

**STUDY ON THE IMPACT OF THE AGRICULTURAL PROGRAMMES  
IMPLEMENTED BY THE SMALL FARMERS DEVELOPMENT AGENCY  
AMONG FARMERS IN TRIVANDRUM DISTRICT**

**D. HARA PRASAD**



**THESIS**  
SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE DEGREE  
**MASTER OF SCIENCE IN AGRICULTURE**  
(AGRICULTURAL EXTENSION)  
FACULTY OF AGRICULTURE  
KERALA AGRICULTURAL UNIVERSITY

**DEPARTMENT OF AGRICULTURAL EXTENSION  
COLLEGE OF AGRICULTURE  
VELLAYANI, TRIVANDRUM**

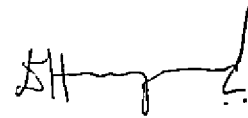
**1982**

## DECLARATION

I hereby declare that this thesis entitled "study on the impact of the agricultural programmes implemented by the Small Farmers Development Agency among farmers in Trivandrum District" is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title of any other university or society.

Vellayani,

12-1-1982



(D. HARAPRASAD)

## CERTIFICATE

Certified that this thesis, entitled "Study on the impact of the agricultural programmes implemented by the Small Farmers Development Agency among farmers in Trivandrum District" is a record of research work done independently by Shri. Haraprasad, D., under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to him.

Vellayani,

12-1-1982.

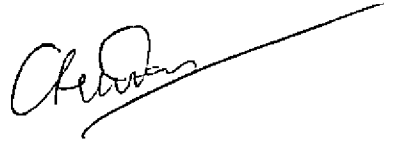


(Dr. A.M. TAMPI)  
Chairman,  
Advisory Committee,  
Associate Professor of  
Agricultural Extension.

Approved by

Chairman:

Dr. A.M. Tampi



Members:

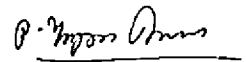
1. Prof. A.G.G. Menon



2. Dr. C. Sreedharan



3. Shri. P. Yageen Thomas



External Examiners:

## ACKNOWLEDGEMENT

The author wishes to place on record his deep sense of gratitude and indebtedness to:

Dr. A.M. Tampi, Associate Professor of Agricultural Extension and Chairman of the Advisory Committee, for his valuable guidance, constructive criticisms and encouragement through out the study and the preparation of this thesis.

Shri. A.G.G. Menon, Professor of Agricultural Extension, Dr. C. Sreedharan, Professor of Agronomy, Shri.P. Yageen Thomas, Assistant Professor of Agricultural Statistics, for valuable counselling and constant encouragement rendered at various stages of the study.

Officials of SFDA, respondent farmers for their co-operation and help in collection of data.

Kerala Agricultural University for awarding me a Fellowship for my post-graduate programme.

Vellayani,  
12-1-1982.

  
(D. HARI PRASAD)

## CONTENTS

Chapter No.		Page No.
I	INTRODUCTION ..	1
II	THEORETICAL ORIENTATION ..	5
III	METHODOLOGY ..	33
IV	RESULTS ..	52
V	DISCUSSION ..	73
VI	SUMMARY ..	92
	REFERENCES ..	
	APPENDIX ..	
	ABSTRACT ..	

## LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
1.	Comparing the education scores of beneficiaries and non-beneficiaries.	53
2.	Comparing the farm size of beneficiaries and non-beneficiaries.	54
3.	Comparing the herd size scores of beneficiaries and non-beneficiaries.	55
4.	Comparing the social participation scores of beneficiaries and non-beneficiaries.	56
5.	Comparing the beneficiaries and non-beneficiaries with respect to their contact with extension agencies.	57
6.	Comparing the beneficiaries and non-beneficiaries with respect to their mass media participation.	58
7.	Comparing the beneficiaries and non-beneficiaries with respect to their awareness of SFDA activities.	59
8.	Comparing the beneficiaries and non-beneficiaries with respect to their knowledge in improved practices of livestock rearing.	60
9.	Comparing the beneficiaries and non-beneficiaries with respect to their extent of adoption of improved practices of livestock rearing.	62
10.	Comparison among the three categories of beneficiaries with respect to their personal, socio-economic characteristics.	64

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
11.	Comparison among the three categories of beneficiaries with respect to their level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing.	65
12.	Relationship between characteristics of beneficiary farmers and level of awareness of SFDA activities.	69
13.	Relationship between the independent variables of beneficiaries and their level of knowledge in improved practices of livestock rearing.	70
14.	Relationship between the independent variables of beneficiaries and the extent of adoption of improved practices of livestock rearing.	71
15.	Interrelation among the dependent variables.	72



## LIST OF ILLUSTRATIONS

<u>Figure No.</u>	<u>Title</u>	<u>Between pages</u>
1.	Comparison of beneficiaries and non-beneficiaries with respect to the dependent variables of the study.	80 - 81
2.	Correlation between the independent variables and the level of awareness in SFDA activities.	83 - 84
3.	Correlation between the independent variables and level of knowledge in improved practices of livestock rearing.	86 - 87
4.	Correlation between the independent variables and the extent of adoption of improved practices of livestock rearing.	89 - 90

# INTRODUCTION

## CHAPTER I

### INTRODUCTION

Growth with justice, has been the essence of our planned economic development since the year 1951. A good progress was made in the former direction while we lagged behind in the latter. With the Launching of Intensive Agricultural District Programme, Intensive Agricultural Area Programme, High Yielding Varieties Programme, a major break through was achieved in the agricultural production.

The new technology required capital intensive inputs such as seeds, fertilisers, pesticides and enhanced the credit requirements of farmers. The rich farmers reaped benefits out of the new technology, owing to their access to inputs and services whereas the poor farmers remained where they were, being handicapped in this regard. This resulted in a lopsided growth in the country's economy.

The All India Rural Credit Review Committee (1969) rightly pointed out that:

"If the fruits of development are continued to be denied to large sections of the rural community, while prosperity accrues to some, the resulting tensions, social and economic may not only upset the process of orderly and peaceful changes in the rural economy but even frustrate the national effort to step up agricultural production."

The opinion of All India Rural Credit Review Committee and the alarming disparities in the rural life standards have led the planners, to give adequate thought to bridge the gap between the rich and the poor. Accordingly, the Government of India created Small Farmers Development Agency (SFDA) and Marginal Farmers and Agricultural Labourers Development Agency (MFAL) in the Fourth Five Year Plan, to give special attention to the problems of small farmers, marginal farmers and agricultural labourers. In all, 46 SFDAs and 41 MFALs have started functioning from 1971-72. Each SFDA and MFAL were started with an outlay of Rs.1.50 crores and Rs.1.00 crore, respectively.

However, based on the recommendations of National Commission on Agriculture, the SFDAs and MFALs functioning simultaneously in various districts were merged into single composite units in the year 1975. The organisational set up of the SFDA is that of a society registered under the Registration of Societies Act.

The agency does not, except in rare cases, directly administer any economic programme for the beneficiaries. The programmes are implemented by the institutions sponsored by it such as Zilla Parishad, The Agro Industries Corporation, Co-operative Banks, Commercial Banks, Departments of the

State and Central Governments etc. The Agency provides credit to the beneficiaries through these institutions. The subsidy rate is 25 per cent in the case of small farmers, 33 1/3 per cent in the case of marginal farmers and Agricultural Labourers and 50 per cent in the case of community schemes. Besides, the Agency assists in strengthening the infrastructure for extending credit and provides information on modern technology and management.

Need for the study.

SFDA is the first of its kind meant to develop the weaker sections of the society. The Agency is providing subsidies to the beneficiaries for participating in the schemes drawn by it. But, financial assistance alone is not enough for the success of a programme. It needs a simultaneous flow of technology coupled with apt behavioural changes in the farmers for a profitable utilisation of the economic help rendered. This makes it necessary to study, how far SFDA was successful in achieving this vital objective. Moreover, this study helps in making suitable recommendations to make the future programmes, effective and useful to the farmers.

### Objectives of the study.

The specific objectives of the present study were:

1. To study the level of awareness of the beneficiaries and non-beneficiaries about the Agency's activities.
2. To study the level of knowledge of beneficiaries and non-beneficiaries in improved practices of livestock rearing.
3. To study the extent of adoption of improved practices of livestock rearing by beneficiaries and non-beneficiaries.
4. To study the selected personal, socio-economic characteristics of beneficiaries and non-beneficiaries and their relationship with level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing.

### Limitations of the study

The present study had the limitation of inadequate review material and other resources, which prevented the researcher from covering all the programmes, implemented by SFDA. Only one SFDA programme, pertaining to livestock rearing was selected for the study, since it was not possible to cover all activities of SFDA, for want of time.

# **THEORETICAL ORIENTATION**

CHAPTER II  
THEORETICAL ORIENTATION

This Chapter provides review and a theoretical basis for empirical investigation. This will be useful to select relevant variables and to develop a set of hypotheses, against which the empirical evidence can be interpreted. Here an attempt has been made to summarise what is already known regarding the problem under investigation.

This chapter is divided into following seven sections.

- I. Concept of development.
- II. Role of SFDA in development.
- III. Impact of SFDA.
- IV. Dependent variables of the study.
- V. Relationship between dependent and independent variables.
- VI. Theoretical concepts and operational definitions.
- VII. Hypotheses set for the study.

I. Concept of development

Webster, defined development as the process or result of developing or advancing or state of being developed.



Development is a process by which one's overall personality is enhanced. This is true in the case of society as well as an individual. It may be economic or non-economic or it may be in both directions.

Haque et al. (1977) defined development as a multi-variate, quantitative and qualitative change and may not be immediately measured cardinally.

According to Rogers and Shoemaker (1971) development is a type of social change, in which new ideas are introduced into a social system, in order to produce high per capita incomes and high levels of living, through more modern production methods and improved social organisation.

In SFDA, development of the people at lower rungs of the society is enunciated. Development in this context can be considered as a type of social change, in which, new ideas are introduced and promoted in a social system in order to produce more employment and per capita income.

## II. Role of SFDA in development

All India Rural Credit Review Committee Report (1969) stated that small and marginal farmers had not benefitted in proportion to their numbers and needs, from earlier programmes of rural development. Unless, a deliberate attempt is made to develop these weaker sections of people

in India, it is difficult to achieve social and economic justice. This fact, derives support from the comparative studies of big and small farmers by Ernest (1973) and Singh (1976), who reported that small farmers were altogether different from big farmers. The formation of SFDA, in Fourth Plan is an effort to reduce the inequalities, by supplementing the farm income of small farmers and generating additional employment opportunities.

Experience has shown that productivity of small farms is in no way inferior to that of large farms. Chatterjee (1976) concluded that small farms are on the same footing as large farms, from the point of view of efficiency, if efficiency is measured in terms of the objective of maximising farm business income per acre. Dahiya (1975) revealed that small farms' credit requirement was greater and he suggested a preferential treatment to them. These studies point to the credit need of small and marginal farmers and the immense scope for making them viable. SFDA is working well in this direction.

Unemployment of rural work force has assumed threatening proportions, in the face of exploding population and consequent reduction in the size of holdings. Patel

(1965) revealed that majority of the small farmers seek service (government or private) as their secondary means of livelihood. The SFDA being well aware of the situation, is implementing programmes such as soil conservation, land development and reclamation, irrigation, storage and marketing, dairy development, poultry rearing and distribution of bullocks and carts, goats, sheep, pigs as well as facilities for inland fishing to counter the unemployment problem in rural areas.

By adopting the above strategy, SFDA attempts to reduce the polarisation and disparities between the haves and have nots in villages.

### III. Impact of SFDA

Since its functioning from 1971, SFDA programme has been evaluated by various organisations and individual researchers.

Salunkhe (1977) stated that income and employment opportunities of beneficiaries of SFDA have increased. The Kerala State Planning Board (1979), in an evaluation of SFDA in Quilon district, observed that there was an improvement in the annual income of beneficiary families, to a maximum of 68 per cent, as in the case of those with

operational holdings below 0.20 ha. Besides this, an additional employment of 41 man days per beneficiary household per year was reported.

Arputharaj and Rajayan (1979) found that an average net income of Rs.50/- per household was obtained from dairy scheme, in addition to the creation of productive employment to the house wives. In the same study, the cost benefit ratio worked out for crop production was found to be 0.92 in the benefitted farms.

A study by Programme Evaluation Organisation (1979) revealed that overall net increase in income from dairying was Rs.767/-in SFDA's and Rs.884/-in MFALS

These studies indicated that many of the previous studies on the impact of SFDA, were conducted on the lines of monetary gains and employment generated through different schemes. They do not explain the root causes behind the increased income. This keeps us in dark, about the differences between beneficiaries and non-beneficiaries viz. awareness of the agency, knowledge level and adoption behaviour. In fact, these are the different stages leading finally to the rise in income and employment. A perfect understanding of the above three stages, helps us in measuring the impact of the agency. Considering the above reasons,

an effort was made to evaluate impact in terms of  
1) awareness of the agency; 2) knowledge level;  
3) adoption behaviour.

#### IV. Dependent variables of the study

##### A. Impact of SFDA on the farmers' awareness of the Agency's activities.

Giving publicity and making people aware of its activities is the first job of any programme. Success or failure of a programme depends heavily upon this aspect, especially in the case of rural development.

Planning Commission report (1975) stated that lack of publicity and awareness among the farmers about the programmes and the Agency was the reason for low participation in SFDA.

Moni (1977), Nanjappan (1978) observed that participants had significantly higher awareness than non-participants, about the facilities offered by co-operative marketing society. Vijaya Raghavan (1979) also reported that awareness of Integrated Dry Land Agricultural Development Programme amongst participants was medium to high and while the same for non-participants was low to medium.

Salunkhe (1980) found that awareness about SFDA contributed significantly to the involvement of small farmers in it.

In the light of above reports, awareness was chosen as the component of impact of SFDA in this study.

B) Impact of SFDA on the knowledge of farmers.

Roy et al. (1968) opined that a farmer before utilising a given item of modern technology needed to possess the knowledge about the introduced technology.

Rogers and Shoemaker (1971) expressed that knowledge of an innovation could create motivation for their adoption.

This fact was considered in the implementation of SFDA Schemes and the agency maintains the flow of technology through training camps, seminars, demonstrations and by hiring other institutions existing in this field.

According to Verma and Rao (1969) Farmers' training, increased the knowledge of participants in farm practices over and above those in the control villages. Singh (1977) pointed out that trained farmers possessed significantly higher knowledge about modern agricultural practices than untrained farmers.

Nachiappan and Murthy (1976) found that there was no significant difference between beneficiaries and non-beneficiaries of SFDA, with respect to knowledge level about dairy practices, due to low education of farmers and less skilled workers employed in communication.

Grozovinski (1981) stated that contact farmers had significantly higher knowledge than others under training and visit programme.

These studies justify the selection of knowledge as impact component for the study.

C) Impact of SFDA on adoption behaviour of farmers.

Patel and Patel (1968) revealed that trained farmers had higher adoption when compared to untrained farmers.

Kamalsen (1971) while studying effectiveness of one day farmers' training camps under High Yielding Varieties Programme in Kerala, concluded that there was a significant increase in the rate of adoption after training.

Raj and Knight (1977) found that cost of innovation influenced adoption behaviour of small farmers and suggested credit supply to them. Sohi and Kerde (1980) stated that, high cost of improved practices was one of the reasons behind non-adoption of dairy innovations.

In addition to technology, SFDA is providing subsidies to the beneficiaries to relieve them from the credit burden and the high cost involved in adopting improved practices. This consequently influences the adoption behaviour, which makes the inclusion of adoption behaviour as an impact component a well reasoned one.

V. Relationship between dependent and independent variables of the study

A. Awareness of the farmers.

1. Education.

Singh (1976) indicated that small farmers were low in their education level.

Salunkhe (1977) found that the beneficiaries and non-beneficiaries of SFDA were alike with regard to their education. Venkidusamy (1977) reported that small farmers of project and non-project blocks were different in education.

Vijaya Raghavan (1979) stated that education of participants and non-participants of Integrated Dryland Agricultural Development Programme had positive and significant association with awareness.



Balu (1980) and Nandakumar (1980) concluded that education had positive and significant association with awareness.

The above studies revealed that education is an important variable in determining the participation and level of awareness of farmers, which led to its inclusion here.

## 2. Farm size.

Krishnaswamy and Patel (1974) showed that participant farmers of co-operative marketing society had larger holdings.

Venkidusamy (1977) found that there was significant difference with regard to socio-economic status, in between the small farmers of project and non-project blocks.

Vijaya Raghavan (1979) and Balu (1980) concluded that farm size was positively and significantly associated with awareness.

Mani (1980) also stated that farm size was significantly and positively associated with awareness of participants and non-participants.

These studies evidence the importance of farm size in determining awareness of farmers. In this study also, it was decided to test its influence on awareness.

### 3. Herd size.

Sharma and Sharma (1970) concluded that cattle wealth did not have a significant influence on the respondents' awareness of contagious nature of diseases.

In this study also, an effort was made to test the influence of herd size, on the level of awareness of farmers about SFDA activities.

### 4. Social participation.

Jayavelu (1980) revealed that participants of regulated market had higher social participation than non-participants.

Vijaya Raghavan (1979) reported that social participation was positively and significantly associated with awareness.

Mani (1980) and Nandakumar (1980) also concluded that social participation was positively and significantly associated with awareness.

Based on the above studies, social participation was selected to test its influence on awareness of farmers.

#### 5. Contact with extension agencies.

Venkidusamy (1977) reported that small farmers of project and non-project blocks were significantly different in their nature of contact with extension agency.

Khan (1978) reported that effort of the change agents was one of the main factors responsible for the increase in awareness of SFDA programme in the study area.

This substantiates the influence of contact with extension agencies on awareness and was selected for this study.

#### 6. Mass media participation.

Mani (1980) revealed that participants and non-participants of regulated market did not differ significantly in media participation. He concluded that media participation had positive and significant association with awareness.

For this study, it was assumed that media participation would be one of the deciding factors of awareness of farmers.

## B. Knowledge of farmers.

### 1. Education.

Bhaskaran and Mahajan (1968) found that education of farmers, in general, had a close and positive relationship with their response to extension teaching, both in respect of retention of knowledge and acceptance of the practice.

Supe and Salode (1975) reported that formal education was significantly related to the level of knowledge of farmers on the demonstrated practice.

Kaloel (1978) and Ahmed (1981) concluded that there was positive and significant association between education of farmers and their level of knowledge.

These studies show the influence of education over knowledge and it was considered to test it in the present study.

### 2. Farm size.

Many researchers studied the importance of farm size in influencing the knowledge of farmers.

Supe and Salode (1975) reported that farm size was not related to knowledge of farmers in the selected practices of Jowar in National Demonstration Programme.

Ahmed (1981) concluded that there was positive and significant relationship between the farm size and the level of knowledge of trained and untrained farmers.

These reports necessitated the selection of farm size, to confirm its influence over the knowledge level of farmers.

### 3. Herd size.

Sohal and Tyagi (1978) observed that herd size was significantly associated with knowledge of dairy innovations.

In this study also, an attempt was made to test the influence of herd size over knowledge of respondents.

### 4. Social participation.

Copp, Neal and Gross (1969) reported that participation of farmers in formal organisations, improved the possibility of increased social interaction, which in turn helped in increasing the level of knowledge about new farming practices by the farmers.

Singh and Prasad (1974) reported that social participation was positively related to the knowledge of communication sources of young farmers.

Kaleel (1978) found a positive and significant relationship between social participation and gain in knowledge of farmers of Intensive Paddy Development unit areas.

In this study also, an attempt was made, to test the influence of social participation on the level of knowledge on the improved practices.

#### 5. Contact with extension agencies.

Knight and Singh (1975) reported that contact with extension agencies had positive relationship with gain in knowledge of farmers.

Somasundaram and Singh (1978) and Kaleel (1978) found a positive and significant relationship between contact with extension agencies and gain in knowledge.

This led to the inclusion of this variable in the present context.

#### 6. Mass media participation.

Sohal and Tyagi (1978) stated that mass media exposure was significantly related with knowledge of the dairy farmers.

Therefore, mass media participation was selected, to test its influence on knowledge of the farmers in this study.

C. Adoption behaviour of the farmers.

1. Education.

Many researchers studied the influence of education on adoption, and found that education was positively related with adoption behaviour. Notable among them are Wilkening (1953), Lionberger (1960), Pandit (1964), Rajendra (1968), Keppse (1976) Rajondran (1978) and others.

Pillai (1978) found that there was no significant relationship between education and adoption. Subadhra (1979) revealed that adoption was not influenced by education.

The above studies furnish enough evidence, with respect to the role of education in adoption and an attempt was made to include this variable in this study also.

2. Farm size.

This is an influential factor in deciding the adoption of improved practices.

Pandit (1964) reported that size of holding had positive relationship with adoption of improved practices.

Subramanyam and Lakshmanan (1973) Sharma and Nair (1973) observed that size of farms had a positive and significant relationship with adoption of recommended practices. Kappse (1976) Vijayakumar (1976) and Rajendran (1978) also found a positive and significant relationship between adoption behaviour and farm size.

Pillai (1978) and Subadhra (1979) concluded that farm size had influence over adoption of improved practices.

The influence of farm size over adoption is well established in the above studies, which paved the way for including the farm size in this study.

### 3. Herd size.

Dubey et al. (1977) and Joshi (1978) reported that herd size was positively and significantly related to adoption.

Jothiraj (1974), Saini (1975), Pillai (1978), Subadhra (1979) opined that there was no significant relationship between herd size and adoption.

The above findings necessitated the consideration of herd size for study in this context.



#### 4. Social participation.

Social participation and its influence over adoption was studied extensively by different workers and found that it was positively related to adoption. Notable workers among them are Jothiraj (1974), Saini (1975), Kappse (1976), Vijayakumar (1976), Rajendran (1978) and others.

Supre and Salode (1975) reported that social participation was not related to adoption of demonstrated cultivation practices.

Joshi (1978) and Subadhra (1979) stated that there was no significant relationship between social participation and adoption.

Based on above studies it was decided to test the influence of social participation over adoption behaviour of farmers.

#### 5. Contact with extension agencies.

Saini (1975) found that contact with extension agencies was positively related to adoption of dairy innovations.

Kappse (1976), Vijayakumar (1976), Joshi (1978) and Subadhra (1979), indicated that contact with extension agency was positively and significantly associated with adoption.

The above reports led to the selection of this variable for this study.

#### 6. Mass media participation.

Gangappa (1975) and Mahadevaswamy (1978) revealed that there was a positive and significant association between media participation of small farmers and their adoption behaviour. Joshi (1978) also reported similar findings.

Since most of the studies repeatedly pointed out to the positive and significant association between these two variables, it would be of special interest to study their association in this study.

### VI. Theoretical concepts and operational definitions

Based on the guidelines set by Government of India SFDA defined small farmers, marginal farmers and agricultural labourers in the following manner. These definitions have been accepted for this study also.

#### 1. Small farmers.

Small farmers are the cultivators having land holdings upto two hectares (5 acres). In the case of Class I irrigated land as defined in the land ceiling legislation, the ceiling will be one hectare (2.5 acres).

## 2. Marginal farmers.

Marginal farmers are the cultivators having land holdings up to one hectare (2.5 acres) and in the case of Class I irrigated land as defined in the land ceiling legislation of the state, the ceiling will be 0.5 hectare (1.25 acres) only.

## 3. Agricultural labourers.

Agricultural labourers are those without any land holdings, but having a homestead and deriving more than 50 per cent of their annual income as agricultural wages.

In cases where the farmer is getting an off-farm income of Rs.2,400/- or more per year for the family shall not be eligible for identification under any of the categories mentioned above.

## 4. Livestock.

In the present study the term livestock refers to cows and buffaloes only.

## 5. Beneficiaries.

In this study, beneficiaries are those who obtained subsidies from SFDA under the Dairy Development Programme.

6. Non-beneficiaries.

In this study non-beneficiaries are those farmers who satisfy the eligibility norms, but who did not avail the subsidies given by SFDA.

7. Subsidy.

Is that part of the loan, which the farmers need not repay to the lending institution.

8. 'Impact' of SFDA.

In this study impact was measured in terms of awareness of the agency's activities, knowledge and extent of adoption of improved livestock rearing practices.

9. Dependent variables.

A. Awareness.

The basic pre-requisite for the success of development programme is, the very awareness of the existence of such programme, among the people for whom such programmes exist.

Awareness, according to the Dictionary<sup>of</sup> behavioural sciences is "Being conscious of something or the state of

perceiving and taking account of some event, occasion, experience or object".

Lionberger (1960) defined awareness as "the first knowledge about a new idea, product or practice". At the awareness stage a person has only general information about it.

In this study, awareness is operationally defined as the general information possessed by a respondent, with respect to various activities of SFDA.

#### B. Knowledge.

Providing or improving the knowledge of the people about the improved practices is the main task of extension education, since knowledge is a component of behaviour and plays an important role in the total behaviour of the individual. Once knowledge is acquired and retained, it moulds the thinking process of an individual and thus influences the overt behaviour of the individual.

English and English (1958) defined knowledge as a body of understood information possessed by an individual or by a culture. Knowledge is what to do next, skill is knowing how to do it and virtue is doing it. Ramsey et al.

(1959) suggested that cognitive adoption (covert) includes, obtaining knowledge and critical evaluation of the practices in terms of the individual situation. The educational activities tend to increase the knowledge of the participants in these activities.

For this study knowledge is operationally defined as the body of information possessed by an individual, with respect to improved practices in livestock rearing.

#### G. Adoption behaviour.

Behaviour is what an individual does. It is a response to a cause or stimulus and it is purposeful and goal oriented. It is intended to accomplish some objective which in turn would satisfy or at least reduce some need of the individual.

Dreyer (1952) defined behaviour as the total responses, motor and glandular which an organism makes to any situation with which it is faced.

Wilkening (1953) postulated the adoption of an innovation as a process composed of learning, deciding and acting over a period of time. The adoption or a decision to act, has a series of actions and thought decisions. Emery and Oaser (1958) viewed adoption of farm practices as a

consequence of communication. According to Ramsey et al. (1959) adoption behaviour involved two components, behavioural and cognitive. Behavioural adoption involves the actual use of the practice and cognitive adoption includes obtaining knowledge and critical evaluation of the practices, in terms of the individual situations.

According to Rogers (1962) Adoption process is the mental process through which an individual passes from first hearing of an innovation to its final adoption. Chattopadhyay (1963) defined adoption as the stage in the adoption process where decision making is complete, regarding the use of a practice and action with regard to such a decision commences. Rogers and Shoemaker (1971) defined adoption as a decision to continue full use of an innovation as the best course of action.

For the purpose of this study adoption behaviour is operationalised as, the observable action in the form of use of improved practices in livestock rearing.

#### 10. Independent variables.

##### A. Education.

Education in this study is identical with the level of literacy and refers to the ability of the respondents to read and write and the extent of schooling.

**B. Farm size.**

Farm size has been operationally defined as the number of acres of wet land and garden land owned by a respondent including the one leased in and leased out.

**C. Herd size.**

Herd size has been operationally defined as the number of adult animals and calves possessed by the respondent.

**D. Social participation.**

Social participation has been operationally defined as the involvement of the respondents in formal and informal social organisations and the frequency of participation in meetings connected with the respective organisations.

**E. Contact with extension agencies.**

Contact with extension agencies has been operationally defined as the respondent's frequency in visiting the extension agencies like Village Extension Officer, Junior Agricultural Officer, Demonstrator, University Scientist and others in connection with agricultural activities.



#### F. Mass media participation.

This has been operationally defined as the frequency of exposure of the respondents to the different mass communication media and their participation in related activities such as reading newspapers, listening rural radio programmes and reading farm literature.

#### VII. Hypotheses.

Following are the hypotheses set in the null form (H<sub>0</sub>) on the basis of the theoretical orientation and review of literature.

- H<sub>0</sub>-1        There will be no significant difference between the beneficiaries and non-beneficiaries with respect to their level of awareness of the SFDA activities.
- H<sub>0</sub>-2        There will be no significant difference among the three categories of beneficiaries with respect to their level of awareness of SFDA activities.
- H<sub>0</sub>-3        There will be no significant difference between the beneficiaries and non-beneficiaries with respect to their level of knowledge in the improved livestock rearing practices.
- H<sub>0</sub>-4        There will be no significant difference among the three categories of beneficiaries with respect to their level of knowledge in the improved livestock rearing practices.

- HO-5 There will be no significant difference between the beneficiaries and non-beneficiaries with respect to their extent of adoption of improved livestock rearing practices.
- HO-6 There will be no significant difference among the three categories of beneficiaries with respect to their extent of adoption of improved practices of livestock rearing.
- HO-7 There will be no significant difference between the beneficiaries and non-beneficiaries with respect to their personal, socio-economic characteristics.
- HO-8 There will be no positive and significant relationship between awareness of SFDA activities and the characteristics of beneficiaries viz. education, farm size, herd size, social participation, contact with extension agencies and mass media participation.
- HO-9 There will be no positive and significant relationship between the level of knowledge of improved practices of livestock rearing and the characteristics of beneficiaries viz. education, farm size, herd size, social participation, contact with extension agencies and mass media participation.
- HO-10 There will be no positive and significant relationship between the extent of adoption of improved practices of livestock rearing and the

characteristics of beneficiaries viz. education, farm size, herd size, social participation, contact with extension agencies and mass media participation.

HC-11      There will be no positive and significant relationship among the dependent variables of beneficiaries viz. level of awareness, level of knowledge and extent of adoption of improved practices of livestock rearing.

# **METHODOLOGY**

## CHAPTER III

### METHODOLOGY

This chapter deals with the materials and methods employed in the study which are presented in the following sections.

1. Selection of Dairy Development Programme implemented by SFDA for the study.
2. Location of the study.
3. Selection of the sample.
4. Variables and their measurement.
5. Data collection.
6. Methods of analysis.

#### I. Selection of a Dairy Development Programme implemented by SFDA for the study

The SFDA is implementing different schemes for the benefit of individual farmers and also for the community. Among the schemes implemented at individual farmer level, the Dairy Development Programme was selected for this study because it is the widely implemented and a popular one among the farmers over other programmes.

#### II. Location of the study

The study was conducted on the Small Farmers Development Agency functioning in Trivandrum District in Kerala.

The district comprised of twelve National Extension Service blocks, namely, Athiyannur, Chirayinkil, Kazhakkuttam, Kilimanoor, Nedumangad, Nemon, Parassala, Perumkadavila, Trivandrum Rural, Vamanapuram, Varkala and Vellanad.

The SFDA of Trivandrum was selected since no evaluation study was undertaken by any individual or any organisation in this district.

In this study, the twelve blocks in Trivandrum district were classified based on the degree of intensity of activities of SFDA, into three categories such as blocks wherein the intensity is high, medium and low. The categorisation was done in consultation with SFDA officials, in order to avoid the possibility of selecting only those blocks where SFDA's impact is too high or too low due to random sampling. Then from each category one block was selected randomly, and thus three blocks were selected finally. The three were Athiyannur, Kilimanoor and Nemon.

### III. Selection of the sample

From each block, 10 small farmers, 10 marginal farmers and 10 agricultural labourers were selected randomly from the list of beneficiaries maintained by the SFDA.

In the same manner, 10 small farmers 10 marginal farmers and 10 agricultural labourers were selected randomly from the list of non-beneficiaries obtained from the Block office. Thus, the total respondents for the study selected from three blocks were 180 of which 90 were beneficiaries and 90 were non-beneficiaries.

The beneficiaries, identified within the period of 1978-80 were purposively selected for this study, to ensure that beneficiaries got at least one year to adopt improved practices and have the possibility of being aware of the extension activities of SFDA.

#### IV. Variables and their measurement

Based on the objectives and review of the past studies conducted, the following variables were selected, for this study.

##### A. Dependent variables.

1. Level of awareness of SFDA activities.
2. Level of knowledge in improved practices of livestock rearing.
3. Extent of adoption of improved practices of livestock rearing.

B. Independent variables.

1. Education.
2. Farm size.
3. Herd size.
4. Social participation.
5. Contact with extension agencies.
6. Mass media participation.

A) Measurement of dependent variables.

1. Level of awareness of SFDA activities.

Gaikwad (1971) studied the awareness of participant farmers of Integrated Area Development Scheme, by asking a few questions to find out whether they were aware or not about the scheme and awareness was measured by calculating percentage of the farmers aware and percentage of the farmers unaware of the programme.

Salunkhe (1978) measured awareness of farmers by asking questions on different aspects of SFDA activities viz. publicity about SFDA, method of getting benefits method of granting subsidy, supervision of loan, arranging services, supplies and technical guidance.

Khan (1978) measured awareness by asking the respondents whether they were aware of certain measures of the



government for improving the condition of small farmers.

Padmanabhan (1981) used teacher made test with simple question items and constant alternative items to measure the knowledge about developmental programmes for agricultural labourers.

In the present study the method followed by Salunkhe (1978) was adopted with slight modification, as to measure the awareness of respondents about SFDA's activities. The respondents were given a score of "one" for every correct answer and a score of "zero" for the wrong answers.

#### Selection of the items.

A list of question items, on various activities and functioning of SFDA was prepared in consultation with SFDA officials, field personnel, and the literature available.

In the pilot study, these questions were administered to fifty farmers and finally six items were selected, after eliminating those items which were answered by all or which were not answered by all the respondents.

Each respondent's total score was computed and converted into an awareness index by using the following

formula.

$$\text{Awareness index} = \frac{\text{Total score obtained}}{\text{Total score possible}} \times 100$$

2. Knowledge level in the improved practices of Livestock rearing.

According to Cronbach (1949) knowledge test is one in which procedures, apparatus and scoring has been fixed so that precisely the same test can be given at different times and places.

A standardised knowledge test defined by Noll (1957) is one that has been carefully constructed by experts, in the light of acceptable objectives or purposes and procedures for administering, scoring and interpreting scores are specified in detail so that the results should be comparable and norms and averages for different age and status have been predetermined.

Shankarajah and Singh (1967) measured knowledge of respondents in improved methods of vegetable cultivation, based on the teacher made test as suggested by Anasthasi (1961).

Nair (1969) measured knowledge level of farmers on recommended package of practices of rice using teacher made test with multiple choice questions.

Jaiswal and Dave (1972) computed the knowledge score as followed.

$$\text{Knowledge score} = \frac{\text{Number of correct answers} \times 100}{\text{Total raw scores}}$$

Singh and Singh (1974) developed a knowledge test based on the response of farmers on various aspects of wheat cultivation. The total score of each individual was calculated by the formula.

$$\frac{X_1 \times 100}{n}$$

Where

$X_1$  = Number of correct answers.

$n$  = Total number of questions.

Sohal and Tyagi (1978) measured knowledge level of dairy farmers in dairy innovations by knowledge index.

Nachiappan and Murthy (1976) used the teacher made test to find out knowledge levels of small farmers with respect to farm technology. They calculated knowledge index by the following formula.

$$\text{Knowledge index} = \frac{\text{Actual score obtained} \times 100}{\text{Maximum allotted}}$$

In this study, the method used by Nair (1969) was adapted through a pilot study which is described below.

a) Item collection.

The content of knowledge test is composed of questions called items. There were 36 items with respect to the selected improved practices of livestock rearing, collected in consultation with the project officer, subject matter specialists and farmers identified. The collected items were converted into multiple choice questions.

b) Item analysis.

Item analysis was done to yield the following information.

- i. Index of item difficulty;
- ii. Index of item discrimination.

The collected 36 items were administered to 50 farmers. A score of "one" and a score of "zero" were given for a correct and incorrect answer respectively. Then the total score for each respondent was calculated. Their responses were then arranged in an ascending order of their scores, ranging from lowest to highest. As suggested by Garret (1973) 27 per cent of the lowest and 27 per cent of the highest scores were taken for calculating item difficulty and item discrimination. Of the respondents 27 per

cent with lowest scores and 27 per cent with highest scores were termed as low groups and high groups respectively.

i) Index of item difficulty.

The difficulty index of each item was calculated by averaging the percentages of correct answers of low group and high group respectively.

ii) Index of item discrimination.

The discrimination index of an item is its capacity to discriminate the well informed respondents from the poorly informed. It was calculated using the formula.

$$E = \frac{S_1 - S_2}{N/3}$$

Where,

E	=	Discrimination index.
S <sub>1</sub> and S <sub>2</sub>	=	Frequencies of correct answers in high group and low group respectively.
N	=	Total number of respondents in the item analysis sample.

c) Final selection of items.

Those items which had difficulty index ranging from 25 to 75 and discrimination index above 0.24 were selected for knowledge test.

d) Method of scoring.

Respondents were given the score 'one' for correct answer and the score 'zero' for incorrect answer. Since there were 12 statements, the maximum score one individual can obtain is 12 and minimum is zero.

Finally, the knowledge scores obtained by the respondents were converted into a knowledge index with the following formula.

$$\text{Knowledge index} = \frac{\text{Actual score obtained} \times 100}{\text{Maximum allotted}}$$

3. Extent of adoption of improved practices of Livestock rearing.

Many were the methods employed by research workers to measure adoption behaviour. Notable among them were Wilkening (1952), Duncan and Krectlow (1954), Marsh and Coleman (1955), Fliegall (1956), Beal and Rogers (1960), Chattopadhyaya (1963), Supe (1969), Jaiswal and Davo (1972) and Singh and Singh (1974).

Wilkening (1952) used an index for measuring the adoption of improved farm practices. The index of adoption used was the proportion of practices adopted to the total number of practices applicable for the farmer.

Marsh and Coleman (1955) used 'practice adoption scores' computed as the percentage of applicable practices adopted.

Beal and Rogers (1960) studied the adoption of two farm practices in detail. A simple adoption scale was computed which credited individual with "one" point for adoption and "zero" point for non-adoption of a practice.

Supo (1968) developed an adoption scale by selecting ten cultivation practices of cotton and for each practice the total score for complete adoption was six. The practices divisible were assigned partial scores for partial adoption.

Singh and Singh (1974) also used an 'Adoption quotient' which is a modification of the one developed by Chattopadhyay (1963). According to this scale adoption quotient can be calculated by the following formula.

$$\text{Adoption quotient} = \frac{\sum e/p \times 100}{N}$$

Where,

- $\Sigma$  = The summation.  
 $e$  = Extent of adoption of each practice.  
 $p$  = Potentiality of adoption of each practice.  
 $N$  = Total number of practices selected.

### Selection of practices

Based on the recommendations of Kerala Agricultural University (1977) on package of practices for livestock rearing, 18 practices were selected and administered to fifty farmers in the pilot study. From the pilot study, eight practices were selected finally after eliminating those practices which were either adopted by all or not adopted by all the farmers. Besides this, opinion of SFDA officials and other field personnel was also considered in the selection of practices to measure adoption behaviour of farmers.

In the present study, the method developed by Supo (1969) was followed with slight modifications to measure the extent of adoption of improved practices of livestock rearing. According to this method, a score of "three" was



assigned for proper adoption, "two" for improper or incomplete adoption and "one" for non-adoption.

Each respondent's total score was computed and converted into adoption index by using the following formula.

$$\text{Adoption index} = \frac{\text{Total score obtained} \times 100}{\text{Total score possible}}$$

## B. Measurement of independent variables.

### 1. Education.

In the present study, education was measured by adopting the scoring system followed in the socio-economic status scale of Trivedi (1963) with suitable modifications. The scoring was done in the following way.

Illiterate	0
Can read only	1
Can read and write	2
Primary level	3
Middleschool level	4
High school level	5
College and above	6

### 2. Farm size.

In this study, size of holding was measured in terms of the actual area of land cultivated and area of

land leased in and leased out by the respondent.

### 3. Herd size.

In this study, herd size was measured by assigning a score of "two" for adult cow or buffalo and a score of "one" for each calf.

### 4. Social participation.

In measuring social participation, both membership and holding a position in the organisations and the frequency of attending meetings of the organisations were taken into consideration. The scores were assigned as shown below.

#### i) Membership in organisations

No membership in any organisation	0
Membership in each organisation	1
Office bearer in each organisation	2

#### ii) Frequency of attending meetings

Not attending any of the meetings	0
Occasional	1
Regular	2

Summation of all the scores obtained by an individual will give his social participation score.

#### 5. Contact with extension agencies.

In this study, scoring technique followed by Jaiswal et al. (1971) was used to measure farmer's contact with extension agencies. The measurement was based on the frequency with which respondents meet various extension agencies viz. Demonstrators, Village Extension Officers, Junior Agricultural Officers, University Scientists and others. Respondents were asked to indicate the frequency. Scores were assigned as given below.

<u>Frequency of visit</u>	<u>Scores</u>
Never	0
Once in a month	1
Once in a fortnight	2
Once in a week	3
Twice or more in a week	4

The scores obtained by an individual were added to get a total score indicating his contact with extension agencies.

## 6. Mass media participation.

In order to know the extent of participation by the respondents in mass media, different mass media sources were listed and the respondents were asked to indicate as to how often they used each of these. The scoring is as given below.

<u>Frequency</u>	<u>Scores</u>
Never	0
Once in a month	1
Once in a fortnight	2
Once in a week	3
Twice or more in a week.	4

## V. Data collection

Data were collected by an interview schedule prepared in English and administered in Malayalam.

The respondents were interviewed individually at their residence or in the field and the purpose of the visit and study was clearly explained to them.

## VI. Methods of analysis

### 1. Kolmogorov-smirnov two sample test.

Kolmogorov-smirnov two sample test was applied to verify the hypotheses set to test whether there was any significant difference between beneficiaries and non-beneficiaries, against the alternative hypotheses that beneficiaries' scores are higher than non-beneficiaries with regards to their dependent and independent variables.

To apply Kolmogorov-smirnov two sample test we first define the cumulative step functions of non-beneficiaries and beneficiaries namely  $S_{n_1}(x)$  and  $S_{n_2}(x)$ .

Where

$$S_{n_1}(x) = K_1/n_1$$

$K_1$  being the number of respondents in the non-beneficiaries group whose scores are less than or equal to  $x$ .

$n_1$  is the total number of respondents in the non-beneficiaries group.

$$S_{n_2}(x) = K_2/n_2$$

$K_2$  being the number of respondents in the beneficiary group whose scores are less than or equal to  $x$ .

$n_2$  is the total number of respondents in beneficiaries group.

The Kolmogorov-smirnov two sample one-tailed test focusses on

$$D = \text{maximum } (S_{n_1}(x) - S_{n_2}(x))$$

Then we find chi-square value by using the following formula.

$$x^2 = 4 D^2 \frac{n_1 n_2}{n_1 + n_2}$$

We determine the significance of the resulting value of  $x^2$  with  $df = 2$  by referring Table C of Siegel (1956).

If the observed value is equal to or larger than that given in the appropriate table for a particular level of significance,  $H_0$  may be rejected leading to the acceptance of alternate hypothesis at that level of significance.

## 2. Analysis of variance.

This analysis was employed to test whether there was any significant difference among the three categories of beneficiaries with respect to their personal, socio-economic characteristics, level of awareness, level of knowledge

and extent of adoption of improved practices of livestock rearing. For those variables for which 'F' ratio was significant, the critical values were worked out to compare the means.

### 3. Simple correlation.

Simple correlation coefficients were worked out to find the relationship of each of the independent variables with the dependent variables and also to find out the inter-relationship among the dependent variables.

The significance of correlation was tested at 1 per cent and 5 per cent levels.

The formula to compute simple correlation was

$$r_{xy} = \frac{P_{xy}}{\sigma_x \sigma_y}$$

where

$r_{xy}$	=	Correlation between x and y
$P_{xy}$	=	Product moment of x and y
$\sigma_x$	=	Standard deviation of the distribution of x
$\sigma_y$	=	Standard deviation of the distribution of y

## **RESULTS**



## CHAPTER IV

### RESULTS

Results of the present study are presented in the following sequence.

1. Comparison of beneficiaries and non-beneficiaries according to their personal, socio-economic characteristics, level of awareness of the activities of SFDA, level of knowledge and extent of adoption of improved practices of livestock rearing.
  2. Comparison of the three categories of beneficiaries with respect to their personal, socio-economic characteristics, level of awareness of SFDA's activities, level of knowledge and extent of adoption of improved practices of livestock rearing.
  3. Relationship between the independent and the dependent variables of beneficiaries.
  4. Inter-relation among the dependent variables of beneficiaries.
- I. Comparison of beneficiaries and non-beneficiaries with respect to their personal, socio-economic characteristics, level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing

Comparison of beneficiaries ( $n_1 = 90$ ) and non-beneficiaries ( $n_2 = 90$ ) was made by computing  $\chi^2$  values of

Kolmogorov - Smirnov two sample test. The results obtained are presented as follows:

A. Education.

Table 1. Comparing the education scores of beneficiaries and non-beneficiaries.

Education score	Cumulative step function		$(Sn_1(x) - Sn_2(x))$
	Non-beneficiaries. $Sn_1(x)$	Beneficiaries. $Sn_2(x)$	
0	8/90	2/90	6/90
1	24/90	10/90	14/90
2	53/90	32/90	21/90
3	69/90	51/90	18/90
4	80/90	73/90	7/90
5	87/90	87/90	0/90
6	90/90	90/90	0/90

$$D = \max. (Sn_1(x) - Sn_2(x)) = 21/90$$

$$\chi^2 \text{ value} = 9.7$$

$$\text{Critical } \chi^2 \text{ value at 1 per cent level} = 9.2$$

Significant at 1 per cent level.

A perusal of results furnished in Table 1 reveals that beneficiaries were having significantly higher level of education than that of non-beneficiaries at one per cent level of significance.

B. Farm size.

Table 2. Comparing the farm size of beneficiaries and non-beneficiaries.

Farm size class interval.	Cumulative step function		$(S_{n_1}(x) - S_{n_2}(x))$
	Non-beneficiaries $S_{n_1}(x)$	Beneficiaries $S_{n_2}(x)$	
0-0.5	16/90	13/90	3/90
0.6-1.0	35/90	38/90	-3/90
1.1-1.5	47/90	43/90	4/90
1.6-2.0	56/90	55/90	1/90
2.1-2.5	62/90	64/90	-2/90
2.6-3.0	73/90	75/90	-2/90
3.1-3.5	77/90	79/90	-2/90
3.6-4.0	81/90	82/90	-1/90
4.1-4.5	85/90	83/90	2/90
4.6-5.0	87/90	89/90	-2/90
5.1-5.5	88/90	90/90	-2/90
5.6-6.0	90/90	90/90	0/90

$$D = \max (S_{n_1}(x) - S_{n_2}(x)) = 4/90$$

$$\chi^2 \text{ value} = 0.288$$

$$\text{Critical } \chi^2 \text{ value at 5 per cent level} = 5.99$$

Not significant.

It could be found from Table 2 that there was no significant difference between beneficiaries and non-beneficiaries with respect to their farm size, at 5 per cent level of significance.

C. Herd size.

Table 3. Comparing the herd size scores of beneficiaries and non-beneficiaries.

Herd size class interval	Cumulative step function		$(S_{n_1}(x) - S_{n_2}(x))$
	Non-benefi- ciaries. $S_{n_1}(x)$	Beneficia- ries $S_{n_2}(x)$	
1-2	4/90	1/90	3/90
3-4	62/90	39/90	23/90
5-6	79/90	67/90	12/90
7-8	86/90	79/90	7/90
9-10	90/90	86/90	4/90
11-12	90/90	89/90	1/90
13-14	90/90	90/90	0/90

$$D = \max (S_{n_1}(x) - S_{n_2}(x)) = 23/90$$

$$\chi^2 \text{ value} = 11.75$$

$$\text{Critical } \chi^2 \text{ value at 1 per cent level} = 9.2$$

Significant at 1 per cent level.

From the Table 3 it can be concluded that beneficiaries had significantly larger herd size than the non-beneficiaries at one per cent level of significance.

D. Social participation.

Table 4. Comparing the social participation scores of beneficiaries and non-beneficiaries.

Social participation-Class interval	Cumulative step function		
	Non-beneficiaries. $Sn_1(x)$	Beneficiaries $Sn_2(x)$	$(Sn_1(x)-Sn_2(x))$
0-1	48/90	27/90	21/90
2-3	78/90	71/90	7/90
4-5	84/90	83/90	1/90
6-7	87/90	88/90	-1/90
8-9	89/90	89/90	0/90
10-11	89/90	90/90	-1/90
12-13	90/90	90/90	0/90

$$D = \max (Sn_1(x)-Sn_2(x)) = 21/90$$

$$\chi^2 \text{ value} = 9.797$$

$$\text{Critical } \chi^2 \text{ value at 1 per cent level} = 9.2$$

Significant at 1 per cent level.

It could be inferred from the Table 4 that beneficiaries had significantly higher social participation than non-beneficiaries at one per cent level of significance.

E. Contact with extension agencies.

Table 5. Comparing the beneficiaries and non-beneficiaries with respect to their contact with extension agencies.

Contact with extension agencies. Class interval	Cumulative step function		$(S_{n_1}(x) - S_{n_2}(x))$
	Non-beneficiaries	Beneficiaries	
0	11/90	9/90	2/90
1	30/90	19/90	11/90
2	54/90	39/90	15/90
3	73/90	49/90	24/90
4	80/90	63/90	17/90
5	86/90	70/90	16/90
6	88/90	78/90	10/90
7	89/90	84/90	5/90
8	89/90	88/90	1/90
9	90/90	90/90	0/90

$$D = \max (S_{n_1}(x) - S_{n_2}(x)) = 24/90$$

$$\chi^2 \text{ value} = 12.79$$

$$\text{Critical } \chi^2 \text{ value at 1 per cent level} = 9.2$$

Significant at 1 per cent level.

The Table 5 indicates that beneficiaries had significantly higher contact with extension agencies than non-beneficiaries at one per cent level of significance.

F. Mass media participation.

Table 6. Comparing the beneficiaries and non-beneficiaries with respect to their mass media participation.

Mass media participation class interval	Cumulative step function		$(S_{n_1}(x) - S_{n_2}(x))$
	Non-beneficiaries $S_{n_1}(x)$	Beneficiaries $S_{n_2}(x)$	
0-1	4/90	0/90	4/90
2-3	35/90	13/90	22/90
4-5	61/90	51/90	10/90
6-7	74/90	66/90	8/90
8-9	85/90	84/90	1/90
10-11	89/90	86/90	3/90
12-13	90/90	87/90	3/90
14-15	90/90	87/90	3/90
16-17	90/90	89/90	1/90
18-19	90/90	90/90	0/90

$$D = \max (S_{n_1}(x) - S_{n_2}(x)) = 22/90$$

$$\chi^2 \text{ value} = 10.75$$

Critical  $\chi^2$  value at 1 per cent level = 9.2

Significant at 1 per cent level of significance.

An observation of the Table 6 reveals that beneficiaries had significantly higher mass media participation than non-beneficiaries, at one per cent level of significance.

G. Awareness of SFDA activities.

Table 7. Comparing the beneficiaries and non-beneficiaries with respect to their awareness of SFDA activities.

Awareness class interval	Cumulative step function		$(S_{n_1}(x) - S_{n_2}(x))$
	Non-beneficiaries $S_{n_1}(x)$	Beneficiaries $S_{n_2}(x)$	
1-5	10/90	0/90	10/90
6-10	23/90	4/90	19/90
11-15	42/90	12/90	30/90
16-20	53/90	23/90	30/90
21-25	59/90	36/90	23/90
26-30	66/90	48/90	18/90
31-35	72/90	56/90	16/90
36-40	78/90	65/90	13/90
41-45	84/90	74/90	10/90
46-50	89/90	79/90	10/90
51-55	90/90	86/90	4/90
56-60	90/90	88/90	2/90
61-65	90/90	90/90	0/90

$$D = \max (S_{n_1}(x) - S_{n_2}(x)) = 30/90$$

$$\chi^2 \text{ value} = 19.96$$

Critical  $\chi^2$  value at 1 per cent level = 9.2

Significant at 1 per cent level.



From the table 7 it could be inferred that beneficiaries were having significantly higher awareness of SFDA activities than non-beneficiaries at one per cent level of significance.

H. Knowledge in improved practices of livestock rearing.

Table 8. Comparing the beneficiaries and non-beneficiaries with respect to their knowledge in improved practices of livestock rearing.

Level of knowledge class interval	Cumulative step function		$(S_{n_1}(x) - S_{n_2}(x))$
	Non-beneficiaries $S_{n_1}(x)$	Beneficiaries $S_{n_2}(x)$	
21-25	11/90	0/90	11/90
26-30	11/90	0/90	11/90
31-35	34/90	3/90	31/90
36-40	34/90	3/90	31/90
41-45	61/90	15/90	46/90
46-50	74/90	29/90	45/90
51-55	74/90	29/90	45/90
56-60	80/90	37/90	43/90
61-65	80/90	37/90	43/90
66-70	86/90	54/90	32/90
71-75	89/90	72/90	17/90
76-80	89/90	72/90	17/90
81-85	90/90	79/90	11/90
86-90	90/90	79/90	11/90
91-95	90/90	86/90	4/90
96-100	90/90	90/90	0/90

$$D = \max (S_{n_1}(x) - S_{n_2}(x)) = 46/90$$

$$\chi^2 \text{ value} = 47$$

Critical  $\chi^2$  value at 1 per cent level = 9.2

Significant at 1 per cent level.

A perusal of the results furnished in Table 8 reveals that beneficiaries were having significantly higher level of knowledge in improved practices of livestock rearing than the non-beneficiaries, at one per cent level of significance.

I. Extent of adoption of improved practices of livestock rearing.

It could be concluded from Table 9 that beneficiaries had significantly higher adoption behaviour than the non-beneficiaries, at one per cent level of significance.

Table 9. Comparing the beneficiaries and non-beneficiaries with respect to their extent of adoption of improved practices of livestock rearing.

Extent of adoption class interval	Cumulative step function		
	Non-beneficiaries $Sn_1(x)$	Beneficiaries $Sn_2(x)$	$(Sn_1(x)-Sn_2(x))$
11-15	3/90	0/90	3/90
16-20	24/90	1/90	23/90
21-25	35/90	3/90	32/90
26-30	49/90	5/90	44/90
31-35	56/90	7/90	49/90
36-40	63/90	13/90	50/90
41-45	73/90	26/90	47/90
46-50	79/90	32/90	47/90
51-55	84/90	40/90	44/90
56-60	84/90	48/90	36/90
61-65	88/90	59/90	29/90
66-70	90/90	77/90	13/90
71-75	90/90	80/90	10/90
76-80	90/90	85/90	5/90
81-85	90/90	89/90	1/90
86-90	90/90	90/90	0/90
91-95	90/90	90/90	0/90
96-100	90/90	90/90	0/90

$$D = \max (Sn_1(x) - Sn_2(x)) = 50/90$$

$$X^2 \text{ value} = 55.45$$

$$\text{Critical } X^2 \text{ value at 1\% level} = 9.21$$

Significant at 1 per cent level.

- II. Comparison of the three categories of beneficiaries with respect to their personal, socio-economic characteristics, level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing.

The comparisons were made by employing the analysis of variance technique and the summary of the results were presented in Tables 10 and 11.

A. Personal, socio-economic characteristics.

1. Education.

The data presented in Table 10 indicate that the education scores of the three categories of beneficiaries were significantly different. The small farmers' mean education score was significantly higher than that of the marginal farmers and the agricultural labourers, whereas marginal farmer were on par with agricultural labourers in respect of their mean education scores.

2. Herd size.

As per the Table 10, the mean herd size scores of categories of beneficiaries was significantly different. The small farmers' mean herd size score was found to be

Table 10. Comparison among the three categories of beneficiaries with respect to their personal-socio-economic characteristics.

Sl. No.	Variables	Beneficiary categories	Means of the categories	Mean squares between samples	Mean squares within samples	'F' Ratio	C.D. at 5% level
1.	Education	S.F.	3.866	13.433	1.696	7.916*	0.6693
		M.F.	3.100				
		A.L.	2.533				
2.	Herdsizc	S.F.	6.433	33.211	5.1942	6.393*	1.1710
		H.F.	5.266				
		A.L.	4.333				
3.	Social Participation	S.F.	3.866	53.877	2.765	17.803*	0.8544
		H.F.	2.300				
		A.L.	1.200				
4.	Contact with Extension agencies	S.F.	4.966	69.011	4.210	16.390*	1.0543
		M.F.	3.466				
		A.L.	1.933				
5.	Mass Media Participation	S.F.	7.233	56.744	8.118	6.989*	1.4640
		M.F.	6.133				
		A.L.	4.500				

Critical  $F(2,87)$  values at 5 percent level = 3.10

\*Significant at 5 percent level of probability.

S.F. = Small farmers; M.F. = Marginal farmers; A.L. = Agricultural Labourers.

Table 11. Comparison among the three categories of beneficiaries with respect to their level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing.

Sl. No.	Variables	Beneficiary categories	Mean of categories	Mean squares between samples	Mean squares within samples	'F' Ratio	C.D. at 5% level
1	Awareness	S.F.	38.266	1638.033	144.506	11.335*	6.176
		M.F.	31.900				
		A.L.	23.530				
2	Knowledge	S.F.	71.070	2523.34	255.127	9.890*	8.207
		M.F.	69.370				
		A.L.	54.400				
3	Adoption	S.F.	66.166	2889.078	175.674	16.445*	6.8102
		M.F.	58.600				
		A.L.	46.700				

Critical F (2,87) values at 5 percent level = 3.10

\*Significant at 5 percent level of probability.

S.F. = Small farmers; M.F. = Marginal farmers; A.L. = Agricultural Labourers.

significantly higher than that of the marginal farmers and the agricultural labourers. Marginal farmers and agricultural labourers were found to be on par, with respect to their mean herd size scores.

### 3. Social participation.

Table 10 reveals that the three categories of beneficiaries were significantly different, with respect to their social participation scores. Further, the small farmers' mean social participation score was found to be significantly higher than that of marginal farmers and agricultural labourers. The marginal farmers' mean social participation score was significantly higher than that of agricultural labourers.

### 4. Contact with extension agencies.

It would be seen from Table 10 that there was a significant difference among the three categories of beneficiaries. The small farmers' mean score was observed to be significantly higher than that of marginal farmers and agricultural labourers. The marginal farmers' mean score was significantly higher than that of agricultural labourers.

## 5. Mass media participation.

An observation of the Table 10 reveals that the three categories of beneficiaries were significantly different with regards to their mass media participation scores. The small farmers' mean score was on par with that of marginal farmers but significantly higher than that of agricultural labourers, whereas marginal farmers' mean mass media participation score was significantly higher than that of agricultural labourers.

### B. Dependent variables.

#### 1. Awareness of SFDA activities.

Table 11 indicates that the three categories of beneficiaries are significantly different with respect to their awareness of SFDA activities. The mean awareness of small farmers was significantly higher than that of marginal farmers and agricultural labourers. The marginal farmers' awareness mean was found to be significantly higher than that of agricultural labourers.

#### 2. Level of knowledge in improved practices of livestock rearing.

Table 11 shows that there was significant difference among the three categories of beneficiaries with regards to



their knowledge level. The small farmers mean knowledge was on par with that of marginal farmers, but significantly higher than that of agricultural labourers. Further, it was found that marginal farmers' mean knowledge was significantly higher than that of agricultural labourers.

3. Extent of adoption of improved practices of livestock rearing.

It can be concluded from Table 11, that the three categories of beneficiaries were significantly different with respect to their adoption behaviour. The small farmers' mean adoption index was significantly higher than that of marginal farmers and agricultural labourers. The marginal farmers mean adoption index was significantly higher than that of agricultural labourers.

III. Relationship between the independent and dependent variables of beneficiaries.

A. Relationship between the independent variables of the beneficiary farmers and the level of awareness of SFDA activities.

The relationship between the independent variables of farmers and level of awareness of SFDA activities was analysed, by computing the coefficient of correlation and the results are presented in Table 12.

Table 12. Relationship between characteristics of beneficiary farmers and level of awareness of SFDA activities.

Sl. No.	Independent variables	Correlation coefficient ('r' value)
1.	Education	0.34355**
2.	Farm size	0.43536**
3.	Herd size	0.33417**
4.	Social participation	0.3304**
5.	Contact with extension agencies	0.2844**
6.	Mass media participation	0.3514**

\*\* Significant at 1 per cent level of probability.

The table 12 reveals that all the independent variables of beneficiaries were positively and significantly correlated with the level of awareness of SFDA activities, at one per cent level of significance.

B. Relationship between the independent variables of beneficiaries and the level of knowledge in improved practices of livestock rearing.

The relationship between the independent variables of beneficiaries and their level of knowledge was worked out by computing the correlation coefficient. The results of correlation analysis are presented in Table 13.

Table 13. Relationship between the independent variables of beneficiaries and their knowledge in improved practices of livestock rearing.

Sl. No.	Independent variables	Correlation coefficient ( $r^2$ values)
1.	Education	0.7123**
2.	Farm size	0.3349**
3.	Herd size	0.3051**
4.	Social participation	0.4717**
5.	Contact with extension agencies	0.2107*
6.	Mass media participation	0.5931**

\* Significant at 5 per cent level of probability.

\*\* Significant at 1 per cent level of probability.

It is evident from the Table 13 that all the independent variables of the beneficiaries were positively and significantly correlated with knowledge level at one per cent level of significance except contact with extension agencies, which is significantly correlated with level of knowledge at five per cent level of probability.

C. Relationship between the independent variables of beneficiaries and the extent of adoption of improved practices of livestock rearing.

The relationship between the independent variables of the beneficiaries and their adoption behaviour was worked

out by computing the correlation coefficient. The results of correlation analysis were presented in Table 14.

Table 14. Relationship between the independent variables of beneficiaries and the extent of adoption of improved practices of livestock rearing.

Sl. No.	Independent variables	Correlation coefficient ( $r^2$ values)
1.	Education	0.46036**
2.	Farm size	0.5187**
3.	Herd size	0.3231**
4.	Social participation	0.265*
5.	Contact with extension agencies	0.2449*
6.	Mass media participation	0.4156**

\* Significant at 5 per cent level of probability.

\*\* Significant at 1 per cent level of probability.

Table 14 reveals that all the independent variables of beneficiaries were positively and significantly correlated with adoption behaviour, at one per cent level of probability except social participation and contact with extension agencies, which were significantly correlated at five per cent level of probability.

#### IV. Inter-relation among the dependent variables.

The inter-relation among the dependent variables was worked out by computing the correlation coefficient and they are shown in the Table-15.

Table 15. Inter-relation among the dependent variables

Sl. No.	Variables	Variables		
		Awareness	Knowledge	Adoption
1	Awareness	..	0.5037**	0.8570**
2	Knowledge	..	..	0.5858**
3	Adoption	..	..	..

\*\* Significant at 1 per cent level of probability.

The Table 15 indicates that there was a positive and significant relationship among the three dependent variables, at one per cent level of probability.

## **DISCUSSION**

## CHAPTER V

### DISCUSSION

This chapter contains a detailed discussion of the results obtained in the study. The discussion is presented under the following sections.

1. Comparison of beneficiaries and non-beneficiaries according to their personal, socio-economic characteristics, level of awareness of the activities of SFDA, level of knowledge and extent of adoption of improved practices of livestock rearing.
  2. Comparison of the three categories of beneficiaries with respect to their personal, socio-economic characteristics, level of awareness of SFDA's activities, level of knowledge and extent of adoption of improved practices of livestock rearing.
  3. Relationship between the independent and dependent variables of the beneficiaries.
  4. Inter-relation among the dependent variables of beneficiaries.
- I. Comparison of beneficiaries and non-beneficiaries according to their personal, socio-economic characteristics, level of awareness of the activities of SFDA, level of knowledge and extent of adoption of improved practices of livestock rearing
  - A. Comparison of beneficiaries and non-beneficiaries according to their personal, socio-economic characteristics.

A comparative analysis of the personal, socio-economic characteristics of beneficiaries and non-beneficiaries has been presented in Tables 1 to 6. A perusal

of the results indicated that beneficiaries had significantly higher education, larger herd size, higher social participation, greater contact with extension agencies and higher mass media participation than those of the non-beneficiaries. It is quite natural that farmers with these qualities can be expected to be more alert and be the earliest to secure and utilise the services of SFDA. This finding is in agreement with the findings of Venkidusamy (1977) in the case of education; Jayavelu (1980) in the case of social participation, Venkidusamy (1977) with respect to contact with extension agencies and Mani (1980) with respect to mass media participation.

There was no significant difference between the beneficiaries and non-beneficiaries with respect to their farm size. This might be due to the reason that both the beneficiaries and non-beneficiaries were drawn from the list of identified eligible farmers, where farm size is one of the factors in deciding the eligibility of a person.

B. Comparison of beneficiaries and non-beneficiaries with respect to their level of awareness of the activities of SFDA, level of knowledge and extent of adoption of improved practices of livestock rearing.

1. Level of awareness of SFDA activities.

Table 7 showed that beneficiaries had significantly higher awareness of SFDA activities than that of non-



beneficiaries. Firstly, this might be due to their increased contacts with bank officials, extension personnel and vice versa. Secondly, it might be the farmer's curiosity, to know more about the organisation, from which he is benefited. Therefore, it is possible that beneficiaries had higher awareness. This finding is in conformity with the findings of Mani (1977), Nanjappan (1978) and Vijayaraghavan (1979).

Besides the above reason, the higher level of education, greater herd size, higher social participation, greater contact with extension agencies and higher mass media participation might have helped them in acquiring more information about the SFDA and be well aware of its activities than the non-beneficiaries who were found to be at a lower level in the above characteristics. This finding is in agreement with the findings of Venkidusamy (1977), Vijayaraghavan (1979) Nandakumar (1980) Balu (1980) and Mani (1980).

2. Level of knowledge in the improved practices of Livestock rearing.

Table 8 revealed that beneficiaries' level of knowledge in the improved practices of livestock rearing was significantly higher than that of non-beneficiaries. SFDA is conducting short term courses, training camps,

and seminars to transfer the new technology concerned with the programmes implemented, for the benefit of beneficiaries. Since the beneficiaries were well aware of SFDA activities, it is reasonable to believe that they utilised these extension services of SFDA and gained the knowledge in improved practices of livestock rearing. This finding is in congruence with the findings of Verma and Rao (1969), Singh (1977) and Grozovinski (1981).

The higher level of education, larger herd size, greater social participation, greater contacts with extension agencies and greater mass media participation can also be attributed to the higher level of knowledge of beneficiaries in the improved practices of livestock rearing. These results are in agreement with the findings of Bhaskaran and Mahajan (1968), Kaleel (1978), Sohal and Tyagi (1978) and Ahmed (1981).

### 3. Extent of adoption of improved practices of Livestock rearing.

It has been evidenced from Table 9 that beneficiaries extent of adoption of improved practices of livestock rearing was significantly higher than that of non-beneficiaries. Knowledge is an important pre-requisite for adoption

of farm innovations. Those farmers who possess adequate knowledge about improved practices are likely to be more innovative and willing to accept and adopt modern methods with little resistance. Earlier it was found that beneficiaries had higher level of knowledge which might have made them more prone to acceptance and adoption of improved practices of livestock rearing and exhibit higher adoption behaviour than that of non-beneficiaries. The results obtained by Patel and Patel (1968) Kamalson (1971) and Singh (1977) are similar to the above results.

The beneficiaries' higher extent of adoption of improved practices of livestock rearing can be endowed to their higher level of education, larger herd size, higher social participation, greater contact with extension agencies and higher mass media participation. This finding is in agreement with the findings of Pandit (1964) Saini (1975) Gangappa (1975) and Joshi (1978).

II. Comparing the three categories of beneficiaries with respect to their personal socio-economic characteristics, level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing

A. Comparing the three categories of beneficiaries with respect to their personal, socio-economic characteristics.

Table 10 reveals that all the five personal, socio-economic characteristics namely education, herd size, social

participation, contact with extension agencies and mass media participation of all the three categories of beneficiaries, showed a significantly comparative difference in their characteristics amongst themselves.

A critical analysis of the Table 10 shows that small farmers were significantly superior to the marginal farmers and agricultural labourers, in all the characteristics except mass media participation, wherein small farmers were on par with the marginal farmers. The reason may be due to the comparatively advantageous position occupied by small farmers over the marginal farmers and agricultural labourers in the society. However, the differences in other aspects did not deter the marginal farmers from being on the same plane with small farmers with respect to mass media participation. This might be due to the reason that for many in the study area, it is a habit to read the news paper and listen to radio since it is no more a luxury commodity with the people.

From the Table 10 it was found that marginal farmers were also superior to agricultural labourers in social participation, contact with extension agencies and mass media participation. This might be due to the reason that, agricultural labourers were in general handicapped, due to their inadequate resources and other inherent drawbacks. Never-

theless, agricultural labourers were found to be on par with the marginal farmers in education and herd size. The reason can be attributed to the general high literacy percentage of the State. The agricultural labourers, devoid of own land holdings have laid emphasis on earning income through subsidiary occupations. This might be the reason which maintained the agricultural labourers, on par with marginal farmers, with respect to herd size in spite of the backwardness of agricultural labourers in other sectors.

D. Comparing the three categories of beneficiaries with respect to their level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of Livestock rearing.

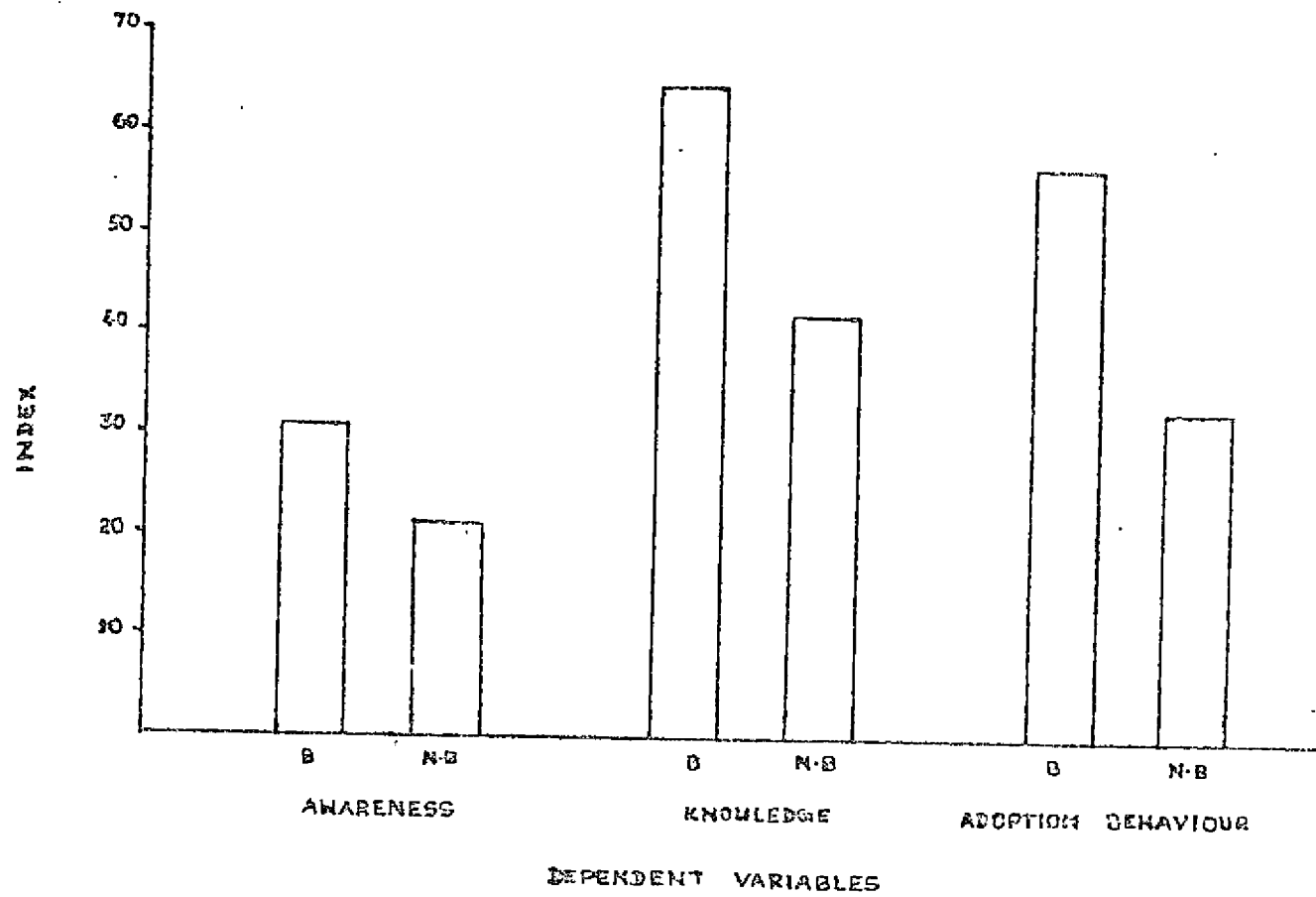
Table 11 reveals that the three categories of beneficiaries had a significantly comparative difference in their level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing.

A critical analysis of the Table 11 shows that small farmers were superior to the marginal farmers and agricultural labourers in all the three variables except level of knowledge wherein small farmers were on par with marginal farmers. The reason for this can be attributed to the

higher education, larger herd size, greater social participation and higher contact with extension agencies of the small farmers, which might have enabled them to acquire more information about the activities of SFDA, gain more knowledge and adopt more than that of other categories. However, the marginal farmers were found to be on par with the small farmers in the case of level of knowledge. This might be due to the reason that marginal farmers were very keen and alert to gain knowledge in matters that are going to enhance their socio-economic status.

Table 11 evidences that marginal farmers were also superior to the agricultural labourers in all the three variables. It is understandable that agricultural labourers with their low social participation, low contact with extension agencies, low mass media participation were lying far below the other categories in the above three variables. This might be due to the reason that agricultural labourers were so engrossed with earning their daily subsistence that they had little time to contact and avail the services of various extension agencies and attend various training programmes meant for them. These accounted to their low level of awareness of activities of SFDA and low level of knowledge in improved practices of livestock rearing, which

FIG-1 COMPARISON OF BENEFICIARIES AND NON-BENEFICIARIES WITH RESPECT TO THE DEPENDENT VARIABLES OF THE STUDY



B = BENEFICIARIES  
N-B = NON-BENEFICIARIES

in turn lowered their extent of adoption of the improved practices of livestock rearing.

### III. Relationship between the independent and dependent variables of the beneficiaries

The results of correlation analysis pertaining to the relationship between independent and dependent variables have been discussed here.

#### A. Relationship between the characteristics of the farmers and level of awareness of SFDA activities.

##### 1. Education.

A glance at the data presented in Table 12 reveals that there was positive and significant relationship between level of education and level of awareness of SFDA activities. This indicates that educated farmers are likely to make a better use of mass media channels, and acquire information about activities of SFDA. This finding is in agreement with the findings of Vijaya Raghavan (1979), Balu (1980) and Nandakumar (1980).

##### 2. Farm size.

It can be inferred from Table 12 that the farm size was positively and significantly related with the level of



awareness of activities of SFDA. As farm size increases, there is enough chance for the information need also to increase leading the farmers to seek the details of the programmes, which might help them in enhancing their farm income. This finding is in conformity with that of Vijaya Raghavan (1979) Ralu (1980) and Mani (1980).

### 3. Herd size.

Table 12 shows that herd size was positively and significantly correlated with level of awareness of SFDA activities. This may be due to the reason that SFDA is popular among the farmers primarily as a lending agency for purchase of cattle. So, it is quite natural that people having large herd size were very enthusiastic to secure information on the activities of the agency. This finding is not in conformity with that of Sharma and Sharma (1970).

### 4. Social participation.

Table 12 evidences a positive and significant relationship between social participation and level of awareness of SFDA activities. There is reason to believe that farmers by virtue of their participation in different organisations, have gained information on SFDA activities due to their

interaction with other well informed farmers. This result is in agreement with the findings of Vijaya Raghavan (1979), Mani (1980) and Nandakumar (1980).

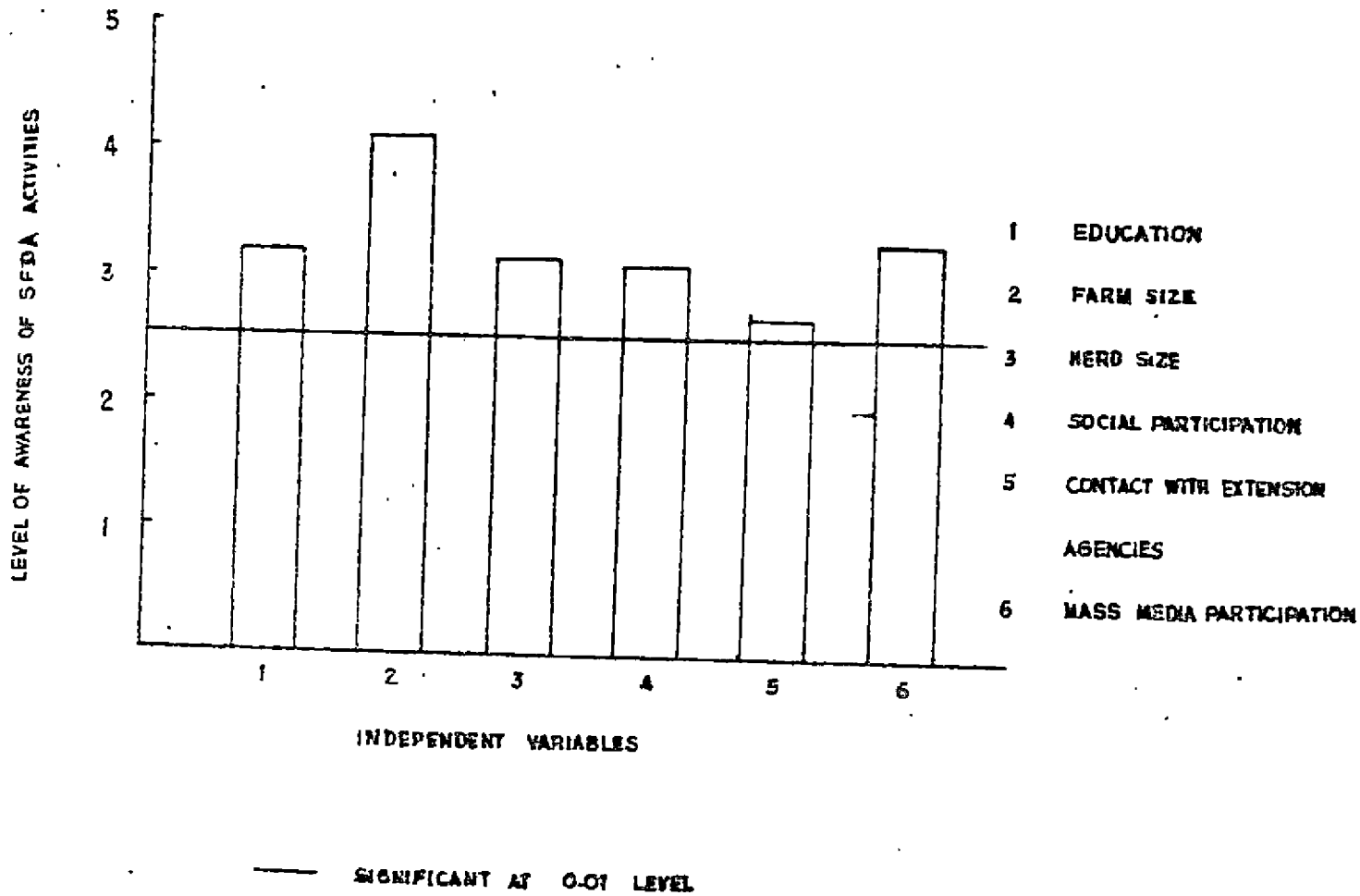
### 5. Contact with extension agencies.

Table 12 shows a positive and significant relationship between contact with extension agencies and level of awareness of SFDA activities. It may be due to the reason that farmers having frequent contact with various extension agencies are likely to learn, about programmes meant for them. This finding is in conformity with the finding of Khan (1978).

### 6. Mass media participation.

As per the results presented in Table 12 the relationship between mass media participation and the level of awareness of SFDA activities is positive and significant. It is reasonable that farmers utilising the mass media channels had higher awareness since SFDA is giving publicity through newspapers and radio. This result is in conformity with that of Mani (1980).

FIG. 2 CORRELATION BETWEEN THE INDEPENDENT VARIABLES AND THE LEVEL OF AWARENESS IN SFDA ACTIVITIES



B. Relationship between the characteristics of the farmers and the level of knowledge in improved practices of livestock rearing.

1. Education.

Table 13 evidences a positive and significant relationship between education and the level of knowledge in improved practices of livestock rearing. The education of the farmer helps him in understanding and retention of the complex technology. Besides, the educated farmer can make full use of printed literature and will be in a position to obtain information from research stations directly by correspondence. Thus, education influences knowledge in a positive manner. This finding is in conformity with the findings of Bhaskaran and Mahajan (1968), Kaleel (1978) and Ahmed (1981).

2. Farm size.

Table 13 shows a positive and significant relationship between farm size and the level of knowledge in improved practices of livestock rearing. The farmers with bigger farms might have been prompted to acquire knowledge in improved practices in order to improve their economic status. In addition to this, they were endowed with such other advantages as favourable change agents, and a comparatively better financial position. These reasons might be the causes

behind positive and significant relationship between farm size and level of knowledge. This result is in agreement with that of Ahmed (1981).

### 3. Herd size.

Table 13 indicates that herd size is positively and significantly related to the level of knowledge in improved practices of livestock rearing. Maintenance of the livestock is beset with problems as the number of animals increase. The farmers with large herd size will naturally strive to gain more information for scientific and economic management of their livestock. This might be the reason for the positive and significant relationship between herd size and the level of knowledge. This finding is supported by the findings of Sohal and Tyagi (1978).

### 4. Social participation.

Table 13 confirms that there was a positive and significant relationship between social participation and the level of knowledge in improved practices of livestock rearing. The interaction with progressive farmers due to their membership in various, formal and informal organisations, would provide the farmers an opportunity

to enhance their level of knowledge. Therefore, it is reasonable to believe that social participation has influence over the level of knowledge. This finding is supported by the findings of Singh and Prasad (1974) and Kaleel (1978).

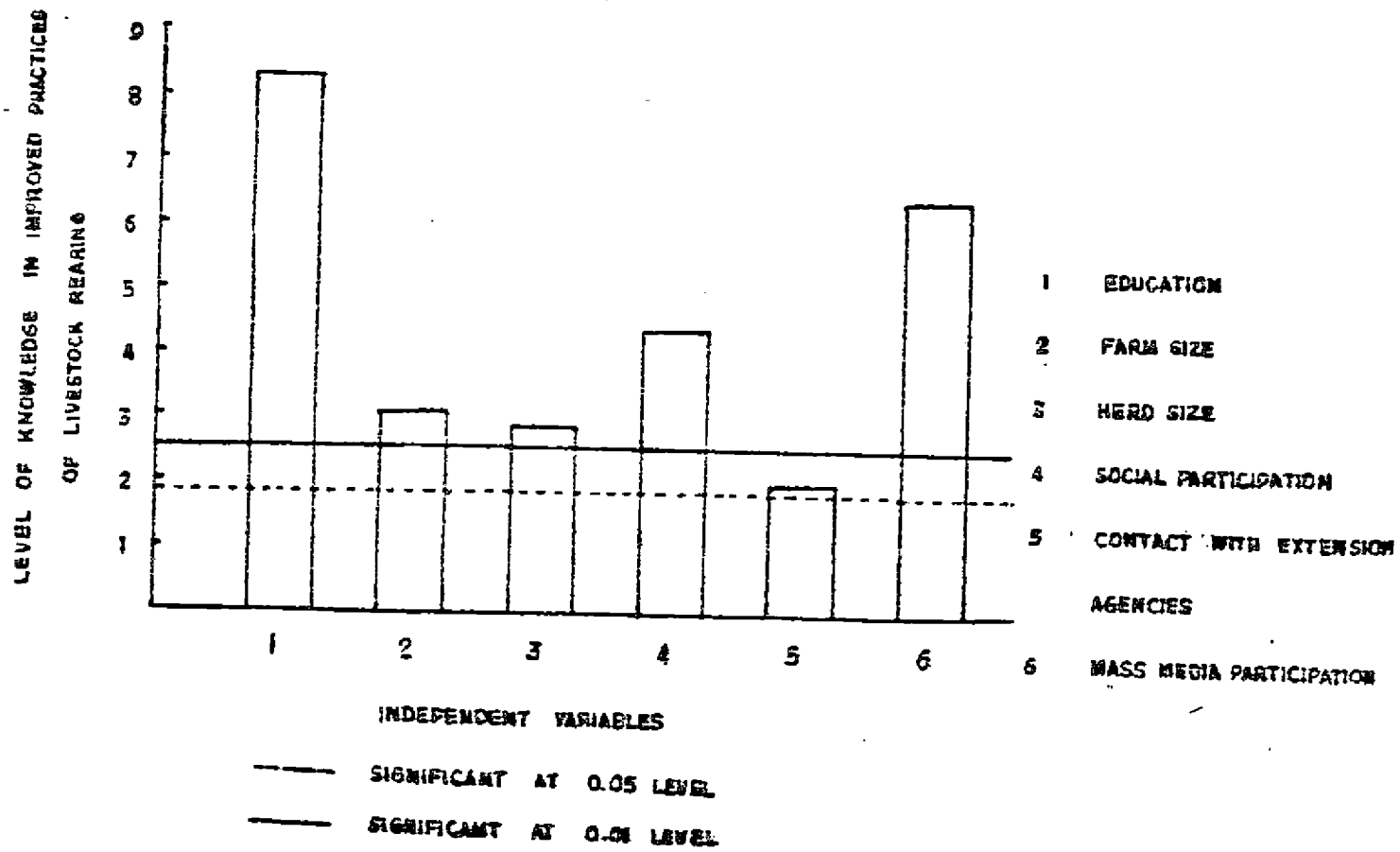
#### 5. Contact with extension agencies.

From the table 13 it could be inferred that there was a positive and significant relationship between contact with extension agencies and the level of knowledge in improved practices of livestock rearing. Frequent contacts with the various extension agencies and exchange of information with them might have provided them with better opportunities for obtaining more information on dairy innovations. This result is in conformity with that of Knight and Singh (1975), Somasundaram and Singh (1978) and Kaleel (1978).

#### 6. Mass media participation.

Table 13 indicates that there was a positive and significant relationship between mass media participation and the level of knowledge in improved practices of livestock rearing. It is quite natural that farmers having high mass media participation, have utilised various information channels through which SFDA is giving publicity

FIG. 3 CORRELATION BETWEEN THE INDEPENDENT VARIABLES AND LEVEL OF KNOWLEDGE IN IMPROVED PRACTICES OF LIVESTOCK REARING



and also necessary technology relevant to its programmes. This might have been the reason behind positive and significant relationship between mass media participation and level of knowledge in improved practices of livestock rearing. This finding is in agreement with the findings of Sohal and Tyagi (1978).

C. Relationship between the characteristics of the farmers and the extent of adoption of improved practices of livestock rearing.

1. Education.

Table 14 reveals that there was a significant and positive relationship between education and the extent of adoption of improved practices of livestock rearing. Education was found to be helping the farmer in gaining knowledge in dairy innovations which in turn, would make the farmer receptive to new ideas and drive him to adopt the improved practices. In addition to this, educated people can make better use of the mass media than the illiterates. All these might have contributed to the higher adoption behaviour of educated farmers. This finding is in agreement with the findings of Wilkening (1953) Lionberger (1960) and Rajendran (1978).



## 2. Farm size.

The results of correlation analysis presented in Table 14 showed that the farm size was positively and significantly related with the extent of adoption of improved practices of livestock rearing. Farmers with large farms were found to be having higher level of knowledge in the improved practices of livestock rearing which might have influenced their adoption behaviour. Besides this, as the farmer's farm size increases their risk bearing capacity also increases along with their capacity to afford the cost of adopting new technology. Thus farmers become more enterprising and are motivated to adopt new technology. This finding is supported by the findings of Pandit (1964), Subramonyam and Lakshmanan (1973) Vijayakumar (1976) and Rajendran (1978).

## 3. Herd size.

From Table 14 it could be concluded that there was a positive and significant relationship between herd size and the extent of adoption of improved practices of livestock rearing. Adoption of improved practices is essential as the herd size increases, for a better and profitable management of livestock. Besides this, cost of adoption is going to decrease with a large herd since the wastage can be

minimised on the whole. This finding is on par with the findings of Dubey et al. (1977) and Joshi (1973).

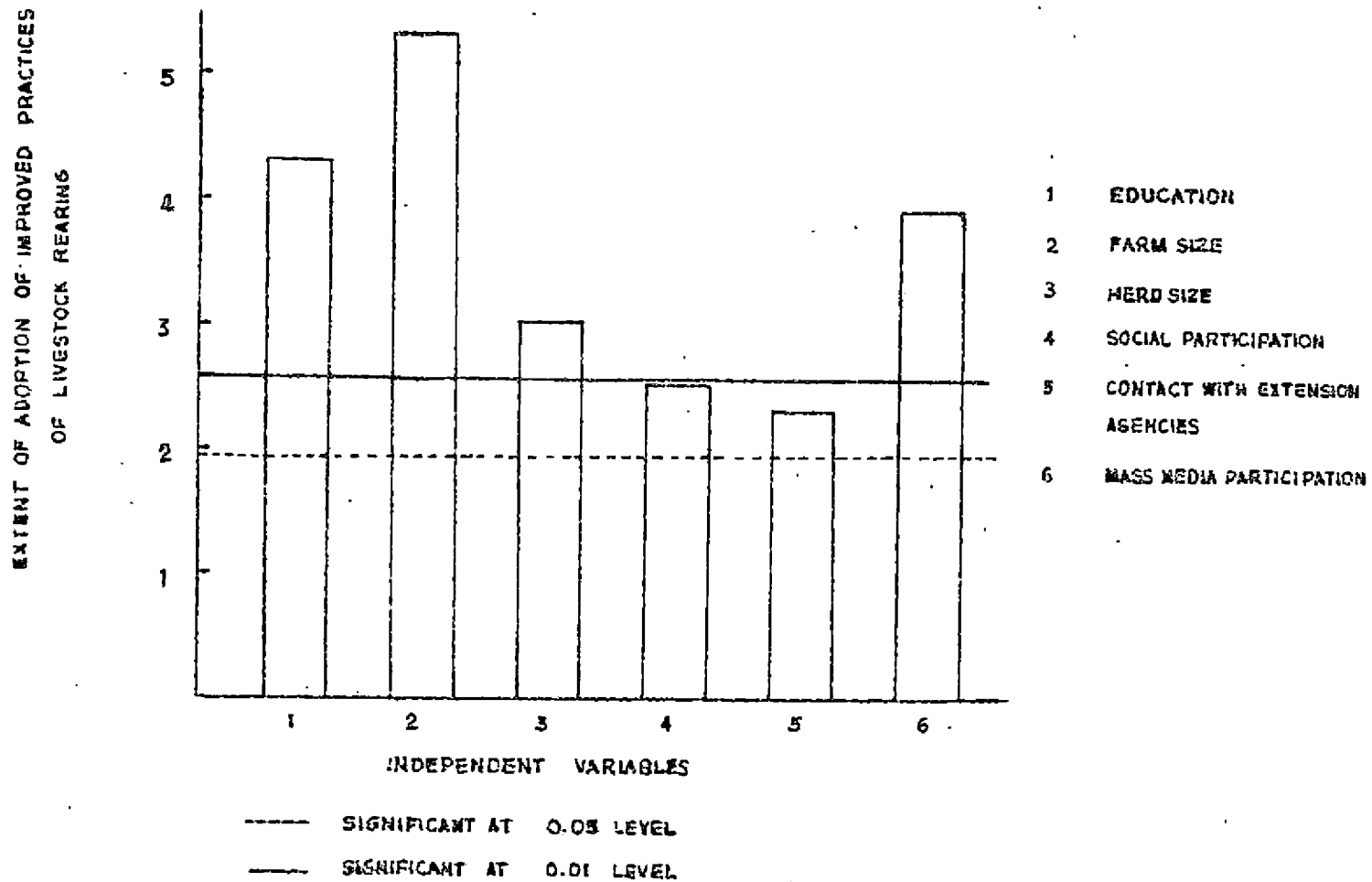
#### 4. Social participation.

Table 14 indicates that there was a significant and positive relationship between social participation and the extent of adoption of improved practices of livestock rearing. Owing to their contacts with innovative farmers the farmers with high social participation are likely to acquire more knowledge, become receptive to the innovations and adopt more than the people with low social participation. This finding is in agreement with the findings of Jothiraj (1979) and Rajendran (1978).

#### 5. Contact with extension agencies.

Table 14 shows that contact with extension agencies is positively and significantly related with the extent of adoption of improved practices of livestock rearing. Farmers having contact with change agents, scientists participate actively in extension programmes which would increase their level of knowledge develop a favourable attitude, finally leading to adoption. This finding is supported by Saini (1975), Kappse (1976) and Joshi (1978).

FIG. 4 CORRELATION BETWEEN THE INDEPENDENT VARIABLES AND THE EXTENT OF ADOPTION OF IMPROVED PRACTICES OF LIVESTOCK REARING



#### 6. Mass media participation.

Table 14 evidences a positive and significant relationship between mass media participation and the extent of adoption of improved practices of livestock rearing. It is reasonable to believe that farmers with high mass media participation have utilised the information channels open to them in a better way than farmers with low mass media participation. The knowledge thus gained might have developed a favourable attitude in them towards innovations leading to higher adoption. This finding is supported by the observations of Gangappa (1975) Mahadevaswamy (1978) and Joshi (1978).

#### IV. Inter-relation among the dependent variables.

Table 15 shows that there was a positive and significant relationship among the three dependent variables. It is noted that relationship between level of awareness of SFDA activities and level of knowledge in improved practices of livestock rearing was positive and significant. A farmer who is well aware of SFDA training camps and other educational efforts, is likely to utilise these opportunities to gain knowledge in dairy innovations. Moreover, a farmer who is having high awareness was found to be having high education, high social participation, greater contact

with extension agencies and greater mass media participation which help in acquiring, understanding and retention of the knowledge. These might be the reasons for positive relation between awareness and knowledge. The knowledge thus gained might have instilled an idea in the farmer's mind to adopt the innovations. This may be the reason for positive and significant relationship between level of awareness of activities of SPDA and the extent of adoption of improved practices of livestock rearing.

Table 15 indicates a positive and significant relationship between the level of knowledge and the extent of adoption of improved practices of livestock rearing. Galkward *et al.* (1973) while studying the influence of level of knowledge of farmers on their extent of adoption of improved farm practices postulated that as the level of knowledge passes a certain threshold, the self generated pressure due to the incremental knowledge, culminates in practice adoption of innovation. The finding of this study is in conformity with the above statement. This substantiates the reason behind the positive and significant relationship between the level of knowledge and the extent of adoption of improved practices of livestock rearing.

# SUMMARY

## CHAPTER VI

### SUMMARY

SFDA was launched during the Fourth Five Year Plan, exclusively for the weaker sections of the rural society. Impact of the SFDA was assessed by various researchers, but very few studies had been undertaken to assess it in terms of the behavioural changes, brought out by the agency's functioning in the farmers. The present study is an attempt in this direction. The objectives of the study were,

- 1) To study the level of awareness of the beneficiaries and non-beneficiaries about the Agency's activities.
- 2) To study the level of knowledge of beneficiaries and non-beneficiaries in improved practices of livestock rearing.
- 3) To study the extent of adoption of improved practices of livestock rearing by beneficiaries and non-beneficiaries.
- 4) To study the selected personal, socio-economic characteristics of beneficiaries and non-beneficiaries and their relationship with their level of awareness of SFDA activities, level of knowledge and the extent of adoption of improved practices of livestock rearing.

The Dairy Development Programme implemented by SFDA of Trivandrum district was selected for the study. Three

blocks in Trivandrum district were selected through purposive random sampling. From each block 10 small farmers, 10 marginal farmers and 10 agricultural labourers were selected randomly from the list of beneficiaries and an equal number from the list of non-beneficiaries. The total sample consisted of 180 respondents of which 90 were beneficiaries and 90 were non-beneficiaries.

Impact of the agency was measured in terms of the farmers' level of awareness of SFDA activities, level of knowledge and extent of adoption of improved practices of livestock rearing, which were the dependent variables of the study. Education, Farm size, herd size, social participation, contact with extension agencies and mass media participation were the independent variables studied.

The data were collected by interviewing respondents with the help of a schedule. Kolmogorov - Smirnov two sample test, analysis of variance and simple correlation were the statistical techniques used in this study.

The salient findings of the study were presented below.

- 1) The study revealed that beneficiaries had significantly higher education, larger herd size, higher social participation, higher contact with extension agencies and greater



mass media participation than those of the non-beneficiaries, except farm size wherein they were on par.

- 2) Beneficiaries had significantly higher awareness of SFDA activities, higher level of knowledge and higher extent of adoption of improved livestock rearing practices than those of the non-beneficiaries.
- 3) The 'F' values revealed significant difference among the three categories of beneficiaries, with respect to their independent and dependent variables. The study revealed that small farmers were superior to the marginal farmers and agricultural labourers in all the variables, except mass media participation and level of knowledge, wherein they were on par with marginal farmers. The marginal farmers were superior to agricultural labourers in all the variables except education and herd size, wherein they were on par with each other.
- 4) The study revealed a positive and significant relationship between the independent and dependent variables. A positive and significant relationship among the dependent variables was also observed.

Implications and recommendations emerging out of the present study.

- 1) The finding that beneficiaries had higher awareness of SFDA activities throws light upon the fact that farmers' participation

in developmental programmes depends much upon their knowledge in the programme's objectives, organisational machinery and its activities.

2. Beneficiaries had significantly higher knowledge and higher extent of adoption in improved practices of livestock rearing than those of the non-beneficiaries. This encouraging finding gives a paramount position to the training which helps in rational decision making by the farmers.
3. The significant superiority of beneficiaries over non-beneficiaries in the dependent variables focusses on the potentiality of small and marginal farmers and agricultural labourers to become viable farmers if they were provided with all the needed assistance.
4. The relationships established in the present study between the selected independent and dependent variables would serve as guidelines for the extension agency for favourable manipulation of the innovation decision process of the farmers.

#### Suggestions for future research.

1. In this study impact was measured with reference to Dairy Development Programme. Similar studies on other programmes can be conducted.
2. A study to develop different communication strategies suitable to different target groups of farmers would be helpful.

## REFERENCES

## REFERENCES

- Ahmed, P. (1981). Effectiveness of the Training Programmes for Farmers. Unpub. M.Sc. (Ag) Thesis, College of Agriculture, Vellayani.
- Anasthasi, A. (1961). Psychological Testing. Mc Millan and Company, New York: 428-436.
- \*Anonymous. (1969). Report of the All India Rural Credit Review Committee. pp 574.
- Anonymous. (1977). Package of Practices Recommendations (Livestock and Poultry). Kerala Agricultural University, Mannuthy.
- Anonymous. (1979). Evaluation of SFDA by planning Commission. Kurukshetra. 27 (17): 1-6.
- Anonymous. (1979). Report of Programme Evaluation Organisation. Planning Commission, Govt. of India, New Delhi.
- Anonymous. (1979). Small Farmers Development Agency Quilon An Evaluation Study. Evaluation Division, State Planning Board, Kerala.
- Arputharaj, C. and Rajan, E.C. (1979). Small Farmers Development Agency Quilon An Evaluation Study. Agricultural Economics Research Centre, University of Madras.
- Balu, S.R.A. (1980). A study on the functioning of Integrated Dry Land Agricultural Development Programme. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U. Coimbatore.

- \*Beal, G.M. and Rogers, E.M. (1960). The adoption of two farm practices in central Iowa community. Iowa Special Report 26 Agricultural and Home Economics Experiment Station, Iowa State University of Science and Technology.
- Bhaskaran, K. and Mahajan, D.S. (1968). Effectiveness of Extension Methods in gaining knowledge about and acceptance of Agrosan seed treatment to cotton. Indian J. Extn. Edn., 4: 28-33.
- \*Chatterjee, P.K. (1976). Economics of Farm size (A study with reference to West Bengal). Economic Affairs 21 (2): 115-120.
- Chattopadhyay, S.N. (1963). A study of some psychological correlates of Adoption of innovations in Farming. Ph.D. Thesis, I.A.R.I., New Delhi.
- Copp, Neal and Gross. (1969). The Differential characteristics of an approved Agricultural Technological Practice. Rural Sociology. 14.
- Cronbach, L.J. (1949). Essentials of Psychological Testing. Harper and Bros., New York.
- Dahiya, L.N. (1975). Impact of cash availability on Farm income and Demand for cash under restricted and unrestricted fertiliser conditions in the farming regions of the State of Haryana. The Asian Economic Review, 17 (1,2 & 3): 131-138.
- Drever (1952). A Dictionary of Psychology, Middlesex, Penguin Book Ltd., England.
- \*Dubey, V.K., Singh, S.B. and Bhupal Singh (1977). Socio-economic Psychological factors influencing dairy entrepreneurship in the rural areas of Karnal. Annual Report. NDRI, Karnal, Haryana.

- Duncan, J.A. and Kretlow, B.W. (1954). Selected Cultural Characteristics and Acceptance of Education Programme and Practices. Rural Sociology 19: 349-357.
- Emery, F.E. and Oser, O.A. (1958). Information, Decision and Action. Melbourne University Press, Carlton.
- English, H.B. and English A.C. (1958). A Comprehensive Dictionary of Psychological and Psycho-Analytical Terms. Logmans Green and Co., New York.
- \*Ernest, R.S. (1973). A study of communication utilisation behaviour of small and big farmers and its implication to communication strategy. Unpub. Ph.D. Thesis, Division of Agricultural Extension, I.A.R.I., New Delhi.
- Fliegel, F.C. (1956). A multiple correlation analysis of factors associated with adoption of farm practices. Rural Sociology. 21: 284-295.
- Gaikwad, V.R. (1971). Small Farmers. State Policy and Programme implementation. National Institute of Community Development, Hyderabad.
- \*Gaikwad, V.R., Tripathi, D.L. and Haque, S.M.T. (1973). Rural Social Structure and Communication of in Indian Villages. Indian Institute of Management, Ahmedabad.
- \*Gangappa, G.N. (1975). A study of adoption behaviour, consultancy pattern and information source creditability of small farmers in Mysore district of Karnataka State. Unpub. M.Sc. (Ag) Thesis. Department of Agricultural Extension, U.A.S., Bangalore.

- Garret, (1973). Statistics of Psychology and Education. Vakilas, Flofer and Simon Pvt. Ltd., Bombay.
- Grozovinski, Z. (1981). Advice to small farmers. Proceedings of ISMA Symposium, Braga, Portugal.
- \*Haque, Wahidul, Mehta, Nirangan, Rahman, Anisur and Wignaraja, Ponna, (1977). Development Reconsidered Development Dialogue 2: 15-19.
- Jaiswal, N.K., Singh, M.N. and Singh, B.N. (1971). A study of Interaction Association of selected factors with innovativeness in farming. Indian J. Extn. Edn. 1: 110-116.
- Jaiswal, N.K. and Dave, A.K. (1972). Measurement of Progressiveness in Farming. Studies in Extension Education (ED) Sinha, P.R.R. N.I.C.D., Hyderabad.
- Jayavelu (1980). An analysis of factors responsible for the participation and Non-participation of cotton growers in regulated market. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute. T.N.A.U., Coimbatore.
- \*Joshi, J.S. (1978). A study of some selected factors affecting the adoption of dairy innovations by the different categories of dairy farmers in the milk shed area of Ludhiana Milk Plant, Punjab. Unpub. M.Sc. (Ag) Thesis. Division of Dairy Extension, N.D.R.I. Kanala.
- Jothiraj, S. (1974). An Ex-post facto study on the extent of adoption of selected husbandry practices by the dairy men. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U., Coimbatore.
- Kaleel, H. (1978). A study on the impact of Intensive Paddy Development Programme in Kerala. Unpub. M.Sc. (Ag) Thesis. College of Agriculture, Vellore.

- Kamolsen, P.S. (1971). A study on the effectiveness of one day Farmers Training Camps under High Yielding Varieties Programme in Trivandrum District of Kerala State. Unpub. M.Sc. (Ag) Thesis. T.N.A.U., Coimbatore.
- \*Kappso, S.S. (1976). Adoption of selected Dairy husbandry practices by cattle owners in the I.C.D.P. area of Dhulia. Unpub. M.Sc. (Ag) Thesis. Division of Dairy Extension. N.D.H.I. Karnal, Haryana.
- Khan, M.A. (1978). Sociological Analysis of the working of Small Farmers Development Agency. Indian Institute of Advanced Study. Rashtrapathi Nivas, Simla.
- Knight, A. and Singh, K.N. (1975). Study on personal social characteristics of farm broadcast listeners that are associated with gain in knowledge. Madras Agri. J. 62 (10-12): 698-701.
- \*Krishna Swamy, M.S. and Patel, K.V. (1974). Managing an action programme for Dryland Agriculture. Monograph No.48 Indian Institute of Management, Ahmedabad.
- Lienberger, H.F. (1960). Adoption of New ideas and Practices. Iowa University Press, America.
- \*Mahadevaswamy, B.N. (1978). Comparative study of adoption behaviour, consultancy pattern and information source credibility of small, marginal and other farmers of Bangalore District of Karnataka State. Unpub. M.Sc. (Ag) Thesis. U.A.S., Bangalore.
- Mani, K.C. (1980). Critical analysis of factors associated with participation and non-participation of Turmeric growers in Regulated Market. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U., Coimbatore.



- Marsh, G.P. and Coleman, A.L. (1955). The relation of farmers' characteristics to the adoption of recommended farm practices. Rural Sociology. 20: 289-296.
- Moni, M.K.S. (1977). A study on the influence of ARDC schemes on coconut growers. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U., Coimbatore.
- Nachiappan, P.R. and Srinivasamurthy, J. (1976). The impact of S.F.D.A. on the knowledge of the participant small farmers of Tamil Nadu. Indian J. Extn. Edn. 13 (324): 64-68.
- Nair, G.T. (1969). A multivariate study on adoption of High Yielding Varieties by the farmers of Kerala State. Unpub. Ph.D. Thesis. I.A.R.I., New Delhi.
- Nandakumar, A.C. (1980). Critical analysis of the functioning of D.P.A.P. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U., Coimbatore.
- \*Nanjappan, P. (1978). A study on the impact of regulated market in Agricultural marketing. Unpub. M.B.A. Project Report. Dept. of Management Studies, Univ. of Madras, Madras.
- \*Noll, V.H. (1957). Introduction of Educational Measurement. Borton, Houghton Mifflin Company: 274-284.
- Padmanabhan, V.B. (1981). A study on the influence of labour efficiency on the adoption of improved agricultural practices by farmers and factors related with it. Unpub. M.Sc. (Ag) Thesis. College of Agriculture, K.A.U. Vellayani.

- \*Pandit, S. (1964). A study of the role of age, education and size of farm in relation to adoption of improved agricultural practices. Res. Foundation Bull. B.A.C., Sobur 6: 69-70.
- Patel, M.L. (1965). Farm investment pattern of tribal village in Madhya Pradesh. Indian J. Agric. Economics. 20 (1): 192-200.
- Patel, P.V. and Patel, A.U. (1968). Impact of Farmers Training Camps conducted at Village level on the adoption of some improved farm practices in Olpad Taluka, Gujarat State. Indian J. Extn. Edn. 9 (384): 18-24.
- Pillai, K.G.S. (1978). A study on swine farming and pork consumption. Unpub. M.Sc. (Ag) Thesis, Agricultural College and Research Institute, T.N.A.U., Coimbatore.
- Rajendra (1968). Distance concepts in adoption pattern. Indian J. Extn. Edn. 4 (1 & 2): 83-85.
- Rajendran, P. (1978). A study of factors affecting the adoption of selected agricultural practices. Unpub. M.Sc. (Ag) Thesis. College of Agriculture, Vellayani.
- Raj, A.S. and Knight, J. (1977). Influence of farm practice attributes on innovation decision process. Indian J. Extn. Edn. 13 (3 & 4): 1-5.
- Ramsey, C.H., Palson, R.A. and Spencer, G.H. (1959). Values and Adoption of Practices. Rural Sociology. 24.
- Rogers, E.M. (1962). Diffusion of Innovations. The Free Press, New York.

- Rogers, E.M. and Shoemaker, F.F. (1971). Communication of Innovations. A cross cultural approach. The Free Press, New York.
- \*Roy, P., Fliegel, F.G., Kivlim, J.E. and Sen. L.K. (1969). Agricultural innovations among Indian Farmers. N.I.C.D., Hyderabad.
- Saini (1975) A Study of factors affecting adoption of selected recommended Dairy practices. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U. Coimbatore.
- \*Salunkhe, V.G. (1977). A critical analysis of the functioning of Small Farmers Development Agency. Unpub. Ph.D. Thesis Division of Agricultural Extension I.A.R.I. New Delhi.
- Salunkhe, V.G. (1980). Multivariate Regression analysis of Involvement of Small farmers in SFDA. Indian J. Extn. Edn. 16 (3 & 4): 71-73.
- Shankaraiah, C.H. and Singh, K.N. (1967). Predictive analysis of factors related with knowledge of improved practices of vegetable cultivation. Indian J. Extn. 3, (1 & 2): 67-73.
- Sharma, R.K. and Sharma, J.C. (1970). Farmers' awareness of important contagious bovine diseases. Indian J. Extn. Edn. 4: (3 & 4).
- Siegel, S. (1956). Non-Parametric Statistics for the Behavioural Sciences. McGraw-Hill Book Company, New York.
- Singh, K.M.P. and Singh, R.P. (1974). Impact of National Demonstration in the adoption of High Yielding Varieties of wheat. Indian J. Extn. Edn. 10 (1 & 2): 65-67.

- Singh, N.P. and Prasad, C. (1974). Communication behaviour and source credibility perception of Young farmers. Indian J. Extn. Edn. 10 (1 & 2): 53-58.
- \*Singh, K.N. (1976). Developing Small and Marginal Farmers need for a new outlook. Paper Presented in the National Seminar on New Agricultural technology and Extension strategy for Small Farmers and Marginal Farmers on 17th July, P.A.U. Ludhiana.
- Singh, A. (1977). Impact of Farmers Training Programme. Indian J. Adult Edn. 33 (5): 25-35.
- Schal, J.S. and Tyagi, K.C. (1978). Role of Knowledge in Adoption of Dairy innovations. Indian J. Extn. Edn. 14 (3 & 4): 16-24.
- Sohi, J.S. and Korde, R.L. (1980). A study of Dairy Adoption Behaviour of Small Farmers and Marginal Farmers in Punjab. Indian J. Extn. Edn. 16 (1 & 2): 84-86.
- Somasundaram, D. and Singh, S.N. (1978). Factors affecting knowledge of Adopter and Non-adopter small farmers. Indian J. Extn. Edn. 14 (3 & 4): 26-33.
- \*Subadhra, M.R. (1979). Comparative effectiveness of extension communication media used under the Dairy Development programme and extent of adoption of improved Dairy Husbandry practices by members of milk co-operatives in selected areas in Trichur Taluk. Unpub. M.V.Sc. Thesis. Dept. of Extension College of Veterinary and Animal Sciences K.A.U., Mannuthy, Trichur.
- Subramanyam, V.S. and Lakshmanan, G. (1973). Impact of socio Economic factors on the adoption of improved farm practices. Madras agric. J. 62 (10-12): 721-725.
- \*Supe, S.V. (1969). Factors related to different degrees of rationality in decision making among farmers. Unpub. Ph.D. Thesis. Division of Agricultural Extension, I.A.R.I. New Delhi.

- Supre, S.V. and Salode, M.S. (1975). Impact of National Demonstration on Knowledge and adoption level of farmers participants. Indian J. Extn. Edn. 2 (1 & 2): 36-38.
- \*Trivedi, G. (1963). Measurement analysis of socio-economic status of rural families Unpub. Ph.D.Thesis. I.A.R.I. New Delhi.
- Venkidasamy, G. (1977). Study of the motives of Small Farmers in project (S.F.D.A.) and Non-Project Blocks for the adoption of High Yielding Varieties of Cotton. Unpub. M.Sc. (Ag) Thesis. Agricultural College and Research Institute, T.N.A.U., Coimbatore.
- Verma, H.S. and Rao, J.V.R. (1969). Impact of Farmers Training Programme on adoption of recommended Practices. Khadi Gramodyog 15: 808-816.
- \*Vijayakumar, M. (1976). Study of adoption of a few selected practices in upland area of Vijayawada Taluk, Krishna District Andhra Pradesh. Unpub M.Sc. (Ag) Thesis. Division of Dairy Extension, N.D.R.I. Karnal.
- Vijayaraghavan, R. (1979). Study of the factors affecting the knowledge and adoption of High Yielding Varieties of Paddy by small and Marginal Farmers. Unpub. M.Sc.(Ag) Thesis. Agricultural College and Research Institute, T.N.A.U. Coimbatore.
- \*Wilkening, E.A. (1952). Acceptance of improved farm practices. Agricultural Experiment Station Bulletin. 92, North Carolina, U.S.A.
- \*Wilkening, E.A. (1953). Adoption of improved farm practices as related to family factors. Agricultural Research Bulletin. 183. Wisconsin, Madison.
- Wolman, B.B. (1973). Dictionary of Behavioral Science. Van Nostrand Reinhold Company, New York: pp: 38.

\* Original not seen

## **APPENDICES**

APPENDIX

Study on the impact of the Agricultural Programmes implemented by the SFDA among farmers in Trivandrum District.

Part I

1. Respondent No.
2. Name and address of the farmer.

Part II

3. Education: Illiterate/can read only/  
can read and write/primary/  
middle/high school/college and above.

4. Farm size

Type	Area in acres		
	Owned	Leased in	Leased out
Garden Land			
Wet Land			

5. Herd size:
  1. No. of cows
  2. No. of buffaloes
  3. No. of calves

6. Social participation.

Sl. No.	Name of the organisation.	Member	Office bearer	Frequency of attendance		
				Regular	Occasi- onal.	Rare or never.
1.	Panchayat					
2.	Co-op. Committees					
3.	Eia committees					
4.	Farmers discuss- sion group.					
5.	Youth club					
6.	Others if any.					

7. Contact with extension agencies

Sl. No.	Extension agency.	Frequency of contact			
		twice or more in a week.	once in a week.	once in a fort- night.	once in a month. Never or rare
1.	Demonstrators				
2.	V.E.O's				
3.	Jr. Agrl. Officers				
4.	University Scientists				
5.	Others if any.				

8. Mass media participation:

Sl. No.	Media	Frequency			
		Twice or more in a week.	Once in a week	Once in a fort- night.	Once in a month or rare.
1.	Reads news paper				
2.	Reads farm columns in newspaper.				
3.	Listens to radio.				
4.	Listens to rural radio programmes.				
5.	Reads farm magazines and other literature on Agriculture.				

Part III

Knowledge of the Farmers

1. Selection of the animal based on one of the following is desirable.
  - 1) Colour
  - 2) Previous records
  - 3) Shape of horn.
2. What is the floor space required per animal in the cattle shed (length x breadth).
  - a) 1.7 x 1.3 mts.
  - b) 4 x 3 mts.
  - 6) 1.0 x 0.5 mts.



3. The flooring in cattleshed must be:  
(a) Soft (b) Hard and impervious  
(c) Well polished.
4. How much concentrate mixture is required for a milching cow?  
(a) 2½ kgs. (b) 6 kgs. (c) 10 Kgs.
5. How legume fodder can be fed?  
(a) Legume fodder alone.  
(b) Incorporated with oil cakes.  
(c) Mixed with green grass or straw.
6. Colostrum contains  
(a) Immune bodies (b) Poisonous substances  
(c) Blood.
7. Immediately after milking milk should be transferred from cattle shed because.  
(a) Milk evaporates quickly.  
(b) Milk absorbs surrounding odours  
(c) It increases fatcontent of milk.
8. What is the advantage of artificial insemination.  
(a) Reduces pregnancy period  
(b) easy delivery  
(c) good calves can be obtained.
9. Which of the following if taken in excess will cause bloat or tympany?  
(a) Straw (b) Green grass (c) Legume fodder.
10. What is the line of treatment for bloat in acute cases?  
(a) Giving antibiotics (b) Glucose  
(c) Puncture the rumen.
11. How to prevent foot and mouth disease?  
(a) Vaccination (b) Balanced diet  
(c) Cannot be prevented.

12. Which of the following is used against ticks and mites?  
 (a) Sevin                      (b) Antibiotics                      (c) Dettol

## Part IV

Adoption behaviour of the farmersExtent of adoption of improved practices in livestock rearing.

1. How many animals do you possess?      Number:  
     Of them, how many are local              Number:  
     How many are improved breeds          Number:
2. What sort of housing system you have adopted to shelter the animals?
  - a) How much spacing you have given per animal (length x breadth)      ..... mts.
  - b) Type of flooring adopted      .....
  - c) Have you given sloping to the floor: Yes/No
3. What are all the materials you feed to the animals other than grass straw (concentrate mixture)
4. Are you feeding the animals with leguminous fodder? Yes/No
5. Have you ever had your animals inseminated artificially?      Yes/No  
     If yes,
  - (a) how often you get your animals inseminated artificially?      Always/once in a while.
  - (b) Have you ever checked for pregnancy, if yes, after how many days.      Yes/No  
     ..... days.
  - (c) To get it inseminated how much time did you take after detection of heat.      .....
6. What method you have adopted in milking the animals?      ....
7. Have you ever got your animals vaccinated against diseases?      Yes/No

8. Have you raised any fodder crops in your farm? Yes/No  
 If yes, area covered ..... Acres.

Part V

Awareness of SFDA activities

1. Who form the target group of SFDA?
  - 1.
  - 2.
  - 3.
2. Is SFDA giving credit directly to farmers? Yes/No  
 If no, which are the agencies through which SFDA gives loans?
  - 1.
  - 2.
  - 3.
3. Who identifies the beneficiaries? .....
4. Subsidy is a part of SFDA assistance True/False  
 If true,
  - (a) What is the subsidy percentage for small farmers .....%
  - (b) What is the subsidy percentage for marginal farmers ..... %
  - (c) What is the subsidy percentage for agricultural labourers ..... %
  - (d) What is the maximum amount of subsidy an eligible farmer can avail .....
5. What are the methods adopted by SFDA in educating farmers?
6. Can you tell me the various programmes implemented by SFDA.

**STUDY ON THE IMPACT OF THE AGRICULTURAL PROGRAMMES  
IMPLEMENTED BY THE SMALL FARMERS DEVELOPMENT AGENCY  
AMONG FARMERS IN TRIVANDRUM DISTRICT**

**D. HARA PRASAD**

**ABSTRACT OF THE THESIS  
SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE DEGREE  
MASTER OF SCIENCE IN AGRICULTURE  
(AGRICULTURAL EXTENSION)  
FACULTY OF AGRICULTURE  
KERALA AGRICULTURAL UNIVERSITY**

**DEPARTMENT OF AGRICULTURAL EXTENSION  
COLLEGE OF AGRICULTURE  
VELLAYANI, TRIVANDRUM**

**1982**

## ABSTRACT

The study was conducted in three blocks of Trivandrum district, Kerala State, India to study the impact of Small Farmers Development Agency (SFDA) on the farmers. The objectives were:

1. To study the level of awareness of the beneficiaries and non-beneficiaries about the Agency's activities.
2. To study the level of knowledge of beneficiaries and non-beneficiaries in improved practices of livestock rearing practices.
3. To study the extent of adoption of improved practices of livestock rearing by beneficiaries and non-beneficiaries.
4. To study the selected personal, socio-economic characteristics of beneficiaries and non-beneficiaries and their relationship with the level of awareness of SFDA activities, level of knowledge and the extent of adoption of improved practices of livestock rearing.

The study revealed that beneficiaries had significantly higher awareness of SFDA activities, higher level of knowledge and higher extent of adoption of improved practices of livestock rearing than those of the non-beneficiaries. Also, it was

found that beneficiaries had significantly higher education, larger herd size, higher social participation, higher contact with extension agencies and greater mass media participation than those of the non-beneficiaries, except farm size wherein both were on par.

Calculated 'F' values showed a significant difference among the three categories of beneficiaries namely small farmers, Marginal farmers and Agricultural labourers in the dependent variables i.e. awareness, knowledge and adoption behaviour and the personal, socio-economic characteristics. Further small farmers were found to be superior to marginal farmers and agricultural labourers in all the variables under study except mass media participation and level of knowledge wherein they were on par with marginal farmers. The marginal farmers were superior to agricultural labourers in all the variables under study except education and herd size wherein both were on par.

The study revealed a positive and significant relationship between the personal, socio-economic characteristics and the dependent variables and also among the dependent variables.