.

In respect of knowledge constraints lack of knowledge about institutional help was reported by 55.00 per cent of the respondents.

Among economic constraints high cost of feed, high charge of electricity, difficulty in getting loan and lack of finance were considered as constraints by 92.50 per cent, 77.50 per cent, 73.75 per cent and 63.75 per cent of respondents respectively. High price of medicine were felt as constraint by 25.00 per cent of respondents.

In respect of personal and family constraints inability to pay constant attention, lack of manpower to look after and religious constraints were reported by 61.25 per cent, 52.50 per cent and 17.50 per cent of the respondents respectively.
Percentage of the respondents

Knowledge constraints:
- Lack of knowledge about institutional help (55.00%)

Personal and family constraints:
- Inability to pay constant attention (61.25%)
- Lack of manpower to look after (52.50%)
- Religious constraint (17.50%)

Situational constraints:
- Risk and uncertainty (71.25%)
- Non-availability of labour (25.00%)
- Difficulty in marketing (43.75%)
- Non-availability of inputs (73.75%)
- Absence of veterinary centre (50.00%)
- Difficult poultry farming system (26.75%)
- Difficulty in getting electric supply (75.00%)
- Difficulty for water (37.50%)

Economic constraints:
- Lack of finance (63.75%)
- Difficulty in getting loan (73.75%)
- High cost of fuel (92.50%)
- High price of medicine (25.00%)
- High charge of electricity (77.50%)
TABLE 30
DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR CONSTRAINTS IN ADOPTION OF POULTRY FARMING

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Constraints</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Knowledge constraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Lack of knowledge about institutional help</td>
<td>44</td>
<td>55.00</td>
</tr>
<tr>
<td>B</td>
<td>Personal and family constraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Inability to pay constant attention</td>
<td>49</td>
<td>61.25</td>
</tr>
<tr>
<td>2</td>
<td>Lack of manpower to look after</td>
<td>42</td>
<td>52.50</td>
</tr>
<tr>
<td>3</td>
<td>Religious constraint</td>
<td>14</td>
<td>17.50</td>
</tr>
<tr>
<td>C</td>
<td>Situational constraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Risk and uncertainty</td>
<td>57</td>
<td>71.25</td>
</tr>
<tr>
<td>2</td>
<td>Non-availability of labour</td>
<td>20</td>
<td>25.00</td>
</tr>
<tr>
<td>3</td>
<td>Difficulty in marketing</td>
<td>35</td>
<td>43.75</td>
</tr>
<tr>
<td>4</td>
<td>Non-availability of inputs</td>
<td>59</td>
<td>73.75</td>
</tr>
<tr>
<td>5</td>
<td>Absence of veterinary centre</td>
<td>40</td>
<td>50.00</td>
</tr>
<tr>
<td>6</td>
<td>Difficult poultry farming system</td>
<td>23</td>
<td>28.75</td>
</tr>
<tr>
<td>7</td>
<td>Difficulty in getting electricity supply</td>
<td>60</td>
<td>75.00</td>
</tr>
<tr>
<td>8</td>
<td>Difficulty for water</td>
<td>30</td>
<td>37.50</td>
</tr>
<tr>
<td>D</td>
<td>Economic constraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Lack of finance</td>
<td>51</td>
<td>63.75</td>
</tr>
<tr>
<td>2</td>
<td>Difficulty in getting loan</td>
<td>59</td>
<td>73.75</td>
</tr>
<tr>
<td>3</td>
<td>High cost of feed</td>
<td>74</td>
<td>92.50</td>
</tr>
<tr>
<td>4</td>
<td>High price of medicine</td>
<td>20</td>
<td>25.00</td>
</tr>
<tr>
<td>5</td>
<td>High charge of electricity</td>
<td>62</td>
<td>77.50</td>
</tr>
</tbody>
</table>
Among situational constraints, difficulty in getting electric supply, non-availability of inputs and risk and uncertainty were felt as constraints by 75.00 per cent, 73.75 per cent and 71.25 per cent of the respondents respectively. Absence of veterinary centre, difficulty in marketing, difficulty in getting water, difficult poultry farming system and non-availability of labour were felt as constraints by 50.00 per cent, 43.73 per cent, 37.50 per cent, 28.75 per cent and 25.00 per cent of respondents respectively.

It is evident from the above data that among all the constraints identified, high cost of feed, high charge of electricity, difficulty in getting electric power supply, difficulty in getting loan, non-availability of inputs, risk and uncertainty, lack of finance and inability to pay constant attention were reported by majority of the poultry farmers. These findings are correlated with the findings of Joon et al. (1972), Ayyadurai and John Knight (1981), Bhatia (1966), Patel and Trivedi (1985), Panda (1989), Malyadri (1989) and Ravindra (1980).

4.6 SUGGESTIONS GIVEN BY THE RESPONDENTS TO OVERCOME THE CONSTRAINTS IN ADOPTION OF POULTRY FARMING

After knowing the constraints from poultry farmers in adoption of poultry farming, it is of great importance for poultry research unit, and also extension agencies to overcome them so that adoption of poultry farming practices
will be enhanced to increase poultry production. Hence, an attempt was made in the study to get suggestions from the poultry farmers in this direction. The respondents were asked to pinpoint suggestions to overcome the constraints faced by them. The data thus collected were analysed and frequencies were counted and percentage were worked out. The data in this respect are presented in Table 31.

A perusal of data presented in Table 31 indicated that the majority of the respondents had suggested, quick and timely supply of feed with reasonable price to the poultry farmers directly from the factory (87.50 per cent), long term credit facilities with more number of instalments should be provided (76.25 per cent), quick and timely finance should be provided to the poultry keepers as per requirements from the bank (73.75 per cent) and charge of electricity should be low (68.75 per cent). While more than fifty per cent of the respondents suggested, the management of poultry co-operative society and federation should be up to date (57.50 per cent), feed price as well as egg price should be fixed on the basis of profit and expenditures of the poultry farms (52.50 per cent) and regular electric power supply should be provided (51.25 per cent). Whereas 43.75 per cent and 38.75 per cent of the respondents had suggested regular visit by the veterinary doctor and marketing of egg should be arranged through Government agencies respectively.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Suggestions</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Long term credit facilities with more number of instalments should be provided</td>
<td>61</td>
<td>76.25</td>
</tr>
<tr>
<td>2</td>
<td>Quick and timely supply of feed with reasonable price to the poultry farmers directly from the factory</td>
<td>70</td>
<td>87.50</td>
</tr>
<tr>
<td>3</td>
<td>Charge of electricity should be low (less)</td>
<td>55</td>
<td>68.75</td>
</tr>
<tr>
<td>4</td>
<td>Regular visit by the veterinary doctor</td>
<td>35</td>
<td>43.75</td>
</tr>
<tr>
<td>5</td>
<td>Quick and timely finance should be provided to the poultry keepers as per requirements from the banks</td>
<td>59</td>
<td>73.75</td>
</tr>
<tr>
<td>6</td>
<td>Regular electric power supply should be provided</td>
<td>41</td>
<td>51.25</td>
</tr>
<tr>
<td>7</td>
<td>The management of poultry co-operative society and federation should be up to date</td>
<td>46</td>
<td>57.50</td>
</tr>
<tr>
<td>8</td>
<td>Feed price as well as egg price should be fixed on the basis of profit and expenditure of the poultry farms</td>
<td>42</td>
<td>52.50</td>
</tr>
<tr>
<td>9</td>
<td>Marketing of eggs should be arranged through Government agencies</td>
<td>31</td>
<td>38.75</td>
</tr>
</tbody>
</table>
SUMMARY & CONCLUSION
CHAPTER - V

SUMMARY AND CONCLUSIONS

This chapter deals with a brief description of the study with regard to summary, major findings, conclusions, suggestions for action and suggestions for future research.

5.1 SUMMARY

A. OBJECTIVES OF THE STUDY

1. To study the socio-economic and psychological characteristics of the poultry farmers.
2. To determine the sources of information utilized by the poultry farmers.
3. To determine the level of adoption of the selected improved poultry farming practices by the poultry farmers.
4. To determine the relationship between socio-economic and psychological characteristics of the poultry farmers and the overall adoption of selected improved poultry farming practices.
5. To study the constraints in adoption of poultry farming as perceived by the poultry farmers.
6. To ascertain the suggestion of the poultry farmers to overcome the constraints in adoption of poultry farming.
B. HYPOTHESES OF THE STUDY

Against the above referred objectives of the study the following hypotheses were set forth and tested with the help of data collected.

1. There is no difference in socio-economic and psychological characteristics of the poultry farmers.
2. Poultry training research station is most utilized source of information than the other sources and media.
3. There is low level of adoption of selected improved poultry farming practices by the poultry farmers.
4. There are no constraints in adoption of poultry farming.
5. There is no association between the level of adoption of the selected improved poultry farming practices and their socio-economic and psychological characteristics of the poultry farmers.

C. REVIEW OF RELATED LITERATURE

Keeping in view the objectives of the study, the available literature was reviewed which has been classified under the following heads:

1. Socio-economic and psychological characteristics of the poultry farmers.
2. Sources of information utilized by the poultry farmers.
3. Level of adoption of selected improved poultry farming practices.
D. METHODOLOGY

The present study was carried out in Kheda district of Gujarat State which is located in middle of Gujarat (Charotar area) State. Kheda district is spread over in ten talukas, all talukas were selected for the present study. The total population of poultry farms were 118 in the Kheda district. Out of them 80 respondents were selected by random sampling with proportional allocation procedure for the present investigation. All the selected poultry farmers were personally interviewed.

The tool of the study was interview schedule which was administered to the respondents by the investigator himself.

To know the socio-economic and psychological characteristics of poultry farmers, sources of information utilized by the poultry farmers, constraints in adoption of poultry farming and suggestions of the poultry farmers were studied and presented in terms of frequency and percentage. Level of adoption was measured by mean (\( \bar{x} \)) and standard deviation (S.D.). For testing the relationship, the chi-square (\( x^2 \)) test and contingency coefficient value were applied.
5.2 MAJOR FINDINGS

Major findings of the study are noted below:

I. Socio-economic and psychological characteristics of the poultry farmers

1. Majority (70.00 per cent) of the respondents belonged to middle age group followed by the young age group (16.25 per cent).

2. Four fifths (80.00 per cent) of the respondents belonged to high caste followed by the intermediate caste (16.25 per cent).

3. One half (50.00 per cent) of the respondents were educated upto secondary level followed by 27.50 per cent, 18.75 per cent and 3.75 per cent who were upto educated/college level, upto primary level and illiterate respectively.

4. Majority (71.25 per cent) of the respondents were having farming occupation with poultry farming followed by 12.50 per cent with business occupation.

5. Nearly more than one half (53.75 per cent) of the respondents belonged to nuclear families followed by 46.25 per cent from joint families. In case of size of family, majority (55.00 per cent) of the respondents belonged to large size of families followed by 45.00 per cent from small size of families.
6. Slightly more than one half (51.25 per cent) of the respondents occupied membership in one organisation.

7. Nearly more than one third (35.00 per cent) of the respondents possessed medium size of land holdings followed by 28.75 per cent, 25.00 per cent and 11.25 per cent of the respondents were landless, having small size and large size of land holding respectively.

8. Majority (61.25 per cent) of the respondents belonged to medium socio-economic status followed by 26.25 per cent of them belonging to higher socio-economic status.

9. One half (50.00 per cent) of the respondents owning upto 5,000 number of the birds followed by 26.25 per cent who were owning 5,001 to 10,000 number of birds.

10. Majority (71.25 per cent) of the respondents were in medium economic motivation group followed by 16.25 per cent in high economic motivation group.

11. Majority (63.75 per cent) of the respondents were found in medium scientific orientation group followed by 18.75 per cent in low scientific orientation group.

12. Majority (62.50 per cent) of the respondents were found in medium risk preference followed by 23.75 per cent with high risk preference.
II. Sources of information utilized by the poultry farmers

Poultry breeding farm/hatchery and Poultry Training Research Station were major sources of information to 80.00 per cent and 55.00 per cent of the respondents respectively. While in case of other sources of information, private veterinary doctor, veterinary officer and poultry feed and production unit were secondary major sources for 51.25 per cent, 50.00 per cent and 41.25 per cent of the respondents respectively.

III. The level of adoption of selected improved poultry farming practices

1. Three fourths (75.00 per cent) of the respondents had medium level of adoption of "improved strain practice" followed by 20.00 per cent and 5.00 per cent were in high level and low level of adoption of this practice respectively.

2. More than two thirds (68.75 per cent) of the respondents had medium level of adoption of "feed management practice" followed by 25.00 per cent and 6.25 per cent were in high level and low level of adoption of feed management practice respectively.

3. More than three fourths (77.50 per cent) of the respondents had adopted "water management" practice at medium level followed by 18.75 per cent and 3.75 per cent were high and low adopters.
4. Four fifths (80.00 per cent) of the respondents were found in medium level of adoption of 'lighting practice' followed by 15.00 per cent and 5.00 per cent were high and low adopters.

5. Majority (71.25 per cent) of the respondents had adopted "culling practice" at medium level followed by 16.25 per cent and 12.50 per cent were in low level and high level of adoption of culling practice respectively.

6. As regard "health care practice", 66.25 per cent of the respondents had adopted this practice at medium level followed by 18.75 per cent and 15.00 per cent adopted at low and high level of "health care practice".

7. Four fifths (80.00 per cent) of the respondents had medium level of adoption of "rearing system" followed by 17.50 per cent and 2.50 per cent were in high level and low level of adoption of this practice respectively.

8. As regards "summer and winter management practice" majority (81.25 per cent) of the respondents had adopted this practice at medium level followed by 11.25 per cent and 7.50 per cent had adopted at high and low level respectively.

9. Slightly more than two thirds (67.50 per cent) of the respondents had adopted "record keeping practice" at medium level followed by 20.00 per cent and 12.50 per cent were low level and high level adopters.
10. In case of "marketing practice" majority of the respondents (81.25 per cent) had adopted at medium level, while 12.50 per cent and 6.25 per cent had adopted "marketing practices" at high and low level respectively.

11. As regards to "overall adoption" is concerned, two thirds (66.25 per cent) of the respondents were found in medium level of adoption category followed by 18.75 per cent and 15.00 per cent were in high and low level of adoption categories.

IV. **Relationship between the socio-economic and psychological characteristics of the poultry farmers and their overall adoption of selected improved poultry farming practices**

Among different socio-economic and psychological characteristics of the poultry farmers, caste, occupation, family type, family size, economic motivation and risk preference were found nonsignificant at 0.05 level of significance indicating that there was no relationship between above variables with overall adoption of selected improved poultry farming practices. But age, education, social participation, size of land holding, socio-economic status, number of poultry birds, and scientific orientation were found significant relationship, indicating that there was significant relationship of said variables with overall adoption of selected improved poultry farming practices.
V. Constraints faced by the poultry farmers in adoption of selected improved poultry farming practices

1. Among economic constraints, "high cost of feed" and "high charge of electricity" were reported by 92.50 per cent and 77.50 per cent of the respondents respectively, while 73.75 per cent and 63.75 per cent of the respondents experienced "difficulties in getting loan" and "lack of finance".

2. In respect of personal and family constraints, "inability to pay constant attention" was reported by 61.25 per cent of the poultry farmers, while "lack of manpower to look after" was reported by 52.50 per cent of the respondents.

3. Among situational constraints, "difficulty in getting electric supply", "non-availability of inputs", "risk and uncertainty" and "absence of veterinary centre" were reported by 75.00 per cent, 73.75 per cent, 71.25 per cent and 50.00 per cent of the poultry farmers respectively. While such as "difficulty in marketing", "difficulty for water", "difficult poultry farming system" and "non-availability of labour" were felt as constraints by 43.75 per cent, 37.50 per cent, 28.75 per cent and 25.00 per cent of the respondents respectively.

4. As regards knowledge constraints "lack of knowledge about institutional help" was reported by 55.00 per cent of the respondents.
VI. Suggestions given by the respondents to overcome the constraints in adoption of poultry farming

Majority (87.50 per cent, 76.25 per cent, 73.75 per cent and 68.75 per cent) of the respondents had suggested "Quick and timely supply of feed with reasonable price to the poultry farmers directly from factory", "Long term credit facilities with more number of instalments" should be provided, "Quick and timely finance should be provided to the poultry keepers as per requirements from the banks" and "Charge of electricity should be reasonable/less".

In compendium, all six null hypotheses were rejected in light of the findings of the study.

5.3 CONCLUSIONS

The conclusions derived from the findings of the study are summarised as under:

1. Majority of the respondents belonged to the middle age and higher caste, whereas one half of the respondents were secondary level of education.

2. Majority of the respondents had farming occupation with poultry farming.

3. Nearly more than one half of the respondents had large size and nuclear type of family.

4. Slightly more than one half of the poultry farmers were having membership in one organisation.
5. One half of the poultry farmers were owning upto 5,000 birds and nearly more than one third of poultry farmers were medium size of land holdings.

6. Majority of the poultry farmers were having medium socio-economic status.

7. Majority of the poultry farmers had medium level of economic motivation, scientific orientation and risk preference.

8. Among different sources and media of information, formal sources were most accessible sources for poultry farmers.

9. As regards to overall adoption two thirds (66.25 per cent) of the respondents were found in medium level of adoption, followed by 18.75 per cent and 15.00 per cent were in high and low level of adoption categories.

10. Among all the constraints in poultry farming "high cost of feed", "high charge of electricity", "difficulty in getting electric power supply", "difficulty in getting loan", "non-availability of inputs", and "risk and uncertainty" were the major constraints reported by majority of the poultry farmers.

11. Majority of the respondents had suggested "quick and timely supply of feed with reasonable price to the poultry farmers directly from factory", "long term credit facilities with more number of instalments should be provided", "quick and timely finance should be
provided to the poultry keepers as per requirements from the bank" and "charge of electricity" should be reasonable.

12. Among various socio-economic and psychological characteristics, age, education, social participation, land holding, socio-economic status, number of birds and scientific orientation were found significant relationship, indicating that there were significant association with overall adoption of selected improved poultry farming practices.

5.4 SUGGESTIONS FOR ACTION

1. The findings of this study revealed that majority of the respondents belonged to middle age with secondary education and high caste. Hence, such type of farmers may be approached for accelerating adoption of poultry farming practices.

2. The study also reveal that majority of the respondents belonged to medium socio-economic status, members in one organisation and having medium size of land holdings. Hence, efforts should be made to encourage such type of farmers for more adoption of poultry farming.

3. Among different sources of information, Poultry breeding farm/hatchery, Poultry Training Research Station and Veterinary officer were most utilized sources, therefore
such type of sources and media should be utilized by the extension agency to transfer poultry farming practices.

4. The appropriate arrangement for quick and timely supply of poultry feeds with reasonable price should be made available so as to adopt poultry farming.

5. Adequate long term credit facility with more number of instalments should be provided to the poultry farmers through poultry co-operative society or any other agencies so as to promote poultry farming in rural areas.

6. Short term training programmes should be organised for poultry farmers so as to make them aware about various poultry farming practices.

7. Adequate facilities in marketing of eggs should be made through Government agency so that maximum profit can be obtained from poultry farms.

8. Adequate facilities for veterinary care should be provided to poultry farmers so as to avoid risk and uncertainty in poultry farming.

9. Charge of electricity should be reasonable/less as well as regular electricity power supply should be given in rural area particularly for poultry farmers so that they can make arrangement for lighting and water facility.
10. Appropriate arrangement for quick and timely finance should be provided to the poultry keepers as per that requirements from the bank so they can purchase feed, medicine and other requirements in time.

11. Farmers should be provided credit facilities upto 70% of the total value of their eggs which they may like to store in cold storages when the market rates of eggs are low beyond even their cost of production.

12. Establishment of Disease Diagnostic and Feed Analytical Labs in all the major poultry pockets of the country.

13. Government agencies to purchase maize/other grains, soya bean meal, oil cakes etc. to begin with at the harvest season when the rates of these essential commodities are low and supply these to farmers after some time when their rates go high in the market.

14. To provide better understanding about various facts of poultry farming among poultry farmers, more emphasis should be given through various extension methods viz., film show, study tour, demonstration and television.

5.5 SUGGESTIONS FOR FUTURE RESEARCH

In light of the findings of the study, following studies can be taken up in the area of poultry farming.

1. Similar investigations may be conducted in other area of the Gujarat State, so that results of this study might be strengthened.
2. More detail study on different sources of information which are effective and useful in popularizing poultry farming should be conducted.

3. A study on role of poultry co-operative society and federation in changing attitude and habits of poultry farmers may be undertaken.

4. A study regarding poultry drop-outs may be conducted so as to know the reasons for the same.
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APPENDICES
### APPENDIX I

### INTERVIEW SCHEDULE

<table>
<thead>
<tr>
<th>Interview No.</th>
<th>Date</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Name of the respondents</th>
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<table>
<thead>
<tr>
<th>Caste</th>
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<table>
<thead>
<tr>
<th>Village</th>
<th>Taluka</th>
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<table>
<thead>
<tr>
<th>Name of the poultry farm</th>
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<table>
<thead>
<tr>
<th>Number of birds</th>
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</table>

### PART I

**SOCIO-ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF POULTRY FARMERS**

1. **Age**
   - years

2. **Education**
   - Illiterate (0)
   - Can read (1)
   - Can read and write (2)
   - Primary education (3)
   - Secondary education (4)
   - High School (5)
   - College education (6)

3. **Occupation**
   - Labour work (1)
   - House hold work (2)
   - Business (3)
   - Farming (4)
   - Service (5)
   - Independent occupation (6)
4. **House** - (a) Number
   - One (1)
   - Two (2)
   - Three (3)

   (b) Type
   - Kachha (1)
   - Mixed (2)
   - Pucca (3)

5. **Farm power** - Bullock (Nil) (0)
   - One to two (2)
   - Three to four (4)
   - Five to six (6)

6. **Material possession**

   Please mention which materials do you possess from following

   1. Local plough
   2. Mould board plough
   3. Clodcrushing plough
   4. Cultivator
   5. Local drill
   6. Improved drill
   7. Plank
   8. Thresher
   9. Duster
   10. Sprayer
   11. Bullock cart
   12. Chair (Wooden)
   13. Table (Wooden)
   14. Wooden cupboard
   15. Cycle
   16. Wall clock
   17. Stove
   18. Television, Radio
   19. Car, Scooter
   20. Any other
7. **Family**: (1) **Type**  
   - Nuclear (1)  
   - Joint (2)  
   (b) **Size**  
   - Upto 5 members (1)  
   - Above 5 members (2)

8. **Social participation**  
   - Membership in one organisation (1)  
   - Membership in more than one organisation (2)  
   - Holding position (3)

9. **Land holding (in acres)**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Item</th>
<th>Irrigated</th>
<th>Unirrigated</th>
<th>Fellow</th>
<th>Total</th>
</tr>
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<tbody>
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</table>

   a. Owned
   b. Leased in
   c. Leased out

10. **Number of family member assistant in poultry farming.**

11. **Economic motivation**

The following are some statements representing economic motivation of poultry farmers. Please state the degree of your agreement by putting tick mark (✓) against each of them, on five point scale.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Statement</th>
<th>S.A.</th>
<th>A</th>
<th>U.D.</th>
<th>D</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. A poultry farmer should work hard toward higher egg production and economic profits.

2. The most successful poultry farmer is one who makes the more profit
3. A poultry farmer should try any new poultry farming idea which may earn him more money.

4. A poultry farmer should select improved strain of birds to increase monetary profits.

5. It is difficult for the poultry farmer’s children to make good start unless he provides them with economic assistance.

6. A poultry farmer must earn his living but the most important thing in life can not be defined in economic terms.

S.A. = Strongly agree, A = Agree, U.D. = Undecided, D = Disagree, S.D. = Strongly disagree

7. Scientific orientation

The following are some statements representing scientific orientation of poultry farmers. Please state the degree of agreement by putting tick mark (✓) against each of them on five point scale.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Statements</th>
<th>S.A.</th>
<th>A</th>
<th>U.D.</th>
<th>D</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New methods of poultry farming give better results to a poultry farmer than the old method.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>A poultry farmer with lots of experience should use new methods of poultry farming.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>Though it takes time for a poultry farmer to learn new methods in poultry farming, it is worth the effort.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. A good poultry farmer experiments with new ideas in poultry farming.

5. Traditional methods of poultry farming have to be changed in order to raise the level of living of a poultry farmer.

6. The way in which forefathers of poultry farmer's followed poultry farming is still the best way of poultry farming.


8. Risk preference

The following are some statements representing risk preference of poultry farmers. State the degree of your agreement by putting tick mark (✓) against each of them on five point scale.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Statement</th>
<th>S.A.</th>
<th>A</th>
<th>U.D.</th>
<th>D</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A poultry farmer should take chance to avoid greater risk with adopting less number of birds</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>A poultry farmer who is willing to take greater risk than the average poultry farmer usually does better financially</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>It is good for a poultry farmer to take risk when he knows his chance of success is fairly high</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4 Trying an entirely a new poultry farming method by a poultry farmer involves risk but it is worth

5 A poultry farmer should follow poultry farming with farming occupation to avoid greater risk

6 It is better for a poultry farmer not to try new poultry farming methods unless most of other poultry farmers have used them with success


PART II

How frequently do you use the following sources of information for improved poultry farming practices.

Sr.No. Name of sources

A. Formal sources

1. Poultry Training Research Station
2. Veterinary officer
3. Intensive poultry development unit/agency
4. District poultry extension centre
5. Poultry feed and production unit
6. Poultry breeding farm (Hatchery)
7. Poultry project officer
8. District rural development agency
9. Village level worker
PART III
ADOPTION OF IMPROVED POULTRY FARMING PRACTICES

(1) Improved strain
(a) Have you brought improved strains for egg production?

Yes _______ No _________

If "Yes" please mention strain from the following putting tick mark (✓).
- Babcock __________
- Hisex __________
- Lohman __________
- RIR __________
- Rani shaver __________
- Poona pearls __________
- Hyline __________
- Any other __________

(b) Do you bring one day old chicks from Hatcheries?  
Yes _______  No _______

(c) Have you kept local strain with improved strain in your farm? Yes _______  No _______

(d) When you bring the chicks __________________

(2) Feed Management

(a) Please mention type of feed
- Mashed __________
- Granular __________
- Any other __________

(b) Please mention type and quantity of feed per bird in a day

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chick birds</td>
<td></td>
</tr>
<tr>
<td>Grower birds</td>
<td></td>
</tr>
<tr>
<td>Layer birds</td>
<td></td>
</tr>
</tbody>
</table>
(c) Do you feed green grass to birds? Yes____ No____
   If "Yes" please mention type and quantity per birds
   in a day.
   - Lucerne
   - Any other

(d) How many times are giving feed to poultry birds?
   - Once in a day ___
   - Twice in a day ___
   - Thrice in a day ___

(e) Which equipment are you using for giving feed to
   poultry birds?
   - Iron feeder
   - Aluminium feeder
   - Wooden feeder
   - Any other

(f) From where do you purchase poultry feed?
   - Ready made feed from private company
     - Self preparation of feed
     - Any other

(3) Water management
   (a) Do you give clean water free from salts to your
       poultry brids? Yes _____ No _____
   (b) Do you provide continuous water to birds?
       Yes _____ No _____
(c) Please mention equipments for giving water to poultry birds.
   (1) Niple waterer
   (2) Pot method (a) Aluminium pot
       (b) Galvanised pot
   (3) Water Chanal method (1) PVC pipe
       (2) Any other

(d) Do you provide cold water to birds in summer season?
   Yes ________ No ________
   If "Yes" please mention method of cooling water
       - Ice
       - Any other

(e) Do you give 1 to 2 percentage Glucose water to the 1 day to 1 week chicks? Yes ________ No ________

(4) Lighting
(a) Is necessary the additional light for egg laying hens? Yes ________ No ________
   If "Yes" mention the reason for giving additional lighting system

(b) How do you provide additional lighting?
   - Electric bulb ________ volt
   - Electric tube ________
   - Any other ________
(c) How many hours do you give additional lighting?
   Morning _______ hours
   Evening _______ hours

(d) How many hours of light is necessary?
   - 1 day to 4 week chicks _______
   - Laying hens _______

(5) Culling
   (a) Do you remove non-productive hens? Yes_____ No _____
   (b) Please mention interval of culling non-productive hens

   __________________________________________________________
   __________________________________________________________

   (c) How do you decide the non-productive hens?

   __________________________________________________________
   __________________________________________________________

   (d) Why do you remove the cull birds?

   __________________________________________________________
   __________________________________________________________

(6) Health care
   (a) Do you follow regular checking for health of poultry birds? Yes _____ No _____

   If "Yes" who make checking?
   - Veterinary Doctor
   - Yourself
   - Any other trained person of village
   - Any other
(b) For preventing the birds from disease, have you injected your poultry birds with antibiotics?  
Yes ______  No _______

If "Yes" mention the which disease, when and by which vaccin you injected your birds

<table>
<thead>
<tr>
<th>Vaccin</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marek's</td>
<td></td>
</tr>
<tr>
<td>Ranikhet</td>
<td></td>
</tr>
<tr>
<td>Fowl pox</td>
<td></td>
</tr>
<tr>
<td>I.B.</td>
<td></td>
</tr>
<tr>
<td>Leukosis</td>
<td></td>
</tr>
<tr>
<td>Any other</td>
<td></td>
</tr>
</tbody>
</table>

(c) Do you take any action for protecting your birds from roundworm and other parasites? Yes____ No____

If "Yes" please mention the action taken by you.

<table>
<thead>
<tr>
<th>Vaccin</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coccidios</td>
<td></td>
</tr>
<tr>
<td>Roundworm</td>
<td></td>
</tr>
<tr>
<td>Deworming</td>
<td></td>
</tr>
<tr>
<td>Any other</td>
<td></td>
</tr>
</tbody>
</table>

(d) Have you provide any antibiotics to your poultry birds?  Yes ______  No _______

If "Yes" mention, which, when and why?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
(e) How do you give antibiotics and other medicines?
- Mixing it with water
- Mixing it with feed

(f) What are the action taken by you for preventing birds from disease, roundworm and parasites?
- Have you vaccinated your birds against disease resistance?
- As soon as your birds found sick, have you called the veterinary doctor?
- Do you separate the sick bird from the healthy birds? Yes ___ No ___
- While replacing old birds from the farm, do you clean the walls, floor, litter and ventilation etc.? Yes ___ No ___
- Do you keep cleanliness around your poultry farm? Yes ___ No ___

(g) When do you debeaking your poultry birds?
(1) First debeaking ___
(2) Second debeaking ___
(3) Third debeaking ___
Which equipments do you use?

Size of cutting the beak
- Upper beak ___
- Lower beak ___
(7) Rearing system

(a) Which method do you follow for rearing poultry birds?
   - Cage system
   - Deep litter system
   - Any other

(b) If you follow litter system, mention which litter do you like most?
   - Rice husk
   - Wooden dust
   - Bajra husk
   - Wheat straw
   - Any other

(c) Height of litter from groundfloor

______________________________

(d) When you find more moisture in litter what do you do?

______________________________

(e) Do you use same litter after replacing old birds after a year? Yes ______ No _______

(f) Every day litter should be changed

______________________________

(g) If you follow cage system, mention type and method of cage?

______________________________
(8) **Summer and winter management**

(a) Summer management

(1) Do you arrange for slight cold water?
   Yes ______ No ______

(2) Do you white wash farm roof and inside wash with black colour?
   Yes ______ No ______

(3) Do you keep husk or straw on roof?
   Yes ______ No ______

(4) Do you spray water on roof?
   Yes ______ No ______

(5) Which type of feed do you give
   - High protein feed
   - Less protein feed

(b) Winter management

(1) Do you give slight hot water?
   Yes ______ No ______

(2) Which type of feed do you give
   - High protein feed
   - Less protein feed

(3) Mention any arrangement made for hot atmosphere

(9) **Record keeping**

- Do you maintain any records for your poultry farms?
  Yes ______ No ______

If "Yes" mention different type of records

(1) Daily eggs production register
(2) Register for feed management
(3) Livestock register
(4) Register for income and expenditure of poultry farm
(5) Labour master
(6) Vaccination register
(7) Medicine and Medication register
(8) Selling register
(9) Body weight and egg weight register
(10) Any other

(10) Marketing

(a) Selling of eggs
   (1) Do you sell eggs after grading? Yes____ No______
   (2) How do you sell eggs?
      - To poultry co-operative society
      - To private dealer
      - Any other
   (3) Do you sell fresh eggs? Yes____ No______
      What is the average price of 100 eggs__________

(b) Sale of hens
   - Do you sell hens? Yes____ No______
   - How do you sell hens?
     - On weight basis
     - Fix rate of bird
   - What is the average price of culled bird?
PART IV

CONSTRAINTS IN ADOPTION OF POULTRY FARMING

Please mention difficulties or constraints in adoption of poultry farming.

(A) Knowledge constraints
   (1) Lack of knowledge about institutional help
   (2) Any other

(B) Personal and family constraints
   (1) Inability to pay constant attention
   (2) Lack of manpower to look after
   (3) Religious constraints
   (4) Any other

(C) Situational constraints
   (1) Risk and uncertainty
   (2) Non-availability of labour
   (3) Difficulty in marketing
   (4) Non-availability of inputs
   (5) Absence of veterinary centre
   (6) Difficult poultry farming system
   (7) Difficulty in getting electric supply
   (8) Difficulty for water
   (9) Any other

(D) Economic constraints
   (1) Lack of finance
   (2) Difficulty in getting loan
   (3) High cost of feed
(4) High price of medicine
(5) High charge of electricity
(6) Any other

PART V

SUGGESTIONS TO OVERCOME THE CONSTRAINTS OR DIFFICULTIES

Please give your suggestions to overcome the constraints or difficulties followed in adoption of poultry farming.

1.
2.
3.
4.
5.
6.
7.
8.