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**JOB EFFICIENCY OF PANCHAYAT LEVEL  
AGRICULTURAL OFFICERS OF DEPARTMENT OF  
AGRICULTURE IN KERALA**

By

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**THESIS**

**SUBMITTED IN PARTIAL FULFILMENT OF THE  
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**DEPARTMENT OF AGRICULTURAL EXTENSION,  
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1993

*To*  
*My beloved maternal grand father*  
*Late Sri. P.S. Nataraja Pillai, Trivandrum*  
*Formerly Finance Minister, Travancore Cochin State*  
*and Member of Parliament*

*My beloved paternal grand father*  
*Late Sri. P. Madhevan Pillai, Trivandrum*  
*Formerly Palace Engineer, Trivandrum*

DECLARATION

I hereby declare that this thesis entitled " Job efficiency of Panchayat Level Agricultural Officers of Department of Agriculture in Kerala " is a bonafide record of research work done by me during the course of research work and this thesis has not previously formed the basis for the award to me of any Degree, Diploma, Associateship or any other similar title of any other University or Society.



S. MOTILAL NEHRU

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03.1993.

C E R T I F I C A T E

Certified that this thesis entitled " Job efficiency of Panchayat Level Agricultural Officers of Department of Agriculture in Kerala " is a record of research work done independently by Shri. S. MOTHILAL NEHRU under my guidance and supervision and it has not previously formed the basis for the award of any Degree, Fellowship or Associateship to him.



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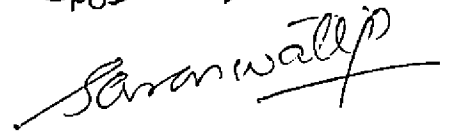
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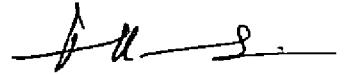
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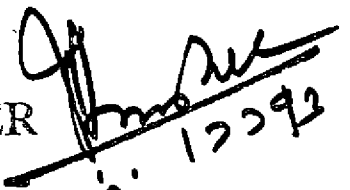
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### Abbreviations used in this study

A.A.	=	Agricultural Assistant
A.D.	=	Agricultural Demonstrators
A.D.O.	=	Agricultural Development Officers
A.E.O.	=	Agricultural Extension Officer
Agri. Graduates	=	Agricultural Graduates
Agri. Leader	=	Agricultural Leader
A.O.	=	Agricultural Officer
A.A.O.	=	Assistant Agricultural Officer
A.D.A.	=	Assistant Director of Agriculture
A.E.	=	Assistant Engineer
A.W.W.	=	Angan Wadi Workers
B.A.R.S.	=	Behaviourally Anchored Rating Scale
D.D.A.	=	Deputy Director of Agriculture
Extn. Guides	=	Extension Guides
Extn. Functionaries	=	Extension Functionaries
Extn. Personnel	=	Extension Personnel
J.A.O.	=	Junior Agricultural Officer
J.E.	=	Junior Engineer
SPART	=	Self Perceived Task Relevant Ability
T & V. System	=	Training and Visit System
Uni. Teacher	=	University teacher
V.L.W.	=	Village Level Worker
V.E.O.	=	Village Extension Officer

# INTRODUCTION



## INTRODUCTION

India lives in her villages. Four out of five Indians live in rural areas and within these ruralities every five out of six are dependent on agriculture. Agriculture plays a dominant role in the economic development of the country with more than 40 per cent of the total national income contributed by agriculture and allied sectors. Rapid growth of the population makes it necessary for the country to expand agricultural production.

The performance of Indian Agriculture in the recent past has been appreciable. Five year plans undertaken by the Government as well as the scientific break-through in the agricultural front have resulted in spectacular increase in the agricultural production with a compound growth rate of 2.5 per cent per annum over the last three decades. The food production in the country has seen a great leap from 50 million tonnes in the fifties to 175 million tonnes in the eighties. The dream of self-sufficiency in agricultural production has come true as a result of improved seeds, irrigation, fertilizer, technologies and other complementary inputs.

Yet, the task taken in this respect is rather enormous to feed the growing population, about 225 million tonnes of food grains per year would be required by 2000 A.D., which

means that the production has to be increased by about 75 million tonnes over the present level of production in another ten years. Increase in agricultural production would have to be necessarily obtained through efficiently utilizing resources, both men and materials in all facets of life. In the words of the late Smt. Indira Gandhi:

"We must get more out of every acre under the plough, out of every spindle and machine, out of every technologist and worker, out of every rupee spent, decision making must be expedited and there should be a greater delegation of functional and administrative powers, simplification of procedures, improvement in work environment, better maintenance of plant and equipment for increased capacity utilization. Productivity is an essential part of an urge for self improvement and achievement of excellence which must be part of any dynamic society."

To realise this dream, it is essential simultaneous improvements are made in agricultural tech generation, its transfer to farmers and their adoption of the same. On the extension side, myriad programmes have been launched by the Government of India and the State Governments. The programmes such as Intensive Agricultural District Programme,

Intensive Agricultural Area Programme, High Yielding Varieties Programme, Small Farmers Development Agency, Marginal Farmers and Agricultural Labourers Development Agency, Command Area Development, National Demonstration, Lab-to-Land and Operational Research Projects are worth mentioning in this context. Though these programmes revealed perceptible impact, the impact could not be replicated on a wider scale covering various categories of farmers due to various lacunae such as lack of well defined organization structure, absence of single line of control, dilution of efforts, lack of planned work and so on.

Sharma (1988) examined the agricultural extension organizational set-up and reported that the strategies being formulated in different plan periods to attain the ultimate objective of maximising agricultural production and the net income of the farmer generally revolve around developing or improving the quality of natural resources and the quality of farmers through institutional and technological development. If farmers are well-equipped with the knowledge and skill then it is possible to narrow down the gap between the potential and actual production of certain crops. For imparting such knowledge to the farmers growing different types of crops in varied agro-climatic conditions agricultural extension machinery functions in all the States of the country. However, up-to-date knowledge of the extension worker about the institutional development and advancement in agricultural research and aiming at ensuring

supply of various farm inputs and technical information to the farmers, is the basis on which the success of agricultural extension work depends.

The role of efficiency in increasing national welfare is now universally recognised. Efficiency is the result of a combination of numerous factors. Recent decades have witnessed, an important shift from extensive to intensive use of human and capital resources, which facilitates the organizations to utilize their personnel in an efficient way. As stated by Leagans (1976), the effectiveness of any extension system depends mainly on the commitment and capability of the extension functionaries.

Bhatnagar (1985) viewed that efficiency is certainly not an end in itself, but a means to an end. As such it is necessary to take an overall view of socio-cultural factors in order to achieve the broader objective of providing human satisfaction as against material goods and services which are not enough. The success of efficiency ultimately lies in the basic faith in progress, in expansion and growth, in the willingness to experiment with new ideas, to accept risks, to adjust to social changes, regional and occupational mobility and awareness to social responsibilities and nation's prosperity.

The extension service has the role and responsibility of bridging the gap between research and users of

technology through transplanting, transmitting and translating research results in practice by way of establishing coordination and linkages with institutions of higher learning on the one hand and people's institutions and organizations on the other. It establishes two-way communication processes i.e. extension service also works hand-in-glove with other development departments, inputs and credit institutions and try to multiply their efforts through mass and local media of communication.

Due to limited resources available in the country and taking into consideration the necessity for speedier transfer of technology in the farm sector, the Government of India took the advantage of World Bank assistance, so as to accelerate the process of development of location-specific technology and an effective extension of transfer technology on faster pace through the T and V system. Later, the Kerala State Government launched Krishi Bhavan programme (Agricultural Office at Panchayat level) during 1987 to overcome various organizational, structural and functional constraints that have been identified during the operation of T and V system. The Krishi Bhavan programme at panchayat level mainly focuses on grass root level planning and ensures people's participation in the implementation of programmes, since local problems require location-specific, critical investigation and appropriate solution. The role of the Agricultural Officer at the Krishi Bhavan level is crucial for heralding agricultural development in the Panchayat area.

Therefore, the Governmental efforts to revitalize the agricultural sector hinges upon the efficiency with which the agricultural officer performs his job. Job efficiency, being a relative concept, is not amenable for easy assessment. A scientific method of measuring the job efficiency of agricultural officer in relation to the various dimensions of his job, therefore, is indispensable in objectively analysing his job efficiency and thereby facilitating in the design of intervention strategies to augment the same. Besides, the personal and situational variables which impinge upon the job efficiency of agricultural officers and the constraints to effective job performance by them have also to be comprehensively explored into. It is in this backdrop, the present investigation was under taken with the following specific objectives.

#### **Objectives of the study**

1. To develop and standardise a scale to measure the job efficiency of Agricultural Officers.
2. To measure the job efficiency of panchayat level Agricultural Officers of State Department of Agriculture.
3. To delineate the important job dimensions of Agricultural Officers.

4. To study the relationship of personal and situational variables with the job efficiency of Agricultural Officers.
5. To identify the constraints influencing the job dimensions as perceived by the Agricultural Officers.
6. To develop an extension strategy to augment the job efficiency of Agricultural Officers.

#### Scope of the Study

This is a pioneering study of its kind, wherein an attempt has been made to measure the job efficiency of Agricultural Officers and the relationship of personal and situational variables with the job efficiency of panchayat level Agricultural Officers of Kerala State Department of Agriculture, under Krishi Bhavan system. A study of this nature on the job efficiency of Agricultural Officers has not been attempted in a scientific manner till now. The job efficiency scale developed based on scientific procedures would prove to be useful to measure any individual especially the Development Department Officials. The job dimensions derived through the study would form a broader basis for formulating strategies to enhance the efficiency level and facilitate job enrichment.

The result of this study, it is hoped, would reveal the job efficiency of Agricultural Officers and the factors associated with it. Such results would be helpful to planners, professionals as well as administrators of various extension programmes and to provide the needed organizational atmosphere for raising and sustaining the higher level of job efficiency of Agricultural Officers.

#### Limitations of the study

As this study formed a part of the doctorate degree programme the limitations of time and other resources at the disposal of the researcher were limited. These limitations determined the restricted selection of districts and Krishi Bhavans as the locale of the study and also the sample size. However, careful and rigorous procedures have been adopted to carry out the research as objectively as possible.

The study aimed at only panchayat level Agricultural Officers working in the Krishi Bhavans, and they are supposed to be the king pins in the transfer of technology process, as well as, form the major chunk of agricultural extension professionals in the state. Hence generalisation of the findings would be directly applicable to this group of agricultural extension professionals. The study was based on the expressed responses of Agricultural Officers and their immediate



supervisors, which may not be free from their individual biases and prejudices. In spite of these, it is believed that the findings depicted and the conclusions drawn could stand the test of more rigorous field observation.

### Organisation of the study

The thesis is presented in six chapters. The first chapter is devoted to a succinct 'introduction', where-in the statement of the problem, objectives, the scope and limitation of the study are discussed. The second chapter 'theoretical orientation', deals with conceptualisation of the term 'job efficiency', relationship of personal and situational factors with job efficiency, job constraints and derivation of hypotheses. The third chapter, 'methodology' encompasses the procedures used in the measurement of the variables involved in the study, selection of respondents, techniques of data gathering and statistical tools employed to analyse the data. In the fourth chapter, the results are presented and the results are discussed in the fifth chapter. The chapter six summarises the study.

# **THEORETICAL ORIENTATION**

## THEORETICAL ORIENTATION

The objective of this chapter is to develop a concept of job efficiency and to establish the theoretical framework for the study based on ideas and concepts gathered from review of existing literature of both theoretical and empirical nature. Such a recapitulation will serve as a precursor for the present study and will help in relating its empirical findings with those of former studies. Research studies directly pertaining to job efficiency of extension personnel in general and Agricultural extension officers in particular were penurious in their availability, which prompted the researcher to review literature from other domains such as industrial psychology, personnel management, organizational behaviour, interpersonal relations and education. The literature reviewed is organised and presented under the following major heads. At the end of each part, generalisations have been made to develop the concepts used in this study.

2.1. Concept of Job

2.2. Role/Functions of Extension personnel

2.3. Job dimensions

2.4. Concept of Job efficiency

2.5. Relationship of personal and situational factors with job efficiency of Agricultural Officers

2.6. Job constraints of Agricultural Officers.

2.7. Theoretical model of the study

## 2.1. CONCEPT OF JOB

The terms 'occupation', 'job', and 'position' have generally been used interchangeably. Shartle (1952) has offered the following definitions for the terms occupation, job and position. An occupation is a group of similar jobs in several establishments. A job is a group of similar positions in a single plant, business establishment, institution or other work place. A position is a set of tasks performed by a person. There are as many positions as there are workers, but there may be one or many persons employed in the same job.

The British Institute of Management (1961) defined job as the total of the tasks usually entrusted to one worker and a task is a piece of work forming one component of the total job to be performed. Funk and Wagnalls (1971) defined job as a piece of work of definite extent or character, especially one done in the course of one's profession or occupation. According to French and Saward (1975) job means collections of tasks, duties and assignments that an employee is expected to perform. Johannsen and Page (1981) in the international dictionary of

management have defined job as the sum of tasks carried out by an employee and in a wider context, the social and physical environment in which he carries them out. Similarly, Mathis and Jackson (1988) stated that every job is composed of tasks, duties and responsibilities. According to Verma and Bhaskar (1990) job is a task or duty assigned to a person. It is the smallest unit of work one has to perform in a particular unit, section or department.

On a perusal of the foregoing definitions, job means a collection of tasks, duties, responsibilities and assignments that an employee is expected to perform. Performing these duties, responsibilities, tasks, and assignments obviously become the role or function of an employee and therefore, in the present study, the job of an Agricultural Officer is visualised as consisting of duties, responsibilities, tasks and assignments entrusted to him/her by the Department of Agriculture.

## .2.2. ROLE/FUNCTIONS OF EXTENSION PERSONNEL

### 2.2.1. Concept of Role/Function

While examining the job of extension personnel it could be noted that the terms such as role, function or duty are used very frequently to refer to a set of activities. Various authors have defined role in different ways. Linton (1945) defined role as the sum total of cultural patterns associated

with a particular status. Newcomb (1951) stated that the ways of behaving that are expected of any individual who occupies a certain position constitute the role associated with that position. Ogburn and Nimkoff (1964) defined role as a set of socially expected and approved behaviour patterns consisting of both duties, responsibilities and privileges associated with a particular position in a group.

Funk and Wagnalls (1971) viewed that role means any assumed character or function and function is one's appropriate or assigned business or duty. Vroom (1978) stated that job refers to work roles. It refers either worker's immediate work task or to his employment in a particular work organization. Johannsen and Page (1983) have viewed that role is virtually synonymous with job. Flipppo (1984) opined that objectives do not accomplish themselves and work must be executed by an individual in order that objectives may be achieved. The work function can be defined simply as work that can be distinguished from other work. Bruno (1986) stated that in social psychology, a role is one's public personality, the more or less predictable character that an individual assumes in order to fit in as a member of society.

From the above explanations it could be understood that role means functions or set of activities performed by an individual in order to achieve the objectives associated with the position in a group or organization.

### 2.2.2. Expected role/functions of extension personnel

Extension is an on-going process of getting useful information to people (the communication dimension) and then in assisting those people to acquire the necessary knowledge, skill and attitude to utilize effectively this information or technology (the educational dimension). Generally, the role of an extension person is to enable people to use these skills, knowledge and information to improve their life. Functions of extension personnel as viewed by various authors are reviewed and presented in the following pages.

Leagans (1958) stated that the most effective county extension agent is one who has a clear concept of objectives for his extension programme for his county. He has closer working relationship with his co-workers and depends upon them for help with his problem related to extension work. He further pointed out that the following competencies such as knowledge of subject matter, understanding extension and its educational role, skill in human relations, abilities to plan and organize activities, skill in relating principles to practice and abilities to evaluate are to be developed in extension workers in order to make them effective. Extension worker is not a mere messenger, he is the spark plug without which the machine will not work. He is more than that. He is an entity himself, a source of developmental energy and a co-author of the nation's

progress. He learns from both the Government and the villagers; he synthesizes the knowledge and understanding gained from both sources; and he applies his ability on the spot to solve the problems of both thus reducing the burden on each and adding to the resources of each.

Gallaher (1967) conceived various roles of change agents in relation to clients as: analyst, advisor, advocator and innovator. Jayaraman (1973) studied the work of deputy agricultural officer under nine areas namely, distribution of plant protection chemicals, distribution of seeds, organising harvest festivals, inspecting fertilizer depots, collecting soil samples, distribution of improved implements, procuring of improved seeds, preparing loan applications and distribution of green manure seeds. Perumal (1975) studied the job performance of agricultural extension officers in six job areas namely, education, supply and service, administration and organization, planning and evaluation. Kherde (1971) measured the performance of village level workers under eight job areas, viz., planning, coordination, supply, education, organization works, service, office work and supervision.

According to Zaltman and Duncan (1977), one of the basic functions performed by a change agent is to establish a link between a perceived need of a client system and a possible means of satisfying that need. The other roles are



diagnostician, information specialist and solution builder, evaluator, system monitor, innovation manager and facilitator. They further stated that there are three major role choices such as playing the expert role in which he provides direct solutions to the client system; playing the catalyst role in which he becomes an advocate of the change; and playing the process consultant role in which he gives information on technology.

Zaltman and Duncan (1977) identified twenty one specific roles as follows: (a) sensitive to the needs and perspectives of the change target system in designing solution to change situations; (b) build capabilities within the change target system so that a vacuum is not created when the change agent leaves the system; (c) always seek the simplest solution when working with a change problem; (d) have administrative capabilities so that the change process can be managed effectively; (e) should strive to maintain good interpersonal relations with persons in the change target system during the change; (f) consider the change problem as stated by the target system as a hypothesis and then should seek additional information regarding the change situation before selecting a particular course of action; (g) sensitive to and tolerant of the constraints that govern the change situation; (h) prepared to operate under stressful conditions; (j) should have the self confidence and positive self image to accept setbacks with poise and not project anger or frustration to the change target; (k)

able to define the change programme in a manner that is attractive to the various constituencies involved in the change programme; (l) should strive to maximise their credibility in the eyes of the change target system in terms of the change agents motives, competence, and truthfulness; (m) should work through opinion leaders in the change target system; (n) should expect an initial period in which change efforts will not be rewarded in terms of quick change in the target system; (o) should perceive that it has some freedom or free choice in entering into a relationship with the change agent; (p) should get the change target system involved in problem definition and need specification to develop target system commitment to and trust in the change agents; (q) the target system members should perceive that the change agent is helping them to gain more influence over the change process; (r) the more similar in attitudes, values, and beliefs the change is to the change target system the more motivated the target system will be in working co-operatively with the change agent; (s) there should be an exchange of expectations regarding the change process between the change agent and the change target system so that no misunderstandings occur regarding the change; (t) should strive to create as broad a base (i.e., referent, legitimate, expertise) for their position in the change target system as possible; (u) in determining the change objectives, the change agent should consider the nature and scope of the change, the target of the change (attitudes, values, beliefs), who will be affected and the

initial key people to work within the change target system; (v) the optimally structured change agent would be a change agent team consisting of an internal and external change agent who are homophilous with the change target system.

Brumback et al. (1978) reported 14 duty areas (roles) of county extension agents in the U.S.A. These were as follows; assess community needs, prepare annual plan of work, prepare specific programs, conduct programs, provide specific information on request, recruit, train and utilise lay leaders, evaluate programme effectiveness, report activities, impact and accomplishments, develop and maintain public relations, develop and maintain staff relationships, maintain and increase personal professional competencies, perform administrative functions and supervise staff. Janardhana (1979) measured the job performance of agricultural extension officers under six job areas namely, education, supply and service, supervision, administration and organization, planning and evaluation.

Beal (1981) stated that the roles of change agent are those of an educator, consultant, facilitator, organizer, administrator and researcher. Boyle (1981) suggested four major roles of a continuing education programmer as analyst, stimulator, facilitator and encourager. The seven roles of extension agents identified by Rogers (1983) are: (a) develops need on the part of clients; (b) establishes an information-

exchange relationships; (c) diagnoses their problems; (d) creates intent to change in the client; (e) translates intent into action; (f) stabilize adoption and prevents discontinuance and (g) achieves a terminal relationship with the clients.

According to Rogers (1983) one of the main roles of change agent is to facilitate the flow of innovations from a change agency to an audience of clients and another is obtaining feedback from clients about the change program. Claar and Bentz (1984) identified six functions of extension personnel such as: (a) develop a working relationship with all groups of farmers and other clientele; (b) develop appropriate advisory mechanisms; (c) develop plans for, and prepare reports on, extension activities carried out in the service area; (d) conduct educational activities such as demonstrations, meetings, surveys, field days, workshops, and so forth for all farmers, including women and young farmers; (e) provide accurate information to all groups of farmers, based on an authoritative and unbiased sources, and (f) co-operate fully with staff members in the extension organization in planning, conducting and evaluating extension programmes.

According to Sofranko (1984) extension worker is expected to perform the following roles: advocator, teacher, organizer, enforcer of regulations, planner, catalyst, coordinator, fee-collector and communication specialist. There are other broad responsibilities of extension worker such as (a) establish relationship with farmers; (b) assess farmers needs

both with respect to the types of technologies and the skill levels and information needed to promote successful transfer of the appropriate technology; (c) maintain liaison between the farmer and other organization, promote change and (d) stabilizing change by providing reinforcing messages to farmers.

Sofranko (1984) further stated that an extension worker's role in technological change calls for a unique blend of knowledge, skills and talents. He must have an understanding of the culture into which technologies are introduced, the ability to understand and empathize with farmer's situations, willingness to interact with others and the competence to understand, modify and apply scientific and technical information. The multidisciplinary role of an extension worker with these characteristics makes him a change agent or an agricultural and rural development agent.

Swanson and Claar (1984) stated that by definition, the role of the agricultural extension worker is that of an educator and communicator. Extension workers should identify farmer's problems and production constraints. Working closely with subject matter specialists and research workers, extension workers should disseminate useful information about new technology and teach farmers how to use it successfully to increase production and income. On the other hand, where extension workers serve as the agricultural representatives of

Government at the local level, they will largely be low level administrators rather than educators. The extension worker receives training and organizes informal training for clients.

According to Dahama and Bhatnagar (1985) the extension worker has to do thirteen major roles such as (a) acquaint himself with all the families in the village and learn their problems, needs and capabilities; (b) use as many methods of extension as are necessary; (c) give villagers every chance to work in cooperative group action; (d) improve the village life and surroundings and create the conditions for farmers to become active members of our Republic, socially, economically and politically; (e) bring to our rural masses the basic knowledge of improved methods of Agriculture, Animal Husbandry, Home management etc., (f) help villagers in crop and livestock raising so that their income is increased; (g) help the rural masses to appreciate the opportunities, duties and privileges of living in an organised way in the villages; (h) raise the whole standard of rural life by promoting social, cultural and intellectual activities in the villages; (i) bring to the rural people the knowledge of conditions prevailing in the progressive countries; (j) make the villagers intelligent, self-reliant and independent citizens who will love their homes and their country; (k) take the problems of the villagers to scientific institutions for solution; (l) change the attitudes, knowledge and skill of the villagers and bring about a psychological change in the minds of

the village people to prepare them to adopt new ways of life.

Gulothungan (1986) classified the selected job items into roles such as education, training, planning, supervision, organising, service and supply, administration and assessment and evaluation. Malekmohammadi (1987) identified twelve general competency areas of extension personnel in relation in innovation-diffusion process in Iran, such as extension, research and education relations, programming, extension and cultural relations, evaluation, innovation, administration, history and regional background, educational technology, adult education, teaching-learning process, leadership and advisory.

Reddy (1987) listed the following major roles of extension workers; catalyst, teach people to help themselves, teach how to think, help people to determine their own needs, flexibility in objectives, sound knowledge with ability and enthusiasm to teach people, love and sympathy for people, work in harmony with the culture and help people to work together in groups. Misra (1990) identified eight major job areas namely, area acquaintance job, educational job, training job, visit job, organizational job, planning job, office job and input coordination job. Reddy (1990) identified seven job dimensions such as planning, education, supply and services, supervision, coordination, office work and evaluation.

From the above explanations and exegesis, it could be stated that an extension officer is expected to perform the role as a member of an organization through some functions. Functions are accomplished by a series of specific distinguishable activities. The review on the functions in general indicated that the functions span through the areas of planning, coordination, human relation, office management, professional competency, farmer development, information management and direction and supervision. Hence these areas were considered to have theoretical relevance in delineating the job areas of Agricultural Officers.

## 2.3 JOB DIMENSION

In order to formulate the job dimensions of Agricultural Officers it became essential to analyse the elements which make these dimensions. Hence, the literature reviewed are presented under various job dimensions theoretically considered.

### 2.3.1 Planning

Koontz and O'Donnell (1976) stated that planning is an intellectual process, the conscious determination of course of action, based on purpose, facts and considered estimate. Similarly Terry (1977) viewed that planning is the selecting and relating of facts and the making and using of assumptions.



regarding the future in the visualisation and formulation of proposed activities believed necessary to achieve desired results. Bittel and Bittel (1978) viewed that planning is deciding in advance what to do, how to do it, when to do it and who is to do it. Planning bridges the gap from where we are to where we want to be in a desired feature.

According to Zaltman and Duncan (1977) planning is the process of deciding in the present what will be done in the future. Planning skill is another important capability a change agent should possess. Particularly important is the ability to plan for the unexpected, by allowing flexibility through alternative or contingency planning and maintenance of reserve resources. If the client does not recognize the existence of a need, the change agents' task is to identify for the client, exactly what the need is.

According to Rogers (1983), initially the change agent should assess the client's needs and assess these needs in a consultative manner. The change agent is also responsible for analyzing his client's problem situation in order to determine whether existing alternatives meet these needs or not. One of the most important and difficult roles of the change agent is diagnosing client's needs. The change agents success is positively related to the degree to which the diffusion program is compatible with the client's needs.

In addition, Claar and Bentz (1984) pointed out that extension worker should plan for and prepare reports on extension activities carried out in the service area. Flippo (1984) propounded that effective managers realise that a substantial portion of their time should be devoted to planning. Planning means the determination of anything in advance of action. It is essentially a decision making process that provides a basis for economical and effective action in the future. He further elucidated that effective planning sets the stage for the integrated action to take place, reduces the number of unforeseeable crises, promotes the use of more efficient methods and provides the basis for the managerial function of control, thereby assuring focus on organization objectives.

Planning is a decision making process involving critical analysis of the existing situation and the problems, evaluation of the various alternatives to solve those problems, and the selection of the relevant ones, giving necessary priorities based upon local needs and resources by the cooperative efforts of the people both official and non official with a view to facilitate the individual and community growth and development.

Hence, planning has been considered in this study as activities related to determining courses of action based on real situation to achieve the objectives.

### 2.3.2. Coordination

Koontz and O'donnell (1976) explained that coordination is the process of achieving harmony of individual efforts towards the accomplishment of group purposes and objectives. Zaltman and Duncan (1977) viewed that the ability to work well with others, outside the change team is not only desirable but also crucial. Outsiders may include other agencies, who are concerned with the same area in which change is desired, and unorganized members of the client system towards whom change efforts may be directed. It is important that different change agencies which share common goals do not embark on independent strategies or programmes whose timing, content, and operationalization would cancel out each other's efforts. Good informal relationships at all levels between members of different change teams can be very significant in achieving common goals. Moreover, indifference by a team leader to persons and organizations outside the change team can create major barriers for others in the change team, no matter how well they are regarded by the client system.

Adams (1982) also stated that it is true that extension workers should not get personally involved with organising credit, distributing supplies and marketing but he should be familiar with the activities of credit agencies and farm suppliers and be able to coordinate their work with them.

Similarly, Saksena (1982) viewed that it is the process of synchronising of effort from the stand point of time, and the sequence of execution. It involves the development of unity of purpose and the harmonious implementation of plans for the achievement of the desired ends.

According to Claar and Bentz (1984), an extension worker is expected to have continuing interaction with external agencies, including sources of credit and inputs, as well as with marketing agencies and policy makers. They further stated that the extension worker should develop a working relationship with all groups of farmers, cooperate with farmers, community leaders, and other business people and establish a liaison with people in the general service area assigned to other public agencies.

Swanson and Claar (1984) stated that the normal role of extension personnel is to disseminate information and encourage the application of this information to solve specific problems and also to play a coordinating and developmental role by working in cooperation with input suppliers to make agriservice companies and their products more appropriate to farmers' needs.

Hence, coordination is conceptualized as the process of synchronising and unifying the actions of the members of the change system as well as the harmonious implementation of plans for the achievement of the desired ends.

### 2.3.3. Human relation

According to Davis (1972), human relation, as an area of management practice, is the integration of people into work situation in a way that motivates them to work together productively cooperatively, and with economic, psychological and social satisfaction. Koontz and O'donnell (1976) explained that human relation is a process of effecting reasonable integration leading to productive and creative collaboration toward mutual objectives.

In general, human relation, means interactions and cooperation of people in groups operating in different aspects of life. However, in the organizational context, it means the integration of people into work situations which motivate them to work together effectively providing them social, psychological and economic satisfaction. Likewise, the goal of human relation is to effect a reasonable integration leading to productive and creative collaboration towards mutual objectives.

According to Zaltman and Duncan (1977), a very important trait for a change agent to possess is empathy. It is very important for the team leader to have such a capacity not only with regard to his own team members but also with others in the client system. Empathy with members of the client system can sensitize change agents to culturally delicate areas in which extra caution is necessary if an intervention involving those

areas is under consideration. The insight which empathy provides can also result in a better selection of strategies and a better way of implementing strategies. They have further stated that dealing with interpersonal issues is important for the change agent in dealing with colleagues as well as other members of the change target system. The ability of the change agent to communicate his concern and understanding of the client systems anxiety can help reduce its feeling of threat.

Dealing with interpersonal issues is also important because of the effect of good interpersonal relations on openness, risk taking and trust which are important for change and innovation. Argyris (1957) mentioned that when individuals do not own up to their own behaviour, or are not open to the effects of their behaviour on others, those around them are less likely to take risks and are more likely to conform to their behaviour.

As Saksena (1982) stated it is important that our employees will not only be able to work, but be willing to work as well. This willingness is based largely on the management's ability to integrate the interest and needs of its employees with the objectives of the organization. Similarly, Rogers (1983) stated that once a need for change is created, change agent must develop rapport with his clients. The change agent can enhance his relationship with clients by creating credibility in his

competence, trustworthiness, and empathy with the client's needs and problems.

Ban and Hawkins (1988) have furthermore suggested that an extension agent who wishes to help a farmer must try to see everything from the farmer's point of view, his problems, his goals, his knowledge and his use of language.

Dwivedi (1979) viewed motivation directs people towards team work which demands coordination and cooperation of people engaged in the process without which results are seldom achieved. Through teamwork, human relations accomplish individual as well as organizational objectives simultaneously. Thus, human relations tends to provide maximum output for the organization and optimal individual satisfaction. Hence, human relation is conceptualised in this study as the process of effecting reasonable integration leading to productive and creative collaboration toward mutual objectives.

#### 2.3.4. Office management

Murthy (1965) observed that lack of training in office management was one of the factors which influences the effectiveness of an extension officer in increasing agricultural production. Tiffin and McCormik (1979) viewed office management as a distinct and professional kind of work, which leads by inspiration and persuasion, rather than by command, to secure

balanced best results through the specific work of other people, who themselves are also setting with initiative, self development, self discipline and competence in both their personal work and their voluntary team work and two-way communication. Zaltman and Duncan (1977) also stated that ineffective change team leaders have been found playing a passive advisory function giving limited information to subordinates and even that only when requested to do so

Hence, office management is considered in the study as a process of executing a series of specific activities in the office to achieve the objectives of organizations in a systematic manner.

#### 2.3.5. Professional competency

According to Bhandari (1959), Agricultural Officers should be thorough in technical knowledge as applied to local conditions. They should understand the extension methods and techniques. They should have adequate initiative to study the local problems and to report the same to laboratories. They should have ability to solve the problems by offering suitable solutions. They should have ability to work with groups and to encourage progressive leaders.

Megginson (1968) emphasised that the effectiveness of a manager varies with his ability to empathise with his



subordinates, to foresee and evaluate events objectively and to adapt to changes in the environment. Hostility, resentment, conflict and lowered job satisfaction tend to be the result of a manager's faulty personal perceptions and empathy toward employees' needs, abilities and weaknesses.

Zaltman and Duncan (1977) stated that change agents are likely to be competent if they stimulate the user's problem solving process and are sufficiently knowledgeable about the research and development processes that produce solutions. They further observed that the single most necessary trait the change agent must possess is technical competence in the specific tasks assigned. Another factor related to technological qualifications is the agents ability to adopt and apply his skills to problems of a simple and mundane nature. Institution building capability is another important skill required for effective functioning of change agents.

Williams (1971) suggested some ideas for professional development of extension workers: developing and understanding of the history, objectives, nature, role, administrative procedure and policies of extension organization; developing skill in human relation, programme planning, teaching, communication, evaluation and widening knowledge about different types of agencies and services providing support for extension programmes. According to McDougal (1980) the graduate extension

degree programme would be worth while if the extension degree was taken to expand that person's capabilities in a career area rather than if the extension degree was taken as a square filler with no formulated long range goals.

While outlining the operational aspects of Training and Visit system, it was stated that appropriate advice and support to farmers to enable them increase their incomes can only from an extension service that is professional at all levels. Extension staff must keep in close touch with relevant scientific developments and research in order to formulate specific useful production recommendations for farmers of all resources situations. Extension workers must have the ability to identify production constraints in the field and to develop appropriate measures to counter them and how the farmer lives and the ability to identify with the rural people are the factors which contribute mainly for the success of change agent. It is also important that the change agent should have a reasonable measure of common sense and initiative. (Directorate of Agricultural Extension, 1981).

Verma (1990) observed that with low level of skill and knowledge, employees cannot perform their job efficiently. He further stated that there are three basic types of skills which are needed in extension functionaries such as technical skill, behavioural skill and extension skill. Asiabaka and Bamisile (1991), while assessing the performance of agricultural

extension agents in Nigeria, stated that the status of agricultural extension has been regarded as a function of low status which will always be performed by poorly educated and equipped staff. The implication of this is that, the extension agents in most developing countries often lack the technological know-how which is adequate to extend information to farmers. The performance of these agents cannot be beyond what they know. Therefore, the need to train extension personnel to a level where they have the expertise to interpret and disseminate research results for adoption by the farmers, is most essential.

Hence professional competency is viewed in this study as activities undertaken to improve knowledge and skill to work efficiently with client system to identify the production constraints in field situation, develop appropriate strategy to tackle the situation and achieving things through client system.

#### 2.3.6. Farmer development

Axinn and Thorat (1972) pointed out that the extent to which the goals of an agricultural extension program will be achieved tend to be directly related to the extent to which those toward whom the program is directed have participated (possibly through representatives) in establishing the goals.

Zaltman and Duncan (1977) opined that one of the basic functions performed by change agent is to establish a link

between a perceived need of a client system and a possible means of satisfying that need. Directorate of Agricultural Extension (1981) while suggesting the operational guidelines of T & V system stipulated that to serve farmers, an extension service must meet farmers. Moreover, these contacts must be regular and with a large number of farmers representing all major farming and socio-economic types. All extension workers must visit field often and regularly to understand the problems faced by farmers. To enable extension workers to spend time in the field, their administrative and writing responsibilities have to be minimal, the report added. Rogers (1983) stated that the extension worker should conduct educational activities such as demonstrations, meetings, surveys, field days, workshops and so on and so forth for all farmers, including women and young farmers. Claar and Bentz (1984) stated that there was research evidence indicating that extension's effectiveness was directly related to the number of contacts made by extension workers with the members of the client system, as well as the approach used by the workers.

Lakoh (1988) while studying the extension agents' job-design, satisfaction and performance model with personal traits and organizational attributes reported that good performance also results from clients-orientation. Extension agents who have relatively better skill in establishing rapport with farmers turn-up to be a good performer. According to Ban

and Hawkins (1988), farmers' trust in their agents is an essential condition for good extension. In order to win this trust, the farmer must be convinced that the agent is trying to serve his interests, that he can empathize with him and that he is an expert in his field. An agent will be more likely to win the trust if he visits the farmers in his fields or at his house rather than expecting the farmer to visit his office.

Farmer development is conceptually defined in this study as the functions or activities carried out by the extension officer giving prime importance to his clients, their problems, their knowledge, their situation etc., for the well being of the farming community.

#### 2.3.7. Information management

Though communication is a process that occurs within people, as rightly pointed out by Fisher (1974), the only means by which one person can influence another is by the behaviours he perform, that is, the communicative exchange between people provides the sole method by which influence or effects can be achieved.

Adams (1982) described extension worker as a teacher who provides a two-way communication link between

extension organization and the farmer. The overall effectiveness of such a role depends on the interaction of factors within the professional and the client systems and also the teaching behaviour of the extension worker himself. The credibility of extension with its clientele as a source of unbiased information is a major factor in explaining the relative effectiveness of local extension workers, Rogers (1983) observed. Claar and Bentz (1984) viewed that extension needs a two-way flow of regular communication with both research personnel and its clientele. Extension work involves circular communications from the researcher through extension to the clientele, with subsequent feedback to the researcher. In particular, farmer experience with technical recommendations and current farmer problems are two important kinds of information that need to be transmitted back to research through the extension system.

As stated by Lancaster and Sattar (1984) the information needs of extension workers are some what different from those of agricultural scientists, The extension workers' role is to aid in transforming the results of research into such tangible benefits as increased crop yields and improved living conditions for rural population.

Watts (1984) stated that extension personnel are in contact with farmers and should be more able to understand their problems, their inhibitions and their needs than other

developmental agency representatives. Extension personnel also must depend on good research to bring new knowledge to farmers. Systems are needed which provide a dependable flow of information on farmers' needs to researchers through extension, he urged. According to Ban and Hawkins (1988), the role of agricultural extension agent is to help farmers form sound opinions and make good decisions by communicating with them and providing them with the information they need. Another role of extension agent is to promote and supplement this communication process. They further stated that farmers prefer information sources which have a practical approach, with considerable local knowledge as well as knowledge of the economic consequences of the recommendations. The extension agents' information will be effective only if it fits into the farmers' decision making process and is compatible with his way of thinking and of using the language. Hence it is more important to be a good listener than a good speaker.

From the forgoing views, information management has been considered as consisting of receiving, processing, transmitting and feeding back of messages.

#### 2.3.8. Direction and Supervision

According to Benor and Harrison (1977), it is obvious that agricultural extension depends on the proper

supervision of extension staff to be effective, but unfortunately it is not always clear how such supervision should be done. Supervision of extension activities cannot be conducted in the same way as the supervision of administrative activities because the nature of extension differs from these in a number of ways. Supervision must be tailored to benefit the needs of the extension service. Stewart and Stewart (1979) viewed that effective managers set clear objectives and standards of performance and they check progress frequently and not just when things are going wrong. They train their people by delegating to them the challenging task.

The Directorate of Agricultural Extension (1981) in the operational notes on agricultural extension stated that the objective of extension supervision is not merely to check that staff do their work in the required, timely manner. Equally if not more important, is the objective of assisting and guiding staff to do their assigned tasks more purposefully. While keeping in mind the basic duty requirements of all extension workers, it should focus on the quality of work and on ways to improve the efficiency of individual staff and consequently of the extension service at large. Saksena (1982) observed that once subordinates are oriented, the superior or the middle level officer has a continuous responsibility of guiding and leading them for better work performance and motivating them to work with zeal, confidence and enthusiasm.



Saiyadain (1988) stated that supervision means the specific ability to get tasks completed in specific work situations. Similarly leadership means a highly generalised ability to lead others in situations ranging from political, social and religion to street corner groups. Luthans (1989) stated that employee-centredness, i.e., the degree to which superior officer takes a personal interest in the subordinates' welfare, reflects on the job productivity. It is commonly in ways such as checking to see how well the subordinate is doing, providing advice and assistance to the subordinates to achieve the objectives and communicating with the workers on a personal as well as an official level. Similarly, the other dimension is participation or influence in decision. In most cases this approach leads to high job satisfaction. According to Miller and Monge (1986) participative climate created by the supervisor has a more substantial effect on workers' satisfaction than does participation in a specific decision.

Summarising the views expressed by various authors in the foregoing pages, direction and supervision could be considered as the continuous responsibilities of the supervisor to guide and lead the subordinates for better work with zeal, confidence and enthusiasm, after proper initial orientation.

## 2.4 CONCEPT OF JOB EFFICIENCY

Job efficiency was considered as a derivation consisting of two concepts viz; job and efficiency. It was epitomized earlier that job means collection of tasks, duties, responsibilities and assignments that an employee is expected to perform. To develop the concept of job efficiency, it is necessary to analyse the term efficiency also.

Agricultural Officers are entrusted with the responsibility of implementing a number of agricultural development programmes and they have to manage men and material to achieve the objectives. Therefore, it was assumed that management becomes the integral part of his job and hence a review on managerial efficiency, was also made to derive a meaningful concept of job efficiency for the study.

The word efficiency comes from the Latin prefix 'ef' (another spelling of ex-) meaning 'out' and fic-meaning 'to do; make, plus the Latin suffix-ent which is the same as the English-ing. Thus efficient means making or turning out results with little waste of effort. A word based on efficient is efficiency, meaning the quality of being efficient or of producing results. According to Pitman English Dictionary, the word efficient, the adjective form of efficiency means capable; competent; able to get results. New Comprehensive International

Dictionary of English language gives the meaning of efficiency as the character of being efficient or effective; the ratio of work done. Similarly, the Random House Dictionary of the English language gives the meaning of efficiency as the state or quality or degree of being efficient; competency in performance; accomplishment of or ability to accomplish a job with a minimum expenditure of time and effort.

Farrel (1957) defined efficiency as the ability to produce a given level of output at low cost. Therefore, efficiency of an individual may be measured as the ratio of least cost to actual cost in order to produce unit output. According to Clark and Gottfried (1957), efficiency in general usage means the quality of competence, capability, effectiveness, productivity or the ability to produce desired result. Evans and Evans (1957) in the Dictionary of Contemporary American usage, stated that efficient means producing the desired effect, but it has the added connotation of doing so with a high ratio of return or expenditure. Florence and Brown (1958) meant efficiency as output from total inputs. Wyllie (1960) defined efficiency as capacity or ability of any person, process or thing to reach whatever end desired.

Katz and Kahn (1970) defined efficiency as the ratio of energetic output (production) to energetic input (cost). Fung and Wagnalls (1971) stated that efficiency means the character of being efficient and the word efficient means acting

or having power to act effectively. Drucker (1974) stated that efficiency is concerned with doing things right and concerns itself with the input of effort into all areas of activity. Lerner and Ben (1975) denoted efficiency as the highest output from given input. According to Balk (1976) efficiency is cost of effectiveness and measures the relationship of quantity and content of output to input. Leagans (1976), stated that the effectiveness of an extension system depends mainly on the commitment and capability of the extension function. Watson and Williams (1977) stated that an action is efficient if it satisfies the motive of the aim, and effective if it accomplishes specific aims. Mali (1978) defined efficiency as related to resources utilisation and effectiveness as related to performance. Rosenberg (1978) defined efficiency as the measure of production relative to input of human and other resources.

Houck (1979) referred efficiency as the length of time required and the level of direct expenditure incurred to perform an operation. Hicks and Gullett (1981) described efficiency as doing things accurately and with minimum use of time and resources. Suresh (1983) stated that efficiency is a relative concept. It cannot be defined accurately and precisely because efficiency of any economic activity will vary according to working units and motivation of decision making units. Different meanings are attributed to the term like capacity or

ability to do things well. It is commonly accepted as an index ratio or percentage. In this sense the term is a measuring rod to gauge the ratio of performance in terms of numerator and denominator. In general, efficiency has been recognised as an index of performance of the degree of achievement to economic course of action. According to Sink (1985), efficiency is the degree to which the system utilised the 'right' things. Collin (1986) meant efficiency as the ability to work well or to produce right results or the right work quickly and effectiveness in producing results. Koontz et al. (1986) viewed efficiency as achievement of the ends with least amount of resources and effectiveness as the achievement of objectives. Prokopenko (1987) stated that efficiency tells us how well actually needed output is generated from available input and indicates the use of available capacity. Rao et al. (1987) stated that efficiency refers to the amount of resources used produce a particular unit of output. It refer to the economic manner in which goal oriented operations are carried out, or the way in which resources are put to use. Reddin (1987) viewed managerial effectiveness as the extent to which a manager achieves the output requirements of his position. The further stated that degree of the design of organization and commitment of employee are the two factors influencing managerial ability. Verma (1990) stated that efficiency refers to the manner in which goal oriented operations are carried out, generally measured as the ratio of inputs to outputs.

According to Rao (1991), there are three behavioural dimensions involved in most of the capabilities. These are cognitive, affective and active. The cognitive dimension of a capability involves gaining of an understanding, knowledge and information in order to perform the task. The affective dimension deals with gaining the motivation and desire to use the knowledge and understanding one has. The active dimension deals with the skills involved actually in performing the task. He further observed that different jobs requires different capabilities. These capabilities can be considered under four categories such as technical, managerial, behavioural and conceptual.

Technical capabilities deal with the technology of the job or task the employee is expected to perform. Knowledge and skills associated with the technology of one's job are technical capabilities. Technical capabilities include information, knowledge and skills. Managerial capabilities includes the ability to organise, coordinate, plan, monitor, evaluate and redesign varieties of activities. As managers have the task of getting things done by others with optimal use of resources for achieving the best possible results, they need to possess managerial capabilities. Knowledge of management techniques and management skills are essential for better planning, better consideration, better monitoring and for better achievement of results.

Behavioural capabilities include leadership skills, ability to motivate other, communication skills, ability to work as a team member, dynamism, initiative etc. Mere knowledge of behavioural sciences does not ensure that the person has behavioural capabilities. Attitudes and orientations play an important role in determining the efficiency of employees to a great degree. Conceptual capabilities involve conceptual understanding of one's own tasks in relation to those of others, imaginativeness, futuristic thinking, model building capabilities, institution building capabilities, capabilities for long-term planning and perception of various tasks and their inter-relationships within the organization and outside it. Research and experience in different countries indicate that some of these capabilities are more important for certain levels and kinds of jobs than for others. Lower level categories of employees in most organizations required a high degree of technical skills.

In the organizational context, Agricultural Officers at Krishi Bhavan level (panchayat level) are supposed to be the middle level managers. As stated earlier, the Agricultural Officer is an advisor, technocrat and a middleman operating between agricultural research institutions and the farm families. He is a change agent helping farmers to identify their problems and find their own solutions. As a liaison officer, he

integrates the development activities of different agencies in the desired path. As manager, he plans, coordinates, organizes, directs and monitors his works and his subordinates. To perform these functions the Agricultural Officer must possess technical, managerial, behavioural and conceptual capabilities.

From the analysis of various explanations and definitions of the term efficiency it could be possible to identify three major aspects such as: (a) ability/capability to perform an action (Clark and Gottfried, 1957; Farrel, 1957; Wyllie, 1960; Collin, 1986) (b) producing desired results (Clark and Gottfried, 1957) and (c) performance of right thing in right way (Drucker, 1974; Johannsen and Page, 1983; Verma, 1990).

In the light of above interpretation, efficiency is conceived in this study as the ability of an individual in achieving his goal oriented operations in the right and just manner to produce the desired result. Resultantly, job efficiency of an Agricultural Officer is conceived as his ability in achieving his tasks, duties, responsibilities and assignments in the right and just manner to produce the desired results. The right and just manner implies that the activities performed would produce the desired result within the framework of organizational objectives and ethics.



## 2.5. RELATIONSHIP OF PERSONAL AND SITUATIONAL FACTORS WITH JOB EFFICIENCY OF AGRICULTURAL OFFICERS

In this part the relationship of various factors which influence job efficiency of extension personnel is presented. Since studies directly related to job efficiency were scanty, factors as related to job effectiveness, job productivity, job performance, work turn over and managerial effectiveness were considered.

As suggested by Tiffin and McCormick (1979) and Saiyadain (1980), the factors which influence job efficiency are broadly classified into two categories as personal and situational factors: The situational factors are grouped into job related and organization related factors. A detailed review was done to identify the factors which influence job efficiency and the related constructs. The following factors were chosen for detailed review since these factors have been reported to be significantly influencing job efficiency in one way or the other.

### 2.5.1. Personal Factors

The personal factors which influence job efficiency are presented as follows indicating their nature of relationship with dependent variable and the category of respondent.

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>1. Age</b>			
Kolte (1972)	Non significant	A.E.O.	Job performance
Perumal (1975)	"	"	"
Reddy (1976)	"	V.L.W	Com.behaviour
Rajagopal (1977)	"	A.E.O.	Job Performance
Janardhana (1979)	Positive	"	"
Reddy (1982)	Non significant	A.A.	"
Reddy (1983)	"	V.E.O.	Role performance
Talukdar (1984)	"	A.D.O.	Productivity
Jhansirani (1985)	"	Scientist	"
Reddy (1986)	Positive but insignificant	V.E.O.	"
Sundaraswamy (1987)	Negative	A.A.O.	Job performance
Halkatti (1991)	Non significant	A.A.	"
<b>2. Size of the family</b>			
Kherde and Sahaya (1972)	Negative	V.L.W.	Role Performance
Janardhana (1979)	Non significant	A.E.O.	Job Performance
Talukdar (1984)	Non significant	A.D.O.	Productivity

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Jhansirani (1985)	Non significant	Scientist	"
Reddy (1986)	Positive but insignificant	V.E.O.	"
Reddy (1990)	"	A.O.	Job Performance

### 3. Rural (urban) background

Reddy (1982)	Non significant	A.A	Role performance
Reddy (1983)	Negative but insignificant	V.E.O.	"
Talukdar (1984)	Non significant	A.D.O	Productivity
Reddy (1986)	Positive but insignificant	V.E.O	"
Ravindran (1987)	Non significant	AE/JE	Job psychograph
Siddaramaiah and Gowda (1987)	Positive relation	Extn. guides	Job performance
Kalavathy (1989)		Graduates	Job satisfaction
Mathew (1989)		A.D.A.	Manag. leadership

### 4. Educational status

Reddy (1982)	Non significant	V.L.W.	Role performance
Reddy (1983)	Negative	"	"
Susilkumar (1984)	Positive	A.A.O.	Job performance
Talukdar (1984)	Non significant	V.E.O.	Productivity
Jhansirani (1985)	"	Scientist	"

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Reddy (1986)	Negative	V.E.O	
Ravindran (1987)	Non significant	AE/JE	Job psychograph
Sundaraswamy (1987)	Positive	A.A.O.	Job performance
Kalavathy (1989)	"	Graduate	Job satisfaction
Mathew (1989)	"	A.D.A.	Manag. leadership
<b>5. Family responsibility</b>			
Guest (1955)	Positive	Industrial worker	Turnover
Minor (1958)	"	Clerical worker	"
Fleishman and Berniger (1960)	"	"	"
Saleh et al. (1965)	"	Nurse	"
Lefkowitz and Katz (1969)	"	Mechine Operator	"
Robinson (1972)	"	Clerical worker	"
<b>6 Training experience</b>			
Rajagopal (1977)	Positive	A.E.O.	Job performance
Janardhana (1979)	Non significant	"	"
Thiagarajan (1979)	Positive	A.O.	Working efficiency
Veerabhadriah (1980)	"	ADA & DDA	Job performance

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Reddy (1982)	Positive	A.A.	Role performance
Reddy (1983)	Negative but insignificant	V.E.O.	Job "
Jhansirani (1985)	Positive	Scientist	Productivity
Reddy (1986)	Positive but insignificant	V.E.O.	"
Ravindran (1987)	Positive	A.E./J.E.	Job psychograph
Reddy (1987)	Positive but insignificant	V.E.O.	Job effectiveness
Lakoh (1988)	"	V.L.W.	Job performance
Mathew (1989)	"	A.D.A.	Manag. leadership

#### 7. Attitude towards farmers

John (1966)	Positive relation	V.L.W.	Role performance
Kherde and Sahaya (1972)	"	"	"
Pandayaraj (1978)	"	J.A.O.	Com behaviour
Reddy (1986)	"	V.L.W.	Productivity
Islam <u>et al.</u> (1987)	"	Extn. Personnel	Job performance
Reddy (1990)	"	A.O.	Job performance

#### 8. Level of Aspiration

Prasannakumar (1985)	"	Extn.worker	Orgn. Commitment
Ravindran (1987)	Positive	AE/JE	Job psychograph
Kalavathy (1989)	"	Agrl. Graduates	Job satisfaction

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>Achievement motivation</b>			
Reddy (1983)	Positive	V.E.O.	Role performance
Jhansirani (1985)	No relation	Agri. Scientist	Productivity
Reddy (1986)	Positive	V.E.O.	
Manandhar (1987)	"	Extn. functionaries	Communication behav
Radhakrishna- Moorthy (1987)	"	V.E.O.	Job performance
Reddy and Jayaramaiah (1988)	Positive	V.E.O.	Job effectiveness
Kalavathy (1989)	Non significant	Agri. Graduates	Job satisfaction
Mathew (1989)	"	"	"
Waris <u>et al.</u> (1990)	Positive	A.W.W.	Role performance
<b>10. Intrinsic motivation</b>			
Koch (1961)	Positive	Industrial worker	Job commitment
Lawler and Hall (1970)	Positive	"	Job involvement
Hackman and Lawler (1971)	Positive	"	Job performance
Cummings and Bigelow (1976)	"	Blue and white collar workers	Job involvement
Gopal and Kumar (1979)	"	Industrial worker	"

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>11. Life satisfaction</b>			
Kavanagh and Helpert (1970)	Positive	Employee	Job satisfaction
Sandhu and Singh (1977)	"	"	"
Mitra <u>et al.</u> (1984)	"	"	"
<b>12. Locus of control (internal)</b>			
Rottor (1966)	Positive	Industrial worker	Work performance
Norris and Nieguhr (1984)	Positive	Employee	Performance
Arnold (1985)	Non significant	Industrial worker	Task performance
<b>13. Family involvement</b>			
Bartolome and Evans (1979)	Non significant	Employee	Orgn. Commitment
Ronzek (1980)	Positive	"	Orgn. involvement
Randall (1987)	Negative	"	Orgn. commitment
<b>14. Personal importance</b>			
Steers (1977)	Positive	Hospital employee	Orgn. commitment
Smith <u>et al.</u> (1985)	"	Extn. agents	"
Prasannakumar (1985)	Positive	A.A.G.	Job performance

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Sundaraswamy (1987)	Positive	A.A.O.	Job performance
Murthy and Prasad (1988)	"	Univ. teacher	Jon influence
Mathew (1989)	"	A.D.A.	Managery leadership

## 15. Morale

Mathur (1972)	Positive	Extn. Personnel	Efficiency of organism
Katz and Hyman (1974)	"	"	Productivity
Minocha (1977)	"	Industrial worker	Performance
Motowidlo and Borwan (1977)	"	"	"
Talukdar (1984)	"	A.D.O.	Productivity
Reddy (1986)	"	V.D.O.	"
Reddy (1987)	"	"	"
Reddy and Jayaramaiah (1988)	"	"	Job effectiveness

## 16. Sociability

Reddy (1976)	Positive	V.L.H.	Communication skill
Reddy and Jayaramaiah (1988)	"	Extn. personnel	Job effectiveness



Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Kubde et al. (1989)	Positive	opinion leader	Role performance
17. Inter personal contact			
Laharia (1978)	Positive	A.O.O.	Productivity
Jhansirani (1985)	"	Agri. scientist	"
Reddy (1986)	"	A.E.O.	"
Reddy (1987)	"	"	Job effectiveness
18. Complaining behaviour			
Maier (1955)	Negative	Industrial worker	SPART
Ekpo-Ufot (1971)	"	Govt. employee	SPART
Karmon (1971)	"	Industrial worker	Performance
Ekpo-Ufot (1979)	"	"	Performance
19. Self reliance			
Prasad (1983)	Positive	Rice growers	Achievement motivation
Manandhar (1987)	"	Extn. Personnel	Comb: behaviour
Rao (1987)	"	A.D.A.	
Reddy (1987)	Non significant	V.E.O.	Job effectiveness
Mathew (1989)	Positive	A.D.A.	Manag. leadership
Reddy (1990)	Non significant	A.O.	Job performance

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>20. SPART</b>			
Maier (1955)	Positive	Industrial worker	Job performance
Korman (1966)	"	"	Role "
Ekpo-Ufot (1971)	"	"	Job "
Ekpo-ufot (1979)	"	Govt. Employee	" "
<b>21. Self esteem</b>			
Korman (1966)	Positive	Industrial worker	Job performance
Korman (1970)	"	"	"
Greenhaus and Badin (1974)	"	"	Work performance
Dipboye <u>et al.</u> (1979)	Non significant	"	Job performance
Adler (1980)	Positive	"	Job performance
Lopez (1982)	Non significant	Industrial worker	Job performance
Brockner and Guare (1983)	Positive	"	"
Brockner and Hess (1986)	"	"	Group task performance
<b>22. Self concept</b>			
Joseph (1983)	Positive	A.O.	Comm. effectiveness

Factors, author & year	Mature of relationship	Respondent	Dependent Variable
<b>23. Self confidence</b>			
Muthayya & GnanaKannan (1973)	Positive	Extn. Personnel	Job satisfaction
Subhalekshmi & Singh (1974)	Positive	Grassevikas	Job effectiveness
Pandayaraj (1978)	"	J.A.O.	Comm.behaviour
Joseph (1983)	"	A.D.	Comm.effectiveness
Reddy and Jayaramaiah (1988)	"	Extn. personnel	Knowledge
Sheela (1989)	Non significant	V.E.O.	Job effectiveness
<b>24. Information seeking behaviour</b>			
Pandayaraj (1978)	Positive	J.A.O.	Comm.behaviour
Joseph (1983)	"	A.D.	Comm.effectiveness
Sheela (1989)	"	Extn. personnel	Knowledge
<b>25. Commu</b>			
Reddy Jayaramaiah (1988)	Positive		

## 2.5.2. Situational factors

As viewed by Tiffin and McCormick (1971), situational factors which influence job efficiency are divided into two such as job related factors and organisation related factors. The factors, their nature of relationship with dependent variable and the category of respondent are presented as follows.

### 2.5.2.1. Job related factors

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
1. Job Experience			
Veerabhadriah (1980)	Non significant	A.D.A. and D.D.A	Job performance
Reddy (1982)	"	A.A.	"
Reddy (1983)	Negative	V.E.O.	Role performance
Susilkumar (1984)	Positive	A.A.O.	Job performance
Talukdar (1984)	Non significant	A.D.O.	Productivity
Jhansirani (1985)	"	Scientist	"
Reddy (1986)	Positive but insignificant	V.E.O.	"
Reddy (1987)	Non significant	V.E.O.	Job effectiveness
Sundaraswamy (1987)	Negative	A.A.O.	Job performance
Kalavathy (1989)	Non significant	Agri. Graduate	Job satisfaction
Mathew (1989)	"	A.D.A.	Manag. leadership
Reddy (1990)	Non significant	A.O.	Job performance

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>2. Convenience in posting</b>			
Rajagopal (1977)	Non significant	A.E.O.	Job performance
Sandhu and Singh (1977)	Positive	A.E.O.	Job satisfaction
Janardhana (1979)	Non significant	A.E.O.	Job performance
Gulothungan (1986)	Positive	A.O.	Job performance
Mathew (1989)		A.D.A.	Manag. leadership
<b>3. Conveyance Facility</b>			
Reddy (1986)	Positive but Insignificant	V.E.O.	Productivity
Reddy (1990)	Non significant	A.O.	Job performance
<b>4. Technical competency</b>			
Lindquist (1958)	Pos		
Prasad (1983)	"	Rice grower	Achievement motivation
Mathew (1989)	"	A.D.A.	Manag. leadership
<b>5. Job knowledge</b>			
Leagans (1958)	Positive	Extn. Worker	Good Worker
Kolte (1972)	"	A.E.O.	Job performance

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>6. Perceived work load</b>			
Kherde (1971)	Negative	V.L.W.	Role performance
Reddy (1976)	"	"	"
Reddy (1983)	"	"	"
Jhansirani (1985)	Non significant	Agri. Scientist	Productivity
Reddy (1986)	Positive	V.E.O.	"
Mathew (1989)	"	A.D.A.	Manag. leadership
Reddy (1990)	Non significant	A.O.	Job performance
<b>7. Attitude towards profession</b>			
Steers and Porter (1975)	Positive	Industrial worker	R
Dakhore and Bhiegaonkar (1987)	"	Extn. personnel	Job satisfaction
Mohanty (1988)	"	Industrial worker	Productivity
Kalavathy (1989)	Non significant	Agri. Graduates	Job satisfaction
<b>8. Job autonomy</b>			
March and Mannari (1977)	Negative	Industrial worker	Life time commitment
Steers (1977)	Non significant	Hospital employee	Orgn. commitment

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Koch and Steers (1978)	Positive	Pub. sector Employee	"
Robbins (1983)	"	Employee	Performance
Smith <u>et al.</u> (1983)	"	Agri. Agents	Job performance
Sundaraswamy (1987)	"	A.A.O.	"
Murthy and Prasad (1988)	Non significant	Uni. teacher	Job environment
Mathew (1989)	"	A.D.A.	Manag. leadership
<b>9. Job involvement</b>			
Lawler and Hall (1970)	Non significant	Industrial worker	Job performance
Siegal and Ruh (1973)	Positive	"	Job effectiveness
Jones <u>et al.</u> (1975)	Non significant	Civil service employee	Leadership behavior
Mowday <u>et al.</u> (1979)	Positive	Extn. personnel	Job performance
Veerabhadriah (1980)	"	ADA and DDA	"
Singh and Patiraj (1987)	Non significant	Industrial worker	"
Radhakrishna-moorthy (1987)	Positive	V.E.O.	"
Reddy and Jayaramaiah (1988)	Non significant	V.E.O.	Job effectiveness
Kalavathy (1989)	"	Agri. Graduate	Job satisfaction

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>10. Job security</b>			
Singh and Shrestha (1973)	Positive	Extn Personnel	Job satisfaction
Kalavathy (1989)	"	Agri. Graduate	Job performance
<b>11. Job commitment</b>			
Sanoria (1977)	Positive	Extn. Personnel	Comm. behaviour
Ambastha (1980)	"	Farm scientist	"
Joseph (1983)	"	A.D.	Comm. effectiveness
<b>12. Job stress</b>			
Gupta and Beehr (1979)	Positive	Employee	Turn over
Jamal (1984)	"	"	"
Radhakrishna-moorthy (1987)	Negative	Extn personnel	"
Sundaraswamy (1987)	"	A.A.D.	"
Mathew (1989)	"	A.D.A.	Manag. leadership
<b>13. Job satisfaction</b>			
Reddy (1982)	Non significant	V.L.W.	Role performance



Factors, author & year	Nature of relationship	Respondent	Dependent Variable
Talukdar (1984)	Positive	A.D.A.	Productivity
Jhansirani (1985)	Non significant	Agri. Scientist	"
Ravindran (1986)	Positive	AE/JE	Job psychograph
Reddy (1986)	Positive	V.E.O.	Productivity
Sundaraswamy (1987)	"	A.A.O.	Job performance
Reddy and Jayaramaiah (1988)	"	V.E.O.	Productivity
Sabarathnan (1988)	"	Scientist	Technology dev. efficiency
Mathew (1989)	"	A.D.A.	Manag. leadership
Halkatti (1991)	"	A.A.	Job performance

#### 14. Task identity

Hackman and Lawler (1971)	Positive	Industrial worker	Job performance
Steers (1977)	"	Hosp. employee	Orgn. Commitment
Smith <u>et al.</u> (1983)	Non significant	Agri. agents	Job performance
Prasannakumar (1985)	Positive	A.A.O.	Commitment
Sundaraswamy (1989)	"	"	Job performance
Murthy and Prasad (1988)	"	Uni. teacher	Job involvement
Mathew (1989)	"	A.D.A.	Manag. leadership

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
<b>15. Task variety</b>			
Brief and Aldag (1975)	Positive	Industrial worker	Performance
Katzell and Yankelavich (1976)	"	"	Productivity
Oldham <u>et al.</u> (1976)	"	"	Performance
O'reilly (1977)	"	"	Job performance
Steers and Spencer (1977)	"	"	Achievement motivation
Stone <u>et al.</u> (1977)	"	"	Job satisfaction
Mathew (1989)	"	A.D.A.	Manag. leadership
<b>16. Communication behaviour</b>			
Kolte (1972)	Positive	A.E.O.	Job performance
Talukdar (1984)	"	A.D.O.	Job productivity
Reddy (1986)	"	V.E.O.	"
Reddy and Jayaramaiah (1988)	"	"	Job effectiveness
<b>17. Task difficulty</b>			
Weed <u>et al.</u> (1976)	Negative	Leadership	Performance
Mathew (1989)	Positive	A.D.A.	Manag. leadership
<b>18. Professional commitment</b>			
Jouch <u>et al.</u> (1978)	Positive	Researcher	Reserach productivity
Bartal (1979)	Negative	Industrial worker	Turn over expectancy

2.5.2.2. Organization related factors

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
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## 1. Organizational Communication

Reddy	(1983)	Non significant	V.E.O.	Comm. behaviour
Davis	(1984)	Positive	Industrial worker	Job performance
Reddy	(1986)	"	V.E.O.	Productivity
Reddy	(1990)	"	A.O.	Job performance

## 2. Organizational climate

Jhansirani	(1985)	Non significant	Agri. Scientist	Productivity
Reddy	(1986)	Positive	V.E.O.	"
Jagirdhar	(1987)	Non significant	Extn. personnel	Job involvement
Radakrishna- moorthy	(1987)	Positive	Extn. personnel	Job performance
Sundaraswamy	(1987)	Positive	"	Job performance
Reddy and Jayaramaiah	(1988)	Non significant	V.E.O.	Job effectiveness
Sawanta	(1988)	Positive	Scientist	Role perception
Mathew	(1989)	"	A.D.A.	Manag. leadership
Reddy	(1990)	Positive	A.O.	Job performance

Factors, author & year	Nature of relationship	Respondent	Dependent Variable
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### 3. Organizational involvement

Lawler and Hall (1970)	Non significant	Employee	Job performance
Siegal and Ruh (1973)	Positive	"	Productivity
Mowday <u>et al.</u> (1979)	"	"	Performance
Veerabhadraiah (1980)	"	"	Job performance
Angle and Perry (1981)	"	"	Orgn. turn over
Reddy (1986)	"	V.E.O.	Productivity
Radhakrishna-moorthy (1987)	"	Extn. personnel	Job performance
Rao (1987)	Non significant	A.D.A.	"
Reddy and Jayaramaiah (1988)	Positive	V.E.O.	Job effectiveness
Rozek (1989)	"	Employee	Job satisfaction

### 4. Guidance and supervision

Jayaraman (1973)	Positive		
Reddy (1976)	Positive		
Reddy (1983)	Non significant	extn. personnel	
Talukdar (1984)	Positive	A.D.O.	Productivity
Reddy (1986)	"	V.E.O.	"
Reddy and Jayaramaiah (1988)	"	"	Job effectiveness

Factors, author & year	Nature of relationship	Respondent.	Dependent Variable
Reddy (1990)	Non significant	A.O.	Job performance
Waris <u>et al.</u> (1990)	Positive	A.W.W.	Role performance

#### 5. Facilities and resources

Reddy (1983)	Non significant	Extn. personnel	Coan. behaviour
Talukdar (1984)	Positive	A.D.O.	Productivity
Jhansirani (1985)	Non significant	Scientist	
Reddy (1986)	Positive	V.E.O.	Job effectiveness
Reddy and Jayaramaiah (1988)	Non signifiant	V.E.O.	Job effectiveness
Reddy (1990)	Positive	A.O.	Job performance

#### 2.6. JOB CONSTRAINTS OF AGRICULTURAL OFFICERS

Agricultural officers are facing many problems such as transport, technical, administrative and socio-economic problems. The following authors focus the problems faced by the extension workers.

Sapkal (1960) categorised the problems of Village Level Workers into three groups. They were problems due to shortcomings in the people like factions among the people, casteism, vested interests, prejudices and superstitions and

local obstructionist elements, shortcomings in the departments such as lack of coordination, targets beyond capacity, conflicting demands of work, wide area of operation, too many orders resulting in confusion and lack of timely guidance and supply and shortcomings in themselves that include lack of practical training in public health, animal husbandry, agriculture and co-operation. Bisen (1962) remarked that the Agricultural Officers were having too much of paper work, larger area of operation and lack of coordination among themselves. For the same reason, Randhawa (1965) recommended additional clerical assistance to Agricultural Officers to relieve them from their paper work.

Murthy (1965) examined the effectiveness of Village Level Workers and their frustration in discharging their responsibilities and observed that the inadequate and untimely supply of inputs, delayed and inadequate allocation of funds, lack of training in office management, and extension methods and late communication of research findings were some of the problems faced. According to Ernest (1970) 'supply and service' had an adverse effect on extension though the western concept of extension as mere education was too ideal for a developing country where an Agricultural Extension Officer had to assume extra responsibility and a judicious midway would be the best compromise.

Jaiswal et al. (1978) observed that the important administrative constraints perceived by the officials under T & V system were lack of promotional avenues, lack of incentives and improper supervision. The infrastructural constraints were lack of housing facilities and inadequate supply of inputs in time. Bhaskaram et al. (1979) stated that the arrangements for inputs were not quite satisfactory in the T & V system. They further observed that village extension officers were not satisfied with their pay scales, promotional avenues and other facilities like residential quarters, conveyance, etc. Kulhari (1981) observed that the problems faced by the extension functionaries were lack of financial assistance and absence of subsidy facilities to farmers, non-availability of inputs to be supplied, weak infrastructure in marketing, inadequate irrigation facilities and fuel ceiling.

Perumal and Menon (1981) pointed out that more work load due to many ongoing schemes, voluminous script work and unmanageable operational area were the major constraints perceived by the extension workers. Joseph (1983) found that lack of office facilities, lack of supply of inputs, inadequate transport facilities, absence of having facilities of staff in their working units and heavy work load were the most important problems experienced by the officials working in the T and V system. Somasundaram (1983) stressed the importance of providing residential facilities, office building facilities etc., to

Agricultural Officers. Targets and special schemes were hindering regular visits. A system which involved extensive touring should seldom have fuel ceiling, he observed.

Rao (1983) investigating the functioning of T & V system, found that the problems perceived by Village Extension Officers were rigid schedule of visits, lack of control over agricultural inputs, lack of facilities for mobility, lack of incentives and reward for good work, lack of opportunities to visit different research stations to get acquaintance with the ongoing research, poor facilities for pursuing higher studies, lack of promotion, lack of sufficient knowledge on crops and subsidiary enterprises and poor training facilities to update their knowledge, in that order. Reddy (1983) identified the problems perceived by the Village Extension Officers as lack of supply of inputs and credit to the farmers, lack of basic amenities, encouragement, appreciation, recognition and incentives or rewards, non cooperation of contact farmers, lower pay scales in comparison to the heavy work involved in the T and V system, lack of sufficient number of plant protection equipments, lack of conveyance, lack of conveyance allowance, lack of proper coordination between the departments, spurious inputs like damaged seeds, adulterated fertilizers and pesticides, poor subsidy facility to farmers and lack of supply of literature to the farmers on modern agricultural technology, in the order of priority.



Cherian (1984) while studying the awareness and attitude of extension workers towards the T and V System observed the following constraints such as poor conveyance facility, high work load of a time specified nature and inaccessibility of interior areas. Similarly, timely and adequate supply of inputs to farmers was not ensured for the successful implementation of the programme. Moreover, the office facilities provided were quite insufficient and training for extension workers was also not adequate. Since the work of the officers was purely advisory in nature, the feed back from farmers to officials was not adequate.

Claar and Bentz (1984) stated that extension workers need to have adequate and appropriate mobility. Research indicates that extension effectiveness is directly related to the number of contacts made by extension workers with given individuals; as well as the approach used by the worker (Rogers, 1983). Kalaichelvan (1984) studied the technology transfer through T and V system and found that the major constraints encountered by the officials were lack of housing and conveyance facilities to the officials and larger jurisdiction allotted to the extension workers. He further observed that lack of adequate linkage between research workers and extension personnel was the major problem in dissemination of messages. Recommendations given from the monthly workshops were not profitable and practicable in the farmers' fields, he reported.

Susilkumar (1984) reported that the messages given to extension personnel through fortnightly training were more theoretical in nature. Similarly, the delay in getting solution to the farmers' problems referred to subject matter specialist was the second major problem experienced by the extension workers. Vengroff (1984) reported that low salary, little prestige, poor logistical support and organizational arrangements were the factors which acted as barriers to extension agents. Gulothungan (1986) stated lack of conveyance facilities and government quarters, voluminous clerical work, multivarious non-extension service responsibilities were the major constraints in performing the job of agricultural officers.

Reddy (1986), probing into the problems encountered by Village Extension Officers, identified nine of them through open end process of elicitation. In the order of importance, the problems were lack of inputs in the required quantity, lack of teaching aids for educational use, non-availability of residential quarters, lack of plant protection equipment in the office, lack of conveyance for their mobility, absence of medical facilities, absence of promotional opportunities, lack of facilities for children's higher education and political interference in work. Reddy (1990) identified nine major problems as perceived by the Agricultural Officers as lack of qualified Village Extension Officers, lack of inputs at appropriate time, political interference, additional charges of

other post (s), less opportunities for promotion, lack of transport facilities, lack of scientific literature, lack of advanced training and inadequate office accommodation.

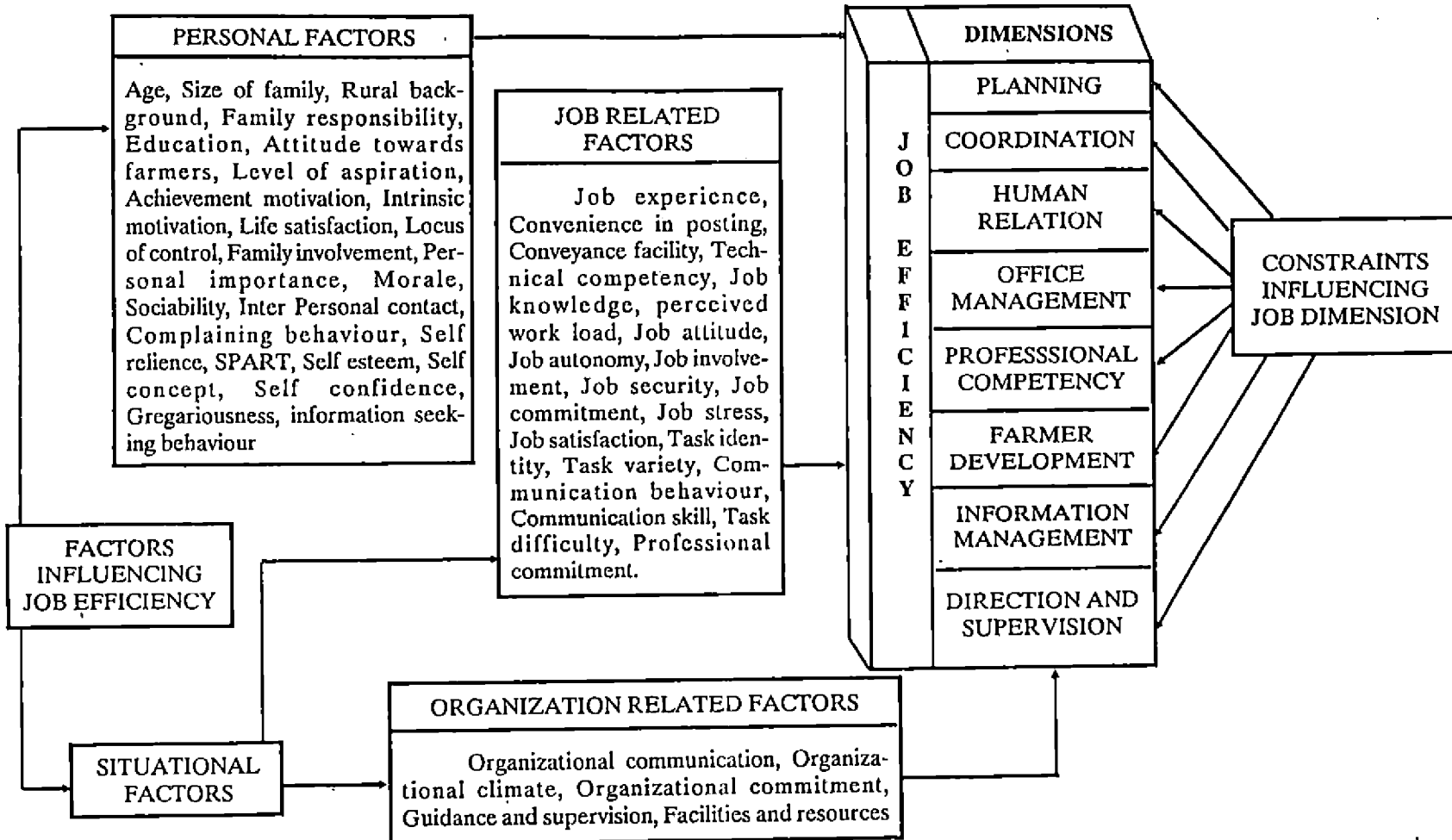
Asiabaka and Bamisile (1991) while assessing the performance level of agricultural extension agents in Lagos State Agricultural Development Project found that lack of transportation, lack of incentives and untimely distribution of input to farmers, lack of office space, problem of payment of traveling allowance, lack of promotions, inadequate staffing and inadequate subsidies to farmers were the major factors influencing their performance level. Radhakrishna and Bowen (1991) stated that the State Department Extension Directors in India perceived that lack of transportation, organization, equipment and linkage were the most 'serious problems' facing extension in India. Nelson (1992) reported that lack of clerical support in office work was the most important constraint perceived by Agricultural Officers in the effective functioning of Krishi Bhavans followed by lack of conveyance facilities, lack of funds to meet traveling expenses and lack of office facilities, in that order. Inadequate and untimely supply of input was the fifth important constraint.

## 2.7. THEORETICAL MODEL OF THE STUDY

The theoretical model of the study developed based on the objectives and the theoretical orientation furnished, is

diagrammatically represented in Fig. 1. The model consists of two segments. The factors influencing job efficiency is considered as one segment and the factors influencing job efficiency is further grouped into two sets of factors such as personal factors and situational factors. Further more the situational factors are classified into job related factors and organization related factors. These factors are supposed to influence the job efficiency of Agricultural Officers. Another segment consists of job dimensions and the constraints which influence each of the job dimensions. Job dimensions partitioned into eight subsume the job efficiency consider for the study based on the theoretical orientation.

**Fig. 1. THEORETICAL MODEL OF THE STUDY**



# METHODOLOGY

## METHODOLOGY

In this chapter, the general typology and description of the methods and procedures adopted in the present investigation are explained under the following major heads.

- 3.1. Research design.
- 3.2. Locale of the study.
- 3.3. Selection of the respondents.
- 3.4. Selection of the variables for the study.
- 3.5. Operationalisation and measurement of the dependent variable.
- 3.6. Operationalisation, measurement and screening of the independent variables.
- 3.7. Procedure employed in data collection.
- 3.8. Statistical tools used in the study.
- 3.9. Hypotheses set for the study.

### 3.1. RESEARCH DESIGN

The research design adopted for this study was of ex-post facto nature.

According to Kerlinger (1973) ex-post facto research is a systematic empirical inquiry in which the scientist does not have direct control over independent variables because their manifestations have already occurred or because they are inherently not manipulable. Thus, inferences about relations

among variables were made without direct intervention from concomitant variation of independent and dependent variables.

### 3.2. LOCALE OF THE STUDY

#### 3.2.1. Selection of study area

The study was undertaken in Kerala state, the southern most state of India. The state is delineated into five Agro-climatic zones taking into consideration its physiography, climate, soil characteristic, sea water intrusion, irrigation facilities, land use pattern etc. (K.A.U.1989). The zones are (i) Southern, (ii) Central (iii) Northern (iv) High range and (v) Problem areas. Due to the special characteristics prevailing in the latter two zones, it was assumed in the study that there would be differences in the nature, type and objectives of the work expected of the Agricultural Officers in these two zones as compared to the other three zones. Since, the study aimed at measuring efficiency of Agricultural Officers, it became necessary to make the respondents a homogeneous group on these parameters. Suresh (1983) stated that a criterion of evaluation is necessary to measure the efficiency which is possible only if the objectives and nature of work are uniform. Hence, the three other zones which are on par with regard to type and nature of work were selected to ensure comparison which is meaningful. The three zones selected were the Southern, Central and Northern stretching from South to North.



### 3.2.1.1. Description of the study area

#### 3.2.1.1.1. Southern Zone

The Southern zone comprises the districts of Thiruvananthapuram, Kollam, Pathanamthitta, Alapuzha and Kottayam with 21 taluks, 47 development blocks and 281 panchayats, with a total geographical area of 6,517 sq. km, covering 16.8 per cent of the area of the State. The total population of the zone is 74.43 lakhs, constituting 29.2 per cent of the population of the State. Nearly 15 lakhs operational holdings exist in the five districts of the zone. Out of these, 49.0 per cent is within the size range of 0.04 to 0.25 ha. The zone has a tropical humid climate and a plentiful seasonal rainfall. The hot season from March to May is followed by the South-West monsoon from June to September. The North-East monsoon occurs from October to November. The average annual rainfall for the zone is 2246 mm. The soils are lateritic, the texture ranging from sand to sandy loam and clay loam. The major crops grown in the zone are rice, coconut, tapioca, pepper, cashew, rubber, arecanut, sugarcane, pulses and banana (K.A.U., 1989).

#### 3.2.1.1.2. Central Zone

The Central zone consists of three central districts of Kerala namely, Palakkad, Thrissur and Ernakulam,

excluding the High Ranges, the coastal saline tracts and other isolated areas. The zone comprises of 17 taluks, 44 development blocks and 274 panchayats. The geographical area of the zone is 9,73,689 ha covering 25 per cent of the area of the State. The total population of the zone is 70.12 lakhs during 1981 constituting 27.55 per cent of the population of the State. The number of farming families is about 3.8 lakhs. The zone is characterised by comparatively heavier rainfall during the South-West monsoon and less rainfall during the North-East monsoon period, leaving in between a dry spell of six months from December to May. The soil type is mainly laterite. The crops raised are mostly rainfed. This zone is the major rice growing tract of the State and accounts for about 50 per cent of the area under rice and 52 per cent of the production of rice in the State. Coconut, arecanut, groundnut, sesamum, pulses, banana and pineapple are the other important crops of the zone.

#### 3.2.1.1.3. Northern Zone

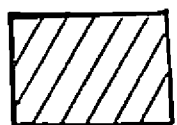
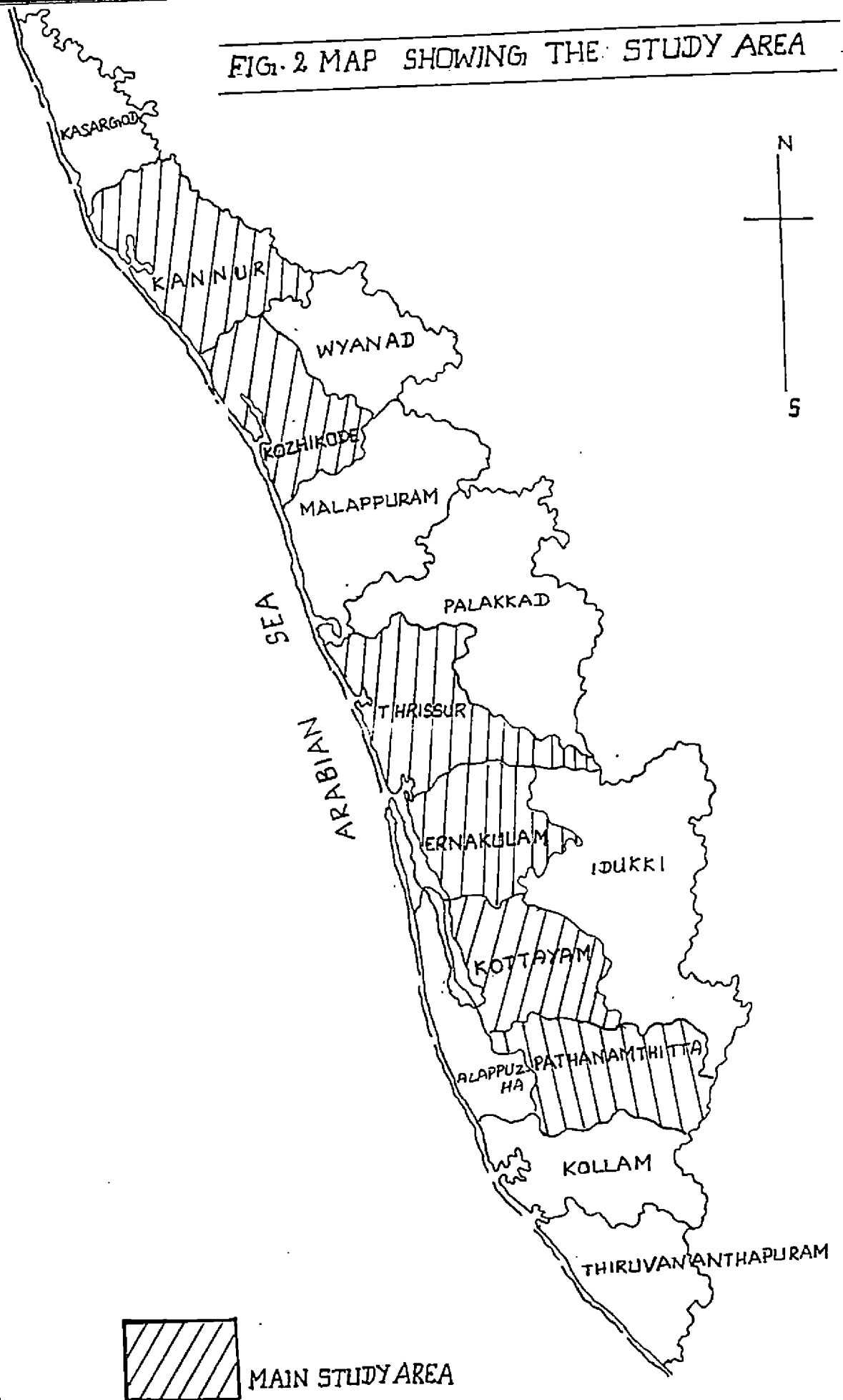
This zone consists of the four northern districts of Kerala viz; Kasargod, Kannur, Kozhikode and Malappuram with 12 taluks, 39 development blocks and 295 panchayats, with a total geographical area of 10,94,600 ha, covering 28.2 per cent of the area of the State. The total population of the zone is 74.4 lakhs constituting 29.3 per cent of the population of the State. The literacy percentage of the zone is 64.13 as against 69.17 of

the State. Agriculture is the main occupation of the people. Nearly 88 per cent of the population is engaged in farming and allied activities. The zone receives rains during both the monsoons, the South-West and North-West. The average annual rainfall for the zone is 3379 mm. Although the zone is endowed with plentiful rainfall, a prolonged dry spell of four to five months duration does occur every year from December to May. Moisture stress experienced during this period affects the growth and production of perennial crops like coconut, arecanut and pepper. Similarly the torrential rains during the month of June and July affects the crops due to waterlogging. Westerly and North-Westerly winds prevail during the South-West monsoon and Easterly winds, during December to March. The maximum winds speed lies between 10 and 15 km/hr. The major types of soil in the zone are coastal alluvium, laterite and forestloam. Rice, coconut, arecanut, pepper, banana, cashew and rubber are the important crops of the zone.

### 3.3 SELECTION OF THE RESPONDENTS

From each zone two districts were randomly selected. The distribution of the selected districts and respective Agro-climatic zones are given in Table 1. and depicted in Fig 2.

FIG. 2 MAP SHOWING THE STUDY AREA



MAIN STUDY AREA

Table 1. Distribution of Agro-climatic zones and the selected districts

Agro-climatic Zones	Districts	Districts selected
I. Southern Zone	a. Thiruvananthapuram	
	b. Kollam	
	c. Alapuzha	
	d. Pathanamthitta	a. Pathanamthitta
	e. Kottayam	b. Kottayam
II. Central Zone	f. Ernakulam	c. Ernakulam
	g. Thrissur	d. Thrissur
	h. Palakkad	
III. Northern Zone	i. Malappuram	
	j. Kozhikode	e. Kozhikode
	k. Kannur	f. Kannur
	l. Kasargod	

### 3.3.1. Description of Agricultural Extension System in Kerala

A description of the Agricultural Extension System in Kerala was considered essential as the respondents for the study are the organic parts of the system.

In Kerala, the State Department of Agriculture is the agency mainly responsible for the agricultural extension activities in the State.

To ensure the best use of the farmer's capital, his land, his knowledge as well as skill, Agricultural planning should be formulated at the grass root level and guided by a master plan at state level for the whole State. A state like

Kerala, where nature, climate, soil structure and topography presents a picture of vast variation, global or a blanket recommendation cannot be applied effectively. Local problems require location-specific, critical investigation and appropriate solution. This is the purpose of the restructuring and reorganisation of the State Department of Agriculture aiming at a reorientation of its functions. For the first time in India, in 1987 the Krishi Bhavan programme was launched in all the panchayats of the state. This acted as an extension net work extending to all corners of the State.

The panchayat has been accepted as the basic unit for development administration in Kerala and therefore it is imperative that all agricultural development programmes should also be conceived, developed and implemented through the panchayat level unit. According to the reorganised set up there are 1047 local body units in the State in 1001 panchayats, 43 municipalities, one township and three corporations. All the panchayat level Krishi Bhavans are manned by Agricultural Officers. Under the leadership of an Agricultural Officer each office is functioning as an independent administrative unit. Agricultural Officers are considered as the Kingpin since, they are expected to identify, plan and implement need-based location specific programmes for Agricultural development taking panchayat as the basic unit. The Agricultural Officer is the last link in the management cadre in the chain of hierarchy. The success of

extension service is undoubtedly dependent on the ability of these extension managers. Only panchayat level Agricultural officers are included in the study, since the municipal and corporation level offices are headed by senior Agricultural Assistants, who are promotees from the cadre of Agricultural Assistants.

### 3.3.2. Selection of Districts, Sub-divisions and Krishi Bhavans

The respondents were selected following multistage random sample procedure. The stages adopted were district, sub-division and krishi bhavan. From each of the the selected districts one-sub-division was randomly selected. The Agricultural Officers working at panchayat level in the selected sub-divisions formed the respondents of the study. The distribution of the sub-division, assistant director circles, and Krishi Bhavans at panchayat level are given in Table 2. The Agricultural Officers who have completed a minimum of two years service in the present post and one year service in the present place were considered for the study. Similarly a minimum of one year service in the present assistant director circle was also considered for the Assistant Director of Agriculture for the purpose of rating the job efficiency of Agricultural Officers at krishi bhavan. Finally 154 Agricultural Officers were selected for the study.

Table 2. Distribution of Assistant Director Circles and Krishi Bhavans in the selected districts.

Districts	Sub division	No of A.D. Circles	No of Krishi Bhavans at Panchayat level	No of Krishi Bhavans selected
1. Pathanamthitta	Adoor	4	24	17
2. Kottayam	Kottayam	4	27	23
3. Ernakulam	Aluva	7	36	32
4. Thrissur	Thrissur	6	38	34
5. Kozhikode	Thamarassery	5	29	23
6. Kannur	Kannur	5	31	25
<b>Total 6</b>	<b>6</b>	<b>31</b>	<b>185</b>	<b>154</b>

### 3.4. SELECTION OF THE VARIABLES FOR THE STUDY

#### 3.4.1. Dependent variable

The dependent variable of this study was 'job efficiency' of Agricultural Officers of the State Department of Agriculture.

#### 3.4.2. Independent Variables

The independent variables in the study refer to the personal, job and organization related variables. The



independent variables for the study were selected following the procedure outlined hereunder.

#### 3.4.2.1. Relevancy ratings

Based on the review of literature a list 50 variables that could possibly establish a relationship with job efficiency as contemplated in the theoretical orientation chapter, was prepared. To arrive at very important variables for inclusion in the study, the relevancy of variables was worked out. The list of variables was sent to 45 judges comprising extension personnel of Tamil Nadu and Kerala Agricultural Universities and senior level officers of the State Department of Agriculture of Kerala. The judges were requested to examine the variables for relevancy and to include additional variable, if necessary (Appendix-I). They were requested to evaluate the variables critically and indicate the relevancy of each variables on a five point continuum ranging from 'most relevant', 'more relevant', 'relevant', 'less relevant' and 'least relevant' with the weightages of 5,4,3,2 and 1, respectively. Out of the 45 judges 32 responded.

The independent variables were selected based on the two criteria namely, variable's mean relevancy score and coefficient of variation as adopted by Anantharaman (1991). Mean relevancy score was found by summing up the weightages obtained for a variable and dividing it by the number of judges

responded. Likewise, co-efficient of variation was obtained by the standard formula of dividing standard deviation of a variable by its mean score and multiplying by 100. Then the average mean score and average co-efficient of variation were worked out by dividing with the number of variables included in the judges rating. The variables with their mean relevancy score and co-efficient of variation are presented in Appendix-II.

The variables having mean relevancy score more than the average mean relevancy score of 3.50 and co-efficient of variation less than the average co-efficient of variation of 29.99 were selected for the study. The former one indicated the variables' higher degree of relevancy and the latter one revealed the higher degree of agreement among the judges on the relevancy of the variable.

Through this procedure, 20 variables were selected. The eight variables such as educational status, rural-urban background, attitude towards profession, attitude towards farmer, self confidence, self concept, achievement motivation and intrinsic motivation were grouped into personal variables. The eight variables such as job experience, training received, job autonomy, perception of work load, job satisfaction, job involvement, technical competency, and communication behaviour were grouped under job related variables. The remaining four variables were categorised into organization related variables. The variables were organizational climate, organizational

involvement, guidance and supervision and facilities and resources.

### 3.5. OPERATIONALISATION AND MEASUREMENT OF DEPENDENT VARIABLE: JOB EFFICIENCY

The dependent variable job efficiency was measured with the help of scale developed for the study, as there was no scale available for measuring this variable. It was operationally defined as the capability of the Agricultural Officer in performing his tasks and duties, responsibilities and assignments in the right and just manner to achieve the objectives of the organisation. The right and just manner also indicate the way or style by which an officer executes the activities or tasks within the framework of organizational objectives and ethics.

#### 3.5.1 Concept behind measuring job efficiency

Clark and Gottfried(1957) defined appraisal as an evaluation of the worth of anything, whether of real property or of an intangible, such as a programme, or plan of action or method of operation. French and Saward (1975) stated that appraisal is a formal technique for assessing the performance of an individual in discharging specific responsibilities and the potential performance of the individual in other roles.

According to Rosenberg (1978) performance appraisal means a methodical review of an employee's performance on the job to evaluate the effectiveness or capability of the person's work. Similarly, Pareek and Rao (1981) also reported that performance appraisal is an effective instrument for helping people to grow and develop in the organisation.

Saiyadain (1988) pointed out that performance appraisal is an objective method of judging the relative worth or ability of an individual employee in performing his tasks. If objectively done, the appraisal can help identify a better worker from a poor one. He further stated that better performance appraisal system should also focus on the individual and his development. Sanchez (1988) stated that the main reasons for evaluation are to identify and prioritize areas of personal development for the staff members as well as to evaluate individual performance in the light of department goals and plans for future results. Considering the relevancy of appraisal technique in assessing the persons' activities as stated by various authors, appraisal technique was chosen as the method of measuring job efficiency.

### 3.5.2. Selection of the type of appraisal technique

Theory and research on the evaluation of performance reflected two aspects. The first pertains to whether performance should be viewed and measured as a single overall

composite or as a multidimensional construct consisting of several independent performance appraisals for making decisions about employees (Brodgen and Taylor, 1950; Nagle, 1953) while the latter view also acknowledges that it is often desirable to combine performance measure for administrative purpose (Schmidt and Kaplan, 1971). A person's performance on one component or dimension need not be highly related to performance on other dimension (Dunnette, 1963).

The second aspect involves the most appropriate means of describing efficient-inefficient performance. At one end of the continuum are performance evaluation measures that employ 'trait' or 'evaluative general' approaches. The traditional graphic rating scale, with poorly defined performance dimensions and poorly defined scale values such as 'below average' 'average' 'above average', typifies this kind of measure. Though graphic rating scales usually view performance as multidimensional, their inherent ambiguity tends to dictate that scores be combined into composites for administrative purpose. At the other end of the continuum are 'behaviour-specific' measures which attempt to define performance dimensions and scale values in behavioural terms. Though the technique have been employed less frequently in practice, numerous investigators have recommended. <sup>it</sup> (Barrett, 1966 and Jacobs et al. 1980). On perusal of Table 3, it could be inferred that Behaviourally Anchored Rating Scale is coming closer to ideal

**Table 3. Appraisal methods and their merits and demerits**

Characteristics					
Method	Content	Frequency of use	Development cost	Usage cost	Acceptance of raters ratees
<b>I. Rating</b>					
a. Graphic rating scale	Traits & Behaviour	Common	Average	Low	Fair
b. Mixed standard scale	Traits & Behaviour	Rare	High	Average	Low
c. BARS	Behaviour	(Recently developed)	High	Low	Good
<b>II. Ranking methods</b>					
a. Straight ranking	Overall	Common	Low	Low	Low
b. Alternative ranking	Overall	Common	Low	Low	Low
c. Paired comparisons	Overall	Uncommon	Low	Average	Low
d. Forced distribution	Overall	Uncommon	Low	Low	Low
<b>III. Special methods</b>					
a. Peer Nomination	Overall	Uncommon	Low	Low	Good
b. Behavioural Check list	Behaviours	Common	Average	Low	Fair
c. MBO	Results	Common	High	High	Good

among the various types of appraisal methods listed in the Table. The major advantage of such measure is that the investigator has to make few inferences about the employee. The investigator is taking the role of observer than the role of judge. As a consequence, an instrument employing specific behaviour shows higher reliability and validity than evaluations from general trait-based measures. The evaluation procedure attempts to capture performance in multidimensional behaviour-specific terms. It is referred to as Behaviorally Anchored Rating Scales (BARS). Hence the technique was chosen to measure the job efficiency of Agricultural Officer.

### 3.5.3. Behaviourally Anchored Rating Scales (BARS)

Dunnette (1966) argued that the behaviour scaling methodology developed by Smith and Kendell (1963) has good potential for overcoming or reducing many of the errors often encountered in rating system. By involving superiors and or job incumbents at all stages during the development of BARS technique, the method facilitates in the choice of job dimensions, definitions and behaviour examples that are readily understood and accepted by persons asked to make ratings. By collection of critical incidents reflecting specific behaviour appropriate to job dimension or activity help decrease the semantic ambiguities that are so prevalent in most rating systems.

Campbell et al. (1973) found that scales derived from behaviour scaling methodology showed less halo than summated rating scales designed to tap the same performance dimensions. Ratings on the behaviour scales also showed less leniency error than ratings with Likert format. Groner (1974) found that interrater agreements for behaviour observation scales were higher than for adjectival or checklist rating scales. Maas (1965) also found that interrater agreements with scaled expectation scales were higher than those obtained with adjectival rating scales.

Borman and Dunnette (1975) evaluated the performance of subordinate officers using behaviourally anchored scales, scales containing the same dimensions and definitions but without behavioural anchors and a series of scales involving trait oriented dimensions, also without anchors. Comparisons of the formats psychometric properties indicated that the behaviourally anchored scale format was superior to other two on three of four dependent variables involving estimates of leniency, halo, interrater agreement and degree of differentiation among ratees. They viewed that the net effect of using this scaling technique would be decreased leniency error because level of performance are defined better, decreased halo error as performance dimensions are specified better, higher interrater agreement because raters are likely to be more cooperative and attentive to the rating task, and better



differentiation between persons being rated because the scales help the raters to focus directly on actual job behaviour examples instead of traits.

According to Luthans (1989) the appraisal technique which comes closest to the ideal is BARS. The BARS approach gets away from subjective personal traits and instead measures observable, critical behaviours that are related to specific job dimensions. BARS takes advantage of many of the modern, effective approach to the evaluation of personnel. It measures the behaviours, and not unobservable inner states of employees. The people who are actually involved in the job participate in the development of scale (Schwab et al. 1975) and such involvement greatly enhances the acceptance of the technique. Because the evaluation is in terms of specific critical behaviours, the rater can give objective feedback on how the ratee performed and what specific behaviour the ratee must exhibit to improve. Such feedback is much more effective than the vague subjective feed back given in traditional rating methods. Finally, the technique is highly adaptable to evaluating 'nonwidget' types of jobs. Most white collar jobs and practically all jobs in non-profit organisation or development departments, do not have number of widgets sold or produced as a measure of performance. BARS provides an effective method of measuring the performance on these types of jobs because it is critical behaviour and not the number of widgets that is

way by keeping participants focusing on specific critical behaviours rather than on traits (global performance dimension).

As a third step, another group of participants, also job knowledgeable, is then instructed to retranslate (or reallocate) the critical behaviours into dimensions. They are given with the dimensions, definitions and critical behaviours, and asked to assign each behaviours to the dimension that it best describes. A retranslation criterion is then established as a basis for deciding which incidents will be retained for the potential inclusion in the final instrument. Typically, one incident is retained if some percentage (50-80 per cent) of the group that assigns the incidents to the same dimension, as done by the group in the previous step. Such incidents are said to have been retranslated. As stated by Smith and Kendall (1963), such translations and retention of only those incidents for which substantial agreement is reached may also serve to reduce leniency and central tendency error.

In the fourth step, another group of job knowledgeable persons are identified and asked to rate (5 to 7 point scale) the behaviour as to how best or bad it represents the appropriate dimension. The mean rating of the behaviours explains the degree to which the behaviour describes the dimensions. The standard deviation of the rating for each behaviour represent the amount of agreement among raters

evaluated. (Campbell et al. 1973; Schwab et al. 1975). Cummings and Schwab (1973) suggested that the use of incidents may prove to be useful in improving feedback to appraise, since their specificity can serve as a concrete examples of areas where job behaviours could be improved. In a similar vain, Blood (1974) suggests that the incidents may serve as the bases for training programmes. i.e., skill training could be aimed directly at enhancing employees ability to perform the desired behaviour.

#### 3.5.4 Development of BARS

Schwab et al. (1975), while reviewing the literature on BARS stated that generally it includes five steps. As a first step, critical job behaviours are to be identified. For this, persons with knowledge of the job (job holders and /or immediate superiors) are asked to describe specific illustrations and desirable and undesirable job behaviours. This step is similar to Flanagan (1954) critical incident technique. Then performance dimensions are to be identified. Here, the instrument developer cluster the incidents into a smaller set of performance dimensions which they typically define. The original Smith and Kendall (1963) methodology on BARS had job knowledgeable participants aid in the identification and definition of performance dimensions as the first step. The procedure has been changed to the one described here in several investigations (Fogli et al., 1971 and Campbell et al., 1973) as a

way by keeping participants focusing on specific critical behaviours rather than on traits (global performance dimension).

As a third step, another group of participants, also job knowledgeable, is then instructed to retranslate (or reallocate) the critical behaviours into dimensions. They are given with the dimensions, definitions and critical behaviours, and asked to assign each behaviours to the dimension that it best describes. A retranslation criterion is then established as a basis for deciding which incidents will be retained for the potential inclusion in the final instrument. Typically, one incident is retained if some percentage (50-80 per cent) of the group that assigns the incidents to the same dimension, as done by the group in the previous step. Such incidents are said to have been retranslated. As stated by Smith and Kendall (1963), such translations and retention of only those incidents for which substantial agreement is reached may also serve to reduce leniency and central tendency error.

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regarding the level of performance described by the behaviour (the lower the standard deviation the greater the agreement). A standard deviation criterion is then set for deciding which incidents will be retained for potential inclusion in the final instrument. Typically incidents that have standard deviation of 1.50 or less on a 5 point scale are retained (Borman, 1978).

A subset of the behaviours that meet both the retranslation and standard deviation criteria are used as behavioral anchors for the job activity. Likewise, the final BARS instrument consists of a series of vertical scale anchored by the retained behaviours.

### 3.5.5 Steps followed in this study for developing BARS

An exhaustive list of specific activities performed by the Agricultural Officers of the State Department of Agriculture was collected by the nominal group technique. As pointed out by Huseman (1973) and Luthans (1989) in terms of number of ideas, uniqueness of ideas and quality of ideas, nominal groups are found to be superior to real groups. Nominal group is a 'paper group' because no verbal exchange is allowed between members. Here, a group of individuals are added together, but are not verbally interacting (Huseman et al. 1976). The general conclusion is that interacting groups inhibit creativity. As stated by the Delbecq et al. (1975) and Sink (1985) it consists of the following steps.

- a) Purpose of group meeting will be explained by the investigator.
- b) Ideas are pooled and edited
- c) Each recorded idea is discussed for classification and evaluation.
- d) Ideas are ranked for priority.

#### 3.5.5.1 Collection of items through Nominal Group Technique

Nominal group technique was applied to collect the exhaustive list of all the possible activities performed by Agricultural Officers at panchayat level. The technique was tried at four sub-divisions and the details of participants are given below in Table.4.

Table 4. Details of Subdivisions, Assistant Director Circles and Krishi Bhavans involved in the Nominal Group Technique.

Sl. No.	Sub divisions	No.of A.D.A	No.of A.O	No.of farmers	Total
1	Nedumangaud	4	14	15	32
2	Neyyattinkara	4	10	15	31
3	Attingal	4	10	15	28
4	Varkala	4	10	15	29
Total		16	44	60	120

Here, the investigator explained the objectives of the research work and purpose for which the group session was convened. Each member was requested to state specifically the activities done by the Agricultural Officers. Each member was provided with a piece of paper and the activities carried out by the Agricultural Officers were collected. The activities were edited and presented in the second session and discussed in detail to avoid ambiguity. Similarly, from each sub-division one Krishi Bhavan was selected and from each Krishi Bhavan fifteen farmers were randomly selected and the Nominal Group Technique was applied to collect the list of specific activities carried out by the Agricultural Officers. Altogether, 140 activities were suggested by the extension personnel and 40 by the farmers.

#### 3.5.5.2. Initial screening of activities by relevancy rating

In order to screen the 180 items generated through Nominal Group Technique, relevancy rating was done. The 140 items suggested by extension personnel (A.D.A's and A.O's) were sent to 80 judges with necessary instructions (Appendix-III). As suggested by Smith and Kendall (1963) and Borman and Dunnette (1975) the judges are the job knowledgeable people and hence Assistant Director of Agriculture and Agricultural Officer of the State Department of Agriculture from the non sample area formed the judges group. Sixty judges responded to the schedule.

The mean relevancy score and the coefficient of variation of each item was worked out as described in the selection of independent variables (Appendix-III). Similarly, 40 items suggested by the farmers were also given to eighty farmers from the selected four sub-divisions namely, Nedumangaud, Neyyattinkara, Attingal and Varkala, as judges. The mean relevancy score and the coefficient of variation of each item were also worked out. Through this step, 61 activities perceived to be important to the extension personnel were selected. Similarly, out of 40 activities, 22 were perceived to be important by the farmer-respondents. But 18 activities were common in the ratings done by farmers as well as extension personnel and only four activities were additionally reported by the farmers. Thus, there were 65 items (61+4) screened through this method. Based on the strength of the theoretical orientation chapter, the 65 items were classified into eight job dimension (Appendix-IV).

#### 3.5.5.3. Item analysis

Item analysis is a set of procedures that are applied to know indices of truthfulness of items (Singh, 1986). The indices used in the selection of items (activities) for the study were: (a) discrimination index and (b) correlation of activity with total score as suggested by Anastasi (1961) and Guilford (1971).



The 65 activities selected by relevancy rating were given to the Assistant Directors to record their free and unbiased perception about the extent of performance of Agricultural Officers under their direct supervision with respect to each item (Appendix - V). They were further reminded that their judgment should indicate the degree of performance of the Agricultural Officer of each activity which reflects the ability of the Officer in achieving his tasks, duties, responsibilities and assignment. The Assistant Directors were selected from the non-sample area and the details of number of Assistant Directors (Raters) and number of A.O. (Ratees) are given below.

Table 5. Distribution pattern of Assistant Directors selected from the non sample area for Appraisal

Sl. No.	Sub divisions	No. of A.D.A		No. of A.O.		No. of Responses received	
		existing	Selected	existing	Selected	A.D.A.	A.O
1	Nedumangaud	4	3	24	16	3	12
2.	Neyyattinkara	4	3	20	16	3	10
3	Attingal	4	4	22	18	3	15
4	Kollam	7	5	30	24	4	16
5	Kottarakkara	6	4	28	18	3	7
Total		25	19	124	92	16	60

For each Agricultural Officer separate schedule was used and the response was obtained in five-point rating continuum. Depending upon the nature of activities, manner of performance, situation etc. response continuum were constructed and given to the judges for rating. Similarly, the Assistant Directors included in the study as judges, completed a minimum of one year experience in the present post and also in the present place. Similarly, the Agricultural Officers included in the pilot study also completed a minimum of one year service in the present post and one year experience in the present place.

The response of Assistant Directors were quantified by allotting scores of 5,4,3,2 and 1 for the above activities in that order as followed by Mathew (1987) and Anantharaman (1991) while developing managerial activity scale and managerial efficiency scale respectively.

For carrying out item analysis, two types of scores were used. They were item score referring to the score of an individual on a particular activity and total score referring to the summation of activity scores of an individual. These scores were used to arrive at discrimination index and item-total score correlation.

#### 3.5.5.3.1 Discrimination index

It refers to the power of an activity to discriminate the low efficient from the high efficient category



of officers. The total score for each Agricultural Officer was found using the procedure elaborated elsewhere. Following the suggestion of Kelley (1939), high and low level groups were formed by grouping the Agricultural Officers whose total score fell within the top and bottom 27 per cent, respectively. The values of critical ratio were used as discrimination index as suggested by Singh (1986). The critical ratio (t-value) of each activity was calculated using the formula given by Edwards (1957). This formula was selected because the number of respondents in high and low group were equal. The formula used was

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\sum (X_H - \bar{X}_H)^2 + (X_L - \bar{X}_L)^2}{n(n-1)}}$$

where

$\bar{X}_H$  = the mean score of an activity for the high group

$\bar{X}_L$  = the mean score of an activity for the low group

n = number of subjects in a group.

#### 3.5.5.3.2 Item-total score correlation

The correlation of each item score with total score yields a measure of internal consistency (Anastasi, 1961). Using Person's product-moment method, correlation was worked out for each activity between activity score and total score of individual.

#### 3.5.5.4 Selection of items for final scale

The results of the item analysis of the 65 items performed on the basis of discrimination index, and item-total correlation are presented in Appendix-VI. It could be seen from the Appendix VI that all the selected activities except one (Sl. No. 27) had significant item total score correlation. Similar was the result with regard to discrimination index. It was felt that the number of activities (64) was of unmanageable nature especially when it is to be given for superior rating. Hence, the activities were reduced to 30, by selecting the top thirty items having high 't' values as suggested by Edwards, (1957)

#### 3.5.5.5. Classification of selected activities into dimensions

After having selected final 30 activities from 65 activities, (Appendix - VII) it became necessary to group these selected activities into reduced number of dimensions empirically so as to analyse the efficiency of Agricultural Officers on these job efficiency dimensions.

##### 3.5.5.5.1. Methods of classification

Grouping of activities into dimensions can be attempted, based on theoretical lines or judgment method or following statistical methods. For the present study, the statistical method was resorted to, as it was considered to have objectiveness when compared to the others.

### 3.5.5.5.2. McQuitty linkage analysis

Linkage analysis procedure enables grouping or clustering of variables. Technically, a cluster consists of variables that correlate highly with one another and comparatively low correlations with variables in other clusters. The basic objective of this type of analysis is to determine how many mutually and exhaustive groups or clusters, based on the similarities of profiles among entities, really exist in the population and then to state the composition of such groups (Bennet and Bowers, 1976). The main steps in the Linkage analysis procedure are as follows (Bennet and Bowers, 1976).

- 1) Preparation of the intercorrelation matrix of the 30 activities selected for the final scale (Appendix - VIII)
- 2) Selected the highest value in each column.
- 3) Selected the highest value in the whole matrix which gave two variables of first cluster.
- 4) Read along the rows corresponding to the two variables which emerged in step 3. Selected the underlined values if any, the corresponding variable also belonging to the cluster.
- 5) Read along the rows corresponding to the variables which emerged in step 4.
- 6) Repeated the process

Through this process six exclusive clusters or dimensions were identified and the items under each cluster are presented in Appendix - IX.

#### 3.5.5.5.3. Labeling the dimensions

After grouping the items into various dimensions, it became essential to name the dimensions so as to consider these as new variables for various types of analysis. The dimensions were labeled by taking into consideration of the common content of the items.

#### 3.5.5.6. BARS construction

In order to develop the BARS in the present study, the procedures suggested by Smith and Kendall (1963) and Borman and Dunnette (1975) had been employed with slight modification as detailed in the following pages.

##### 3.5.5.6.1. Collection of critical behaviour

The Assistant Directors and Agricultural Officers were requested to give specific illustration of desirable and undesirable job behaviours with respect to each activity (Appendix - X). The details of A.D.As and A.Os selected for the collection of critical behaviour are given in Table 6.

Table 6. Details of Assistant Director and Agricultural Officers selected for collecting job behaviours

Sl. No.	Subdivision	No. A.D.A's Selected	No. of A.O's selected	Total
1.	Nedumangaud	4	16	20
2.	Neyyattinkara	4	16	20
3.	Attingal	4	18	22
4.	Alappuzha	6	22	28
5.	Mavelikkara	4	16	20
6.	Chengannoor	3	15	18
		25	103	128

Totally, 390 illustrative behaviours, both desirable and undesirable were collected for all the 30 activities.

#### 3.5.5.6.2. Retranslation of behaviours to activities

All the 390 selected behaviour were once again edited and 360 behaviours were selected. Later, these behaviours were allotted to the 30 activities by a panel of 10 Assistant Directors and 30 Agricultural Officers. The behaviours which were allocated by a minimum of 80 per cent of the panel members under particular item were considered to have consistency. This procedure yielded 300 behaviours out of 360 behaviours. Such

retranslation and retention of critical behaviours reduced the leniency and central tendency error (Smith and Kendall, 1963).

#### 3.5.5.6.3. Rating behaviours in continuum

The 300 behaviours selected for the 30 activities, covered six dimensions. For each activity, 10 behaviours were selected. Later, the 300 behaviours and 30 activities were given to 10 Assistant Directors and 30 Agricultural Officers to rate those behaviours on a five point continuum, such as, most preferred behaviour, more preferred behaviour, average preferred behaviour, less preferred behavior and least preferred behaviour with the scoring of 5,4,3,2 and 1 respectively. On the basis of the ratings the mean value and standard deviation of behaviours were worked out. Finally five behaviours were selected from the group having the mean value of 1,2,3,4 and 5 or nearer to the whole number. If the mean values were same the standard deviation was considered as a criteria and selected the behaviour with least standard deviation, as suggested by Edwards (1957) (Appendix - XI).

#### 3.5.6.6.4 Final format of the BARS scale and quantifying procedure

The final format of the scale contained the dimensions and the activities grouped under each dimensions. For each item five critical behaviours were given in a continuum



from most preferred to least preferred (Appendix - XII). The response categories for the items and scores allotted for the response categories are the same as in the rating behaviours in a continuum (3.5.6.6.3).

Computation of individual scores was done for each dimension and also for job efficiency scale as a whole. In the present study, dimension score was derived by simple addition of the scores obtained by individuals on the activities grouped into dimension. This can be denoted as

$$\sum_{i=1}^n t_i = t_1 + t_2 + t_3 \dots t_n$$

where  $t_1$  to  $t_n$  refers to individual's score on the activities. Job efficiency score was computed by summing up the score obtained by individuals on dimensions. This can be denoted as.

$$\sum_{i=1}^n D_i = D_1 + D_2 + D_3 \dots D_n$$

where  $D_1 + \dots + D_n$  refer to individual score on dimensions.

It may be pointed out here that differential weightages were not given to activities because all the activities selected in the final scale had statistically significant item validity indices and hence, it was assumed that their contributions to job efficiency were on par. The management orientation scale of Samanta (1977), managerial activity scale of Mathew (1987) and managerial efficiency scale of Anantharaman (1991) also did not have differential weightages,

for items and total scores were computed by simple addition of item scores.

#### 3.5.5.7. Standardisation of the scale

The standardisation of the scale was done by verifying the reliability and validity of the scale.

##### 3.5.5.7.1 Reliability of the scale

The reliability of the test refers to the consistency of scores obtained by same individuals on different occasions or with different sets of equivalent forms (Anastasi, 1961). In this study, reliability was determined by test-retest and inter rater reliability methods.

###### 3.5.5.7.1.1. Test-retest reliability

One of the most obvious ways to test the reliability of a measuring instrument is to use the same measure twice on the sample of people and determine if the second measures are similarly to the first. This procedure is called test-retest reliability or coefficient of stability. In this study, to work out the coefficient of stability, thirty Agricultural Officers of the State Department of Agriculture were rated by this scale, twice at 15 days interval. They were from the non-sample areas of Thiruvananthapuram district. Pearson's product moment correlation was worked out between the two sets of

Job efficiency scores. The correlation co-efficient was 0.82 which indicates the high reliability of the scale.

#### 3.5.5.7.1.2. Inter-rater reliability

Adams (1982) viewed that the major role of extension agent is to help the people to identify and analyse their own problems and acts as a catalyst in improving their rural living standard. So it can be very well stated that an officer is efficient if he had carried out the activities aiming farmer development. In the Indian context, the farmer is not getting any opportunity to rate because, he is having no control over the officer. Hence, it is essential to assess the degree of consistency between the scores assigned by the superior as well as the clientele. Cherrington (1983) stated that inter-rater reliability is especially important in assessing the reliability of performance evaluation. It refers to the degree of consistency between the scores assigned by two different observers. Each Agricultural Officer was rated by ten randomly selected farmers on the farmer development dimension of the scale and the mean score was worked out. Totally 30 Agricultural Officers were rated by 300 farmers. The details in this respect are furnished in table 7.

Table 7. Details of raters and ratees involved in the inter-rater reliability

Sl. No.	Sub divisions	No. of ratees (A.O's)	No. of raters (farmers)
1.	Nedumangaud	10	100
2.	Kollam	10	100
3.	Alappuzha	10	100
Total		30	300

Similarly, 15 Assistant Directors rated the 30 Agricultural Officers with regard to the farmer development dimension. Finally, the mean scores of the two groups were compared and tested for significance of difference viz, the critical ratio. The computed critical ratio of 0.94 was very low. The insignificant value established the consistency of superior rating and clientele rating or farmer rating with regard to farmer development dimension.

#### 3.5.5.7.2 Validity of the scale

A scale is valid when it actually measures what it claims to measure (Goode and Hatt, 1952). The validity of the scale was found by using the following methods.

#### 3.5.5.7.2.1 Content Validity

It is concerned with whether or not the test covers a representative sample of behaviour domain to be measured (Anastasi, 1961). This was ensured during the preparation of the scale itself, during which time, utmost care was taken to include all the items to represent the universe of contents.

#### 3.5.5.7.2.2. Construct validity

The construct validity of a test is the extent to which the test may be said to measure the theoretical construct or trait and correlation between the new test and similar earlier test gives evidence that new test measures the same area of behaviour as other tests designed by the same name (Anastasi, 1961). For the study, the construct validity was tested by working out correlation coefficient between job efficiency score of 30 Agricultural officers from non sample areas of Thiruvananthapuram district and their scores on the earlier developed professional orientation scale of Sanderson (1986). The correlation co-efficient computed was 0.83. which indicated that the scale has construct validity also.

#### 3.5.5.7.2.3. Known group validity

According to this method, a scale is administered among persons who are known to hold a particular opinion or belonging to a particular category and the results are then

compared with known facts (Bhatnagar, 1990). For testing the validity of the scale using this method, two Agricultural Officers, one known to be efficient and another inefficient based on the opinion of peer group from one Assistant Director circle were selected. Totally 30 Agricultural officers were selected (15 Agricultural Officers in each group) from non sample area of Thiruvananthapuram and kollam Districts. The Assistant Directors were requested to rate the Agricultural Officers by administering the newly developed job efficiency scale. The mean scores of two groups were compared and tested for significance of difference viz, the critical ratio. The computed critical ratio was 8.55 which was significant at 0.01 level. The highly significant value established the known group validity of the scale.

### 3.6. OPERATIONALISATION, MEASUREMENT AND SCREENING OF INDEPENDENT VARIABLES

The independent variables have been classified into three groups, viz., personal, job and organization related variables and their Operationalisation and measurement are presented below.

#### 3.6.1. Personal Variables

##### 3.6.1.1. Educational status

It refers to the educational qualification acquired

by the respondent. The different educational levels of the respondents were scored as per the procedure followed by Reddy (1986). The scoring procedure was as follows:-

Level of education	Score
B.Sc. (Agri.)	One
M.Sc.	Two
Ph.D.	Three

#### 3.6.1.2 Rural-Urban background

Rural-Urban background was operationalised to subsume aspects such as father's occupation, native place, place of primary education, place of secondary education, place of college education, liking towards rural life, interest to work in rural area and cultivable land owned. The procedure developed by Reddy (1990) was used with a slight modifications for the purpose of measurement of rural-urban background.

Item	Score
a. Father's Occupation	
1. Farming	2
2. Non-farming	1
b. Native place	
1. Village (Panchayat area)	3
2. Town (Municipality area)	2
3. City (Corporation area)	1

c.	Place of primary education	
	1. Village (Panchayat area)	3
	2. Town (Municipality area)	2
	3. City (Corporation area)	1
d.	Place of secondary education	
	1. Village (Panchayat area)	3
	2. Town (Municipality area)	2
	3. City (Corporation area)	1
e.	Place of college education	
	1. Village (Panchayat area)	3
	2. Town (Municipality area)	2
	3. City (Corporation area)	1
f.	Liking towards rural life	
	1. More liking	3
	2. Moderate liking	2
	3. Less liking	1
g.	Interest to work in rural (Panchayat) areas	
	1. More interested	3
	2. Interested	2
	3. Less interested	1
h.	Land owned	
	1. More than 2.47 Acres	4
	2. Between 1.23 to 2.47 Acres	3
	3. Less than 1.23 Acres	2
	4. No land	1

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To obtain the final score of a respondent, the scores obtained in the above dimensions were summed up.

#### 3.6.1.3. Attitude towards profession

It refers to the positive or negative affect of the Agricultural Officer towards his profession. The measurement procedure followed by Sobhana (1982) was used to quantify this variable. The instrument had ten statements and the score possible varied from 10 to 50. The statements 1,2,4,8 and 9 are positive and the remaining are negative. In the pilot study conducted, responses of the Agricultural Officers from non sample areas on the statements of this scale were obtained on a five-point continuum namely, strongly agree, agree, undecided, disagree and strongly disagree with a weightage of 5,4,3,2 and 1 respectively for positive statements and the weightage was reversed for negative statements.

#### 3.6.1.4 Attitude towards farmers

Attitude towards farmers was operationalised as the positive or negative affect of the Agricultural Officer towards farmers. This variable was measured by adopting the scale developed by John (1966). The scale consisted of six statements and the possible score ranged from 6 to 30.

### 3.6.1.5 Self concept

Bruno (1986) defined self concept as a global evaluation made about one's own personality. It is derived from the objective evaluations we tend to make of our own behavioural traits. As a consequence, a self concept will be positive or negative. Deo (1974) developed personality word list for measuring aspects of self concept. The items were rated on a five point continuum ranging from 'very much like this' to 'not at all like this'. Sarma (1974) used the personality word list technique to measure the aspects of self concept by measuring separately what he thinks he is at present and what he thinks to be in future.

The scale developed by Joseph (1983) was used with slight modification to measure the variable. The scale consisted of 8 statements. The statements were rated on a five point continuum and the scoring pattern followed was similar to that of 'attitude towards farmers'. The statements six and eight were negative and the remaining were positive.

### 3.6.1.6 Self confidence

It refers to the feeling of an individual about his ability, initiative and zeal to achieve his goal or aim. This variable was measured by the scale developed by Basavanna (1974) with slight modification. The scale consisted of eight

statements and the possible score varied from 8 to 40. The scoring pattern followed was similar to that of the attitude towards the profession.

#### 3.6.1.7. Achievement Motivation

It refers to the value associated with an individual which drives him to excel in his activities and thereby attaining a sense of professional accomplishment. It refers to the motive or desire within the Agricultural Officer to successfully complete a task, attain a goal or reach a given standard of excellence. According to Nagnur (1992) achievement motivation is a drive to overcome challenges advance and grow. Motivated people have a drive to do something better or more efficiently than it has been done before. This variable was measured by adopting the scale developed by Reddy (1976). The scale consisted of seven statements to be rated on a five point continuum namely strongly agree, agree, disagree and strongly disagree with of 5,4,3,2 and 1 respectively. The possible scores varied from 7 to 35.

#### 3.6.1.8. Intrinsic Motivation

It refers to the degree of feeling of accomplishment or of personal worth as perceived by the Agricultural Officer about himself. Here the only requirement is that the outcome be valued by the individual himself. When an

individual anticipates obtaining some valued outcome as a result of a contemplated action or course of action, that outcome may be termed an incentive for engaging in the action (Hackman and Lawler, 1971). This variable was measured by using the scale developed by Lawler and Hall (1970). The scale consisted of four statements and the possible score ranged from 4 to 20. The scoring pattern followed was similar to that of achievement motivation.

### 3.6.2 Job related variables

#### 3.6.2.1 Job experience

It refers to number of completed years of service as Agricultural Officer in the State Department of Agriculture, or in related fields. A score of one was assigned to each year of experience as followed by Reddy (1986).

#### 3.6.2.2. Trainings received

It is acquisition of knowledge and skills by the Agricultural Officers which is characterized by pre-service and inservice training. Each week's training received a score of one.

#### 3.6.2.3. Job autonomy

Job autonomy was operationalised as the degree to which the job gives the worker freedom, independence and

direction in scheduling work and determining how the work has to be carried out.

This variable was quantified by adopting the scale developed by Hackman and Lawler (1971). The scale consisted of two positive (3 & 4) and two negative (1 & 2) statements representing different dimensions of their job autonomy. The respondents were asked to indicate their agreement or disagreement with the statement which was given on a three point continuum namely 'strongly agree', 'agree' and 'disagree' with weightage of 3,2 and 1 for positive statements and 1,2 and 3 for negative statements. Job autonomy score of a respondent was calculated by adding the weightages of all the statements in the scale. The score ranged from 4 to 12. The maximum score would reveal the greater perception of job autonomy by the respondents.

#### 3.6.2.4. Perceived work load

It refers to the degree to which the respondents have comprehended the nature and quantum of work and its relation to the job efficiency. It was operationalised as the feeling of the officer towards his works assigned in the organization within a specified time. A scale developed by Kirmeyer and Dougherty (1988) containing four items was adopted for measuring this variable. The respondents were asked to indicate their level of agreement or disagreement in a five point continuum as followed in the above scale. The possible score ranged from 5 to 20.

#### 3.6.2.5. Job satisfaction

It refers to the degree to which the Agricultural officers were satisfied or dissatisfied with different aspects of their job. This variable was measured using a scale developed by Sridhar (1977). The response of the subjects was collected over three point rating scale, namely, very much satisfied, satisfied and dissatisfied with weightage of 3, 2 and 1 respectively. There were 18 items in the instruments. Thus the minimum and maximum scores for each respondent were 18 and 54 respectively.

#### 3.6.2.6. Job involvement

It refers to the degree to which an officer has identified himself with his work. The job involvement of Agricultural Officer was measured by using a job involvement scale developed by Lodahl and Kejner (1965). The scale consists of 20 statements. Against each statement a three point response categories were provided such as strongly agree, agree and disagree with the scores of 3, 2 and 1 respectively. This scoring system was adopted for positive items. The scoring system was reversed for the negative statements viz. 10, 13, 14, 16, 17, 18 and 19. Total score for each respondent was obtained by summing the score of all items.

#### 3.6.2.7. Technical competency

It refers to the extent to which the respondent possess knowledge in the various aspects of scientific

agriculture. It was measured by a standard knowledge test developed for the study and the procedure adopted is described in the ensuing pages.

#### 3.6.2.7.1. Item collection

Forty items on different activities with regard to scientific agriculture were collected from the package of practices of Kerala Agricultural University (1991) and in consultation with experts. From the pool of items, initial selection of items was done on the basis of the following criteria; (a) It should promote thinking capability of the officer' (b) It should differentiate the well informed officer from the poorly informed; (c) It should have some difficulty value; (d) It should be relevant and more practical-oriented than theoretical. Based on these criteria, from the pool of items, 27 items were initially selected for the knowledge test. The item content in the test was in terms of problems. The questions were framed to test the level of knowledge on scientific farming, which reflect the technical capability of the agricultural officer (Appendix - XIII).

#### 3.6.2.7.2. Item analysis

Item analysis yields information like indices of item difficulty, item discrimination and item validity. The selected 27 items were administered to 60 Agricultural Officers

from the non-sample area of Thiruvananthapuram and Kollam Districts. For correct answer, a score of 'one' was given and for incorrect answers 'zero' was given.

After arriving at the total score secured by the individual officers, they were arranged in descending order of their scores from highest to lowest. Following the recommendations of Garrett (1966) and Guilford (1971), 27 per cent of the respondents with highest scores and lowest scores were considered for calculating item difficulty and item discrimination and these groups were referred to as upper and lower groups.

#### 3.6.2.7.2.1. Difficulty index

The difficulty value of an item refers to the proportion or percentage of individuals who answer the item correctly (Garrett, 1966; Guilford, 1971). Various methods have been suggested to arrive at difficulty index of items. The formula used for this study is as recommended by Singh (1986) which takes into account the extreme groups only, thus saving labour and time. The formula used was;

$$P = \frac{RU + RL}{NU + NL}$$

Where P = Index of difficulty

RU = Number of individuals answering correctly in upper group



RL = Number of individuals answering correctly in lower group

NU = Number of individuals in upper group

NL = Number of individuals in lower group.

### 3.6.2.7.2.2. Discrimination index

The index of discrimination is the ability of the item on the basis of which the discrimination is made between superiors and inferiors (Blood and Budd, 1972). Among various methods of determining of discrimination index, a simple and quick method called Net index of discrimination suggested by Marshall and Hales (1972) was followed. This is an unbiased index of absolute difference in number of discrimination made between upper and lower groups and it is proportional to the net discrimination made by the item between the two groups. The formula used was:

$$V = \frac{RU - RL}{NU}$$

Where V = Net discrimination index.

RU = Number of individuals giving correct answers in upper group

RL = Number of individuals giving correct answers in Lower group

NU = Number of individuals in a group

## 3.6.2.7.2.3. Item Validity

The validity power of the item is the correlation of the item score with the whole test score, referred as internal- consistency item discrimination index (Lindquist, 1951). Since the items were scored simply as '0' and '1', point biserial correlation as recommended by Garrett (1966) was worked out to indicate the item validity of each item. The formula used was:

$$r_{pbis} = \frac{M_p - M_q}{t} \sqrt{pq}$$

Where  $r_{pbis}$  = point biserial correlation.

$M_p$  = the mean of the total scores of the respondents who gave correct answer to the item.

$M_q$  = the mean of the total scores of the respondents who gave incorrect answer to the item.

$t$  = standard deviation of the entire sample.

$p$  = Proportion of farmers giving correct answer to the item.

$q$  = Proportion of farmers giving incorrect answer to the item.

The calculated values of difficulty index, discrimination index and point biserial correlation for all the 27 items are given in Appendix - XIII.

### 3.6.2.7.3. Final selection of items

Difficulty index, discrimination index and point biserial correlation were the criteria considered for selection of items for the scale. Pillai (1983) considered difficulty index of 65 to 76 percentage and discrimination index above 0.35. (Anantharaman (1977) selected the items with difficulty index values ranging from 0.40 to 0.60; discrimination index above 0.20 with significant point biserial correlation). For this study, items with difficulty index of 0.40 to 0.60 proportion which signal the maximum variance, discrimination index above 0.40 which discriminates the upper and lower groups significantly as recommended by Singh (1986) and having significant point biserial correlation were selected. This procedure yielded 20 test items for the final scale.

### 3.6.2.7.4. Method of scoring

Each respondent was given a score of '1' for correct answer '0' for incorrect answer for each item. The total score of each respondent was calculated by adding the number of items answered correctly by him.

### 3.6.2.7.5. Reliability

Reliability of the test was found by the split half method. In this method, the selected 20 items were split into

two equal halves of odd and even numbered items and administered to 30 agricultural officers from non-sample area.

The Spearman-Brown-Prophecy formula was used to calculate reliability coefficient which was found to be highly significant (0.81).

#### 3.6.2.7.6. Validity

Care was taken to include the items covering the universe of content with respect to the technical subject-matter and the respondents, this, satisfying the content validity. Since the items were selected based on discrimination index and point biserial correlation which are the measures of validity, the scale was considered to have validity.

#### 3.6.2.8. Communication Behaviour

Communication behaviour has been operationalised by different researchers in different ways. Fliegel (1956) operationalised communication behaviour as information contact. Murthy and Singh (1974) conceptualized the farmers communication behaviour as a composite measure of awareness, comprehension, attitude and adoption. Reddy (1976) measured communication behaviour as a composite of awareness, comprehension, attitude, communication skills and effective use of communication channels. Pandyaraj (1978) measured communication behaviour as a composite

of information input, information processing consisting of information decoding as well as information encoding, information output and information feedback.

In this study communication behaviour is operationalised as the summation of information input, processing, output and feedback. This variable was measured by an index developed by Pandyaraj (1978). The communication behaviour score was calculated by converting the raw scores obtained by each individual with respect to the components into standard scores by using the method explained by Singh (1986) The communication behaviour score for each individual was obtained by adding the standard scores of each respondent on all the components of communication behaviour.

### .3.6.3. Organization related variables

#### 3.6.3.1. Organizational climate

It refers to the degree to which an extension worker perceives about his work place, facilities, co-workers, supervision, leadership etc., as favourable or unfavorable. The original organizational climate questionnaire of Litwin and Stringer (1968) which was modified and used by Prasannakumar (1985) to quantify the perception of organisational climate of Assistant Agricultural Officers,, was used in the present study, to measure the perception of organizational climate by

Agricultural Officers. The scale had seven items representing different dimensions of organizational climate. The respondents were asked to express their feelings to each statement on a three point continuum such as agree, somewhat agree and disagree, respectively with the score of 3, 2 and 1 respectively. Total score for each respondent was obtained by summing the scores of all items.

#### 3.6.3.2. Organizational involvement

It refers to the sense of loyalty and psychological attachment of the individual towards his own organization. As stated by Romzek (1985) organisational involvement represents a continuum of psychological attachment to an organization commitment, to negative effect or organisational alienation. A scale developed by Romzek (1989) to measure organisational involvement was used in the present study. The scale consisted of 11 statements and the response was obtained on a five point continuum ranging from strongly agree to strongly disagree with the score of 5 to 1 respectively. The scoring system was reversed for negative statements. Total score for each respondent was obtained by summing the scores of all items. Thus the minimum and maximum score, for each respondent were 11 and 55, respectively.

#### 3.6.3.3. Guidance and Supervision

This refers to the regular guidance and supervision

in technical matters, professional growth and timely advice to the Agricultural Officer from the higher-ups. It was operationalised as the perception of Agricultural Officer about the extent of counseling and advice received from his superior officer in connection with his job. This variable was measured by adopting the scale developed by Reddy (1976). The scale consisted of seven statements. Against each statement, five-point response categories were provided such as, 'very much satisfied', 'satisfied', 'partially satisfied', 'dissatisfied' and 'very much dissatisfied' with the scores of 5,4,3,2 and 1 respectively. The possible score ranges from 7 to 35 and the total score for each respondent was obtained by summing his scores on all the items.

#### 3.6.3.4. Facilities and resources

This refers to adequate provision of facilities and resources to Agricultural Officer for the efficient functioning of his job activities. It was operationalised as the perception of Agricultural Officer about the extent of availability of men, money, material and method at his disposal which aids in the successful accomplishment of his job. This variable was measured by employing the scale developed by Sharma (1969). The scale consisted of seven statements and the possible score ranged from 7 to 35. The scoring pattern followed was similar to that of guidance and supervision.

### 3.6.4. Pilot study for screening independent variables

A pilot study was conducted with the selected twenty independent variables (Appendix - XIV) with the dependent variable job efficiency in a non-sample area. The details of Assistant Directors, Agricultural Officers selected and the response obtained are presented in Table 8.

Table 8. Distribution of Assistant Director Circles and Krishi Bhavans in the Pilot Study.

Sub-Divisions	Assistant Director Circle	No. of Krishi Bhavans at panchayat level	Krishi Bhavans selected	Response obtained
Nedumangaud	Nedumangaud	5	4	3
	Vamanapuram	8	6	5
	Vellanadu	8	6	4
	Chettivilakom	4	-	-
Neyyattinkara	Athiyanoor	7	6	4
	Nemom	8	8	6
	Parassala	6	4	2
	Perumkadavila	9	5	3
Attingal	Chirayinkil	7	6	5
	Kazhakottom	7	6	4
	Kilimanoor	8	6	3
	Varkala	7	6	3
Total		84	63	42



Here also, the Agricultural Officer and the Assistant Director who have completed a minimum of one year service in the present post, in the present place as well as in the cadre only were selected for the pilot study.

#### 3.6.4.1. Selection of independent variables for the study

Zero order correlation test was conducted to select the independent variables and the details of correlation value and the variables are given in Table 9.

The variables significantly related to the job efficiency at 0.01 level were screened for the final study. Independent variables like 'attitude towards profession' and 'attitude towards farmers', self confidence and self concept and achievement motivation and intrinsic motivation exhibited high intercorrelation. To avoid multicollinearity among the pairs one variable which exhibited a more significant relationship with dependent variable was selected as suggested by Srivastava *et al.* (1983). Through this process, ten independent variables were selected for the final study. The variables were: attitude towards profession, self confidence, intrinsic motivation, job satisfaction, job involvement, technical competency, communication behaviour, organizational climate, guidance and supervision and facilities and resources. Similarly, constraints on job dimension were identified through pilot study and the constraints were rated in a five point continuum.

Table 9. Independent variables and their respective correlation values

Independent Variables	Correlation value
1. Educational status	0.1689 <sup>NS</sup>
2. Rural Urban background	0.1562 <sup>NS</sup>
3. Attitude towards profession	0.7578 <sup>**</sup>
4. Attitude towards farmers	0.7437 <sup>**</sup>
5. Self confidence	0.8170 <sup>**</sup>
6. Self concept	0.8113 <sup>**</sup>
7. Achievement motivation	0.6996 <sup>**</sup>
8. Intrinsic motivation	0.7984 <sup>**</sup>
9. Job experience	0.1704 <sup>NS</sup>
10. Training received	0.1928 <sup>NS</sup>
11. Job autonomy	0.1017 <sup>NS</sup>
12. Perceived work load	0.1219 <sup>NS</sup>
13. Job satisfaction	0.4329 <sup>**</sup>
14. Job involvement	0.2942 <sup>**</sup>
15. Technical competency	0.6942 <sup>**</sup>
16. communication behaviour	0.5601 <sup>**</sup>
17. Organizational climate	0.4923 <sup>**</sup>
18. Organizational involvement	0.1645 <sup>NS</sup>
19. Guidance and supervision	0.3212 <sup>**</sup>
20. Facilities and resources	0.3175 <sup>**</sup>

\*\* Significant at 1 per cent level    NS - Non Significant

### 3.7. PROCEDURE EMPLOYED IN THE DATA COLLECTION

The data were collected taking into consideration the guidelines and recommendations suggested by Campbell *et al* (1970) to ensure maximum accuracy. In the present study data were collected in a series of stages and the details are given below.

Table 10. Details of data collection procedure

Sl. Major steps No.	Respondents				Technique/ Methods/ Tools
	ADAs	AOs	Farmers	Experts	
1. Dependent variable					
Job efficiency					
a. Identification of job activities (NGT)	20	40	60	-	Group technique
b. Relevancy rating of activities	20	40	60	-	Mailed questionnaire
c. Item selection	16	60	-	-	,,
d. Collection of critical behaviour	25	103	-	-	Interview & questionnaire
e. Ranking behaviour	10	30	-	-	,,
f. Rating behaviour	10	30	-	-	,,
g. Reliability	15	30	300	-	,,
h. Validity	30	60			Questionnaire and interview
2. Independent variables					
a. Relevancy rating of variables	-	-	-	32	Mailed questionnaire
b. Independent variable technical competency	-	60	-	-	Group technique
c. Final selection of independent variables through pilot study	-	-	-	42	,,
3. Main study	25	115	-	-	Rating & questionnaire
Total	171	565	420	74	

### 3.8. STATISTICAL TOOLS USED FOR THE STUDY

The data collected from the respondents were scored, tabulated and analysed using suitable statistical methods. Described below are the statistical methods used apart from the ones included and explained under scale development procedure.

#### 3.8.1. Mean

The mean of the job efficiency score and the job dimensions score for the total sample was used as a cut-off point to group the Agricultural Officers into low and high efficiency groups with respect to overall job efficiency and the dimensions. Mean scores arrived at for the sub-samples namely, Southern Zone, Central Zone and Northern Zone were used to make comparisons.

#### 3.8.2. Percentage

After grouping the officers who have secured equal or greater than mean score as high efficiency group and lower than mean score as low efficiency group, percentage was worked out to find out the distribution pattern of the Agricultural Officers under high and low efficiency groups in job efficiency and the dimensions with respect to total sample as well as for the sub-samples of zones.

### 3.8.3. Mean score percentage

This was arrived at by dividing the mean score obtained for the dimensions by the Agricultural Officers of total sample/zones product of maximum score attainable for an item and number of items in a component. The mean score percentage is used to compare and rank the components. This type of analysis was suggested by Mathew (1989) and Anantharaman (1991).

### 3.8.4. Multiple regression analysis

Only those independent variables which were found to have significant relationship with the dependent variable, were considered to fit into the regression equation. The test was carried out to determine the combined contribution of the independent variables considered for the variations in the dependent variable. This test was also carried out to find the variables which have contributed significantly for the changes in the dependent variables.

The prediction equation: The following equation was used to determine the multiple regression.

$$Y = a + b_1 x_1 + b_2 x_2 + \dots + b_{10} x_{10}$$

The multiple correlation coefficient (R) and the coefficient of determination ( $R^2$ ) were also worked out from this multiple regression analysis.

### 3.8.5. Step-wise regression analysis

Step-wise regression analysis procedure developed by Draper and Smith (1966) was applied to select the best subgroup of variables out of many, for predicting the variations in job efficiency as well as job dimensions. This was done by establishing a linear relationship between a particular response 'Y' and 'K' independent variables  $X_1 \dots X_K$ . A variable which may have been the best single variables to enter at an early stage may, at a later stage be superfluous because of the relationship between it and the other variables in regression. This is checked by 'F' test for each variable at each stage of calculation. This provides a judgement on the contribution made by each variable as though it had been, the most recent variable entered irrespective of its actual point of entry into the model. This procedure was repeated until a number of variables were admitted and no more were rejected.

### 3.8.6. Path coefficient analysis

Path analysis originally developed by Wright (1921) and followed by Li (1955) was used to analyse the direct and indirect effects of a set of independent variables on dependent variable.

### 3.8.7. The Friedman two-way analysis of variance by ranks

The Friedman two-way analysis of variance by rank, tests the null hypothesis that the K matched groups come from the

same population with the same median. Here it is expected that the job efficiency level of Agricultural Officer with respect to the different job dimensions will be the same. In the null hypothesis it is expected that the job dimension has the same underlying continuous distribution with the same median value.

The steps followed as suggested by Siegel and Castellan (1988) were:

- a) Prepared a two-way table having N rows (respondent, 115) and K columns (job dimensions = 6)
- b) Ranked the data on each row from 1 to 115
- c) Determined the sum of the ranks for each sample ( $R_j$ )
- d) Computed the value of  $F_r$  with the following equation since there were tied observations in the rows.

$$F_r = \frac{12 \sum_{j=1}^k R_j^2 - 3N^2k(k+1)^2}{Nk(k+1) + \frac{(Nk - \sum_{i=1}^g \sum_{j=1}^k t_{i,j}^2)}{(k-1)}}$$

where:

N = number of rows (respondents)

k = number of columns (job dimensions)

$R_j$  = sum of ranks in the jth column

$R_j^2$  = sum of the squares of the sum of ranks

$g_i$  = number of sets of tied ranks in the ith group

$t_{i,j}$  = size of the jth set of tied ranks in the ith group

- e) Multiple comparison was done to determine which differences among the job dimensions were significant.

If the difference between the rank sums (or average ranks) exceeds the corresponding critical value, then it was concluded that the two dimensions differed significantly.

#### 3.8.8. The Kruskal-Wallis one way analysis of variance by ranks

The Kruskal-Wallis one way analysis of variance by ranks, is an extremely useful test for deciding whether K-independent samples are from different populations. Sample values almost invariably differ somewhat, and the question is whether the difference among the samples signify genuine population difference or whether they represent merely the kind of variations that are to be expected among random samples from the same population. The Kruskal-Wallis technique tests the null hypothesis that the K samples come from identical populations with the same median. Here it is intended to know the overall job efficiency score and the job efficiency score with respect to each dimension vary from zone to zone.

The steps followed as suggested by Siegel and Castellan (1988) were:

- 1) Ranked all the observations for the K groups (3 zones) in a single series assigning ranks from I to N. The tied



observations were assigned the value of the average of the tied ranks.

- 2) Determined the sum of the ranks and the average of the ranks for each of the K groups of (3 zones) of ranks.
- 3) Computed the Kruskal-Wallis statistics (KW) value of KW by using the formula

$$KW = \left[ \frac{12}{N(N+1)} \sum_{j=1}^K n_j \bar{R}_j^2 \right] - 3(N+1)$$

where

- KW = Kruskal-Wallis statistic
- K = number of samples or groups
- N = number of cases in the combined sample
- R<sub>j</sub> = sum of ranks in the jth group
- $\bar{R}_j$  = average of the ranks in the jth group
- R = (N+1)/2 = the average of the ranks in the combined sample

- 4) Found out the significance of observed value of KW using Critical value of the chi-square distribution
- 5) The method of multiple comparisons was worked out to determine the significance of the differences.

### 3.9. HYPOTHESES SET FOR THE STUDY

In the light of the postulated relationship of variables as per the theoretical orientation and based on the objectives as well as the assumptions the following hypotheses were formulated :

1. There would be no significant difference in the job efficiency of Agricultural Officers of the three zones.
2. There would be no significant difference in the job efficiency dimensions of Agricultural Officers of the three zones.
3. There would be no significant difference in the performance levels of various job efficiency dimensions by the Agricultural Officers at the State level.
4. There would be no significant difference among the dimension-wise efficiency of Agricultural Officers at the zonal level.
5. There would be no significant difference among the zones in the personal, job and organizational related variables.
6. The variation in the job efficiency of the Agricultural Officers would not be explained by the personal, job and organization related variables included in the study.

7. There would be no significant difference among the variables, in influencing the job efficiency of Agricultural Officers.
8. The variation in the job efficiency dimensions of the Agricultural Officers would not be explained by the personal, job and organization related variables included in the study.
9. There would be no significant difference among the variables in influencing the job efficiency dimensions of Agricultural Officers.

## RESULTS

## R E S U L T S

Keeping the objectives of the study in view, the results are presented under the following major heads.

- 4.1. Dimensions of the job efficiency scale
- 4.2. Job efficiency of the Agricultural Officers
- 4.3. Relationship between personal, job and organization related variables of Agricultural Officers with their job efficiency
- 4.4. Relationship between personal, job and organisation related variables of Agricultural Officers and their job efficiency dimensions
- 4.5. Job constraints as perceived by the Agricultural Officers

### 4.1. DIMENSIONS OF THE JOB EFFICIENCY SCALE

Six dimensions were identified through linkage analysis and the identified dimensions had activities ranging from 3 to 8 (Appendix - VIII). The job efficiency dimensions and the activities are presented below.

#### 4.1.1. Planning

The intercorrelation matrix of the items grouped under this dimension are presented in Table-11. The results

indicated that the items had high intercorrelation and the values ranged from 0.69 to 0.84. The four items grouped under this dimension are 'possess first hand information about the crops grown in the area required for planning (X<sub>1p</sub>)', 'knowledge about the Agricultural resources in the area required for planning (X<sub>2p</sub>)', 'prepare location specific farm programmes (X<sub>3p</sub>)' and 'assess critical input requirement for agricultural production (X<sub>4p</sub>)'. All these activities are basic or fundamental ones to be carried out by any Agricultural Officer before implementing or executing any programme and therefore, this dimension is named as 'planning'. It may be noted that these items have been theoretically categorized under planning.

#### 4.1.2. Coordination

The results of the intercorrelation matrix (Table-12) indicated that four activities had high intercorrelation and the values ranged from 0.63 to 0.86. They were, 'contact with input agencies to ensure the availability of critical inputs (X<sub>5c</sub>)', 'maintain working relationship with other departments for implementing departmental programmes (X<sub>6c</sub>)', 'maintain working relationship with the financial institutions (X<sub>7c</sub>)' and 'ensure farmers' participation in the programme implementation (X<sub>8c</sub>)'. All these four activities are related to the process of synchronizing and unifying the actions of the members of the change agents' system for the achievement

Table 11. Intercorrelation matrix of planning dimension in the job efficiency scale

Activities	X <sub>2p</sub>	X <sub>3p</sub>	X <sub>4p</sub>
X <sub>1p</sub>	0.84	0.74	0.69
X <sub>2p</sub>		0.82	0.79
X <sub>3p</sub>			0.81

X<sub>1p</sub> - Gain first hand information about the crops grown in the area required for planning  
 X<sub>2p</sub> - Gain knowledge about the Agricultural resources in the area required for planning  
 X<sub>3p</sub> - Prepare location specific farm programmes  
 X<sub>4p</sub> - Assess critical input requirement for Agricultural production

Table 12. Intercorrelation matrix of coordination dimension in the job efficiency scale

Activities	X <sub>6c</sub>	X <sub>7c</sub>	X <sub>8c</sub>
X <sub>5c</sub>	0.86	0.64	0.63
X <sub>6c</sub>		0.79	0.81
X <sub>7c</sub>			0.64

X<sub>5c</sub> - Contact with input agencies to ensure the availability of critical inputs  
 X<sub>6c</sub> - Maintain working relationship with other departments for implementing departmental programme  
 X<sub>7c</sub> - Maintain working relationship with financial institutions  
 X<sub>8c</sub> - Ensure farmer's participation in the programme implementation

of desired ends. Hence, the activities were grouped under 'coordination' which is in agreement with the theoretical categorization presented earlier.

#### 4.1.3. Human relation

Based on the results of linkage analysis, six activities were grouped under human relation dimension and the results of the intercorrelation matrix presented in Table-13, showed that the values ranged from 0.51 to 0.81. The activities grouped under human relation dimension were 'recognize subordinates for their work and effort (X<sub>11h</sub>)', 'listen to the views of subordinates (X<sub>12h</sub>)', 'disburse salary and other allowances of subordinates (X<sub>13h</sub>)', 'encourage farmer's visit to office (X<sub>14h</sub>)', 'maintain relation with farmers (X<sub>15h</sub>)' and 'listen to the views of farmers (X<sub>16h</sub>)'. Under this dimension, three activities are relevant to subordinates and three activities to farmers. The content of the activities indicated that these are meant for maintaining good relations for the achievement of the ultimate objectives. The activities grouped based on theoretical orientation also reflected the same.

#### 4.1.4. Office management

Office management is a distinct and professional work, which contributed to the job efficiency of Agricultural Officers at panchayat level. The results of the intercorrelation



Table 13. Intercorrelation matrix of human relation dimension in the job efficiency scale

Activities	X <sub>12h</sub>	X <sub>13h</sub>	X <sub>14h</sub>	X <sub>15h</sub>	X <sub>16h</sub>
X <sub>11h</sub>	0.81	0.67	0.79	0.61	0.58
X <sub>12h</sub>		0.80	0.69	0.58	0.61
X <sub>13h</sub>			0.62	0.54	0.51
X <sub>14h</sub>				0.76	0.78
X <sub>15h</sub>					0.56

X<sub>11h</sub> - Recognize subordinate for their work and effort

X<sub>12h</sub> - Listens to the views of subordinates

X<sub>13h</sub> - Disburse salary and other allowance of subordinates.

X<sub>14h</sub> - Encourage farmer's visit to office

X<sub>15h</sub> - Maintain contact with farmers

X<sub>16h</sub> - Listen to the views of farmers

matrix presented in Table-14 indicated that five activities having intercorrelation values ranged from 0.32 to 0.83. The activities such as 'maintain office order book (X<sub>17om</sub>)', 'send periodical reports (X<sub>18om</sub>)', 'allot works to subordinates (X<sub>19om</sub>)', 'attend the meetings of Agricultural Officers at sub-divisional level (X<sub>20om</sub>)' and 'maintain notice board in the office (X<sub>26om</sub>)' were included under this dimension. It may be noted that the activity 'maintain notice board in the office' grouped earlier under 'farmer development' based on the theoretical orientation was seen grouped with the remaining four activities related to office management in the linkage analysis. All these five activities are having the common characteristics of routine office work. Hence the group of activities was named as office management.

#### 4.1.5. Professional competency

The intercorrelation matrix of the activities which got grouped together are given in Table-15. The activities were highly intercorrelated and the values ranged from 0.69 to 0.81. The activities included under this dimension were 'possess knowledge on agricultural technology (X<sub>22pc</sub>)', 'improves knowledge on agricultural technology (X<sub>23pc</sub>) and 'organizes training for agricultural assistants to improve their knowledge on agricultural technology (X<sub>24pc</sub>)'. The activities could be considered as process of acquiring or getting adequate knowledge, skill and ability as well as capacity to function as

Table 14. Intercorrelation matrix of office management dimension in the job efficiency scale.

Activities	X <sub>18om</sub>	X <sub>19om</sub>	X <sub>20om</sub>	X <sub>26om</sub>
X <sub>17om</sub>	0.83	0.66	0.68	0.52
X <sub>18om</sub>		0.80	0.52	0.32
X <sub>19om</sub>			0.78	0.63
X <sub>20om</sub>				0.76

- X<sub>17om</sub> - Maintain office order book  
 X<sub>18om</sub> - Send periodical reports  
 X<sub>19om</sub> - Allot works to subordinates  
 X<sub>20om</sub> - Attend the meetings of A.O.s at Subdivision level  
 X<sub>26om</sub> - Maintain notice board in the office

Table 15. Intercorrelation matrix of professional competency dimension in the job efficiency scale

Activities	X <sub>23pc</sub>	X <sub>24pc</sub>
X <sub>22pc</sub>	0.81	0.69
X <sub>23pc</sub>		0.79

- X<sub>22pc</sub> - Possess knowledge on Agricultural Technology  
 X<sub>23pc</sub> - Improves knowledge on Agricultural Technology  
 X<sub>24pc</sub> - Organizes training to Agricultural Assistants to improve their knowledge on Agricultural Technology.

extension Officer. By doing these activities competency of the Officer would be naturally improved in their profession. Since these activities were aimed upon the improvement of the professional skills required to do the job, it is logical to label this dimension as 'professional competency'.

#### 4.1.6. Farmer development

Based on the results of linkage analysis, eight activities were grouped under 'farmer development' dimension and the results of the intercorrelation matrix (Table-16) showed that the values ranged from 0.31 to 0.88. Activities grouped under this dimension were 'encourage farmers to practice group endeavor (X<sub>25fd</sub>)', 'organize agro-clinics (X<sub>27fd</sub>)', 'organize agricultural discussion classes (X<sub>28fd</sub>)', 'conduct field visits to advice farmers (X<sub>29fd</sub>)', 'arrange the supply of critical inputs (X<sub>9fd</sub>)', 'arrange credit facilities for farmers through financial institution (X<sub>10fd</sub>)' and 'use mass media to give information to farmers (X<sub>21fd</sub>)'. The activities such as 'arrange the supply of critical input (X<sub>9fd</sub>)' and 'arrange credit facility for farmers through financial institution', were grouped under coordination dimension and the activity 'use of mass media to give information to farmers (X<sub>21fd</sub>)' was grouped under information management in the theoretical consideration. However, it could be observed that all these activities mirrored elements necessary for development of the farmers. Hence the nomenclature of farmer development was

Table 16. Intercorrelation matrix of farmer development dimension in the job efficiency scale

Activities	X <sub>10fd</sub>	X <sub>21fd</sub>	X <sub>25fd</sub>	X <sub>27fd</sub>	X <sub>28fd</sub>	X <sub>29fd</sub>	X <sub>30fd</sub>
X <sub>9fd</sub>	0.86	0.81	0.68	0.58	0.88	0.66	0.72
X <sub>10fd</sub>		0.42	0.49	0.52	0.61	0.32	0.52
X <sub>21fd</sub>			0.62	0.55	0.49	0.34	0.41
X <sub>25fd</sub>				0.41	0.68	0.31	0.76
X <sub>27fd</sub>					0.39	0.46	0.74
X <sub>28fd</sub>						0.82	0.48
X <sub>29fd</sub>							0.80

- X<sub>9fd</sub> - Arrange the supply of critical inputs
- X<sub>10fd</sub> - Arrange credit facilities for farmers through financial institutions
- X<sub>21fd</sub> - Use mass media to give information to farmers
- X<sub>25fd</sub> - Encourage farmers to practice group endeavour
- X<sub>27fd</sub> - Organize Agro-clinics
- X<sub>28fd</sub> - Organize Agricultural discussion classes
- X<sub>29fd</sub> - Conduct field visits to advice farmers
- X<sub>30fd</sub> - Distribution of subsidy and other benefits to farmers.

assigned to this group of activities. It is the biggest dimension in the job efficiency scale consisting of eight activities out of the total 30 activities.

#### 4.2. JOB EFFICIENCY OF AGRICULTURAL OFFICERS

##### 4.2.1. Distribution of the Agricultural Officers under low and high efficiency group

The percentage distribution of the Agricultural Officers under low and high efficiency group with respect to job efficiency and the job dimensions for the total sample and zonal (Agro-climatic zone) category are furnished in the pages that follow.

##### 4.2.1.1. Distribution of the Agricultural Officers (total sample) based on their job efficiency and the job dimensions.

The percentage of the Agricultural Officers under low and high efficiency group for job efficiency and the job dimensions are presented in Table 17. The mean score of job efficiency and the job dimensions with regard to total sample are also presented in Table 17, which were used as cut off points for classification of Agricultural Officers into low and high efficiency group. It could be observed from the table that little more than half of the Agricultural Officers (51.31 per cent) belonged to high group of job efficiency and the rest

Table 17. Distribution of the Agricultural Officers based on their overall Job Efficiency and Job Dimensions at State level

(n = 115)			
Job efficiency and dimensions	Mean score	Efficiency groups	
		Low (%)	High (%)
I. Job efficiency	94.97 (150)	8.69	51.31
II. <u>Dimensions</u>			
1. Planning	13.62 (20)	5.22	54.78
2. Coordination	11.25 (20)	48.69	51.31
3. Human relation	17.95 (30)	46.08	53.92
4. Office management	15.05 (25)	52.21	47.79
5. Professional competency	9.71 (15)	48.69	51.31
6. Farmer development	28.05 (40)	49.56	50.44

Figures in parentheses indicate maximum score values

belonged to low efficiency group. Viewing the dimensions of job efficiency individually, it could be observed that similar distribution pattern as that of job efficiency existed for the dimensions namely 'coordination' and 'professional competency'.

While majority of the Agricultural Officers had high efficiency in 'planning' (54.78) and 'human relations' (53.92) a reverse pattern of distribution with majority of the Agricultural Officers under low efficiency group was found in the case of 'office management' (52.2) dimension.

#### 4.2.2. Distribution of the Agricultural Officers of different zones based on their overall job efficiency and job dimension.

The percentage distribution of the Agricultural Officers under low and high efficiency group for job efficiency and the job dimensions in the three study zones are presented in Table 18. It could be inferred from the table that with regard to overall job efficiency more than 66 percent of the Agricultural Officers from the southern zone fell under the high efficiency group, where as in the central and northern zone only 47 and 42 percent respectively represented the high efficiency group.

The Agricultural Officers of southern zone exhibited same magnitude of efficiency like that of overall job



Table 18. Distribution of the Agricultural Officers of different zones based on their overall job efficiency score and job dimension score

Sl. No. and Job dimensions	Zone 1 n:36		Zone 2 n:43		Zone 3 n:36	
	Low %	High %	Low %	High %	Low %	High %
I Job efficiency (overall)	33.33	66.67	53.49	46.51	58.33	41.67
II Dimensions						
1. Planning	36.11	63.89	48.84	51.16	55.56	44.44
2. Coordination	38.89	61.11	58.14	41.86	63.89	36.11
3. Human relation	33.33	66.67	48.84	51.16	55.56	44.44
4. Office management	44.44	55.56	53.49	46.51	63.89	36.11
5. Professional competency	36.11	63.89	53.49	46.51	63.89	36.11
6. Farmer development	38.89	61.11	55.81	44.19	61.11	38.89

Z<sub>1</sub> = Southern Zone

Z<sub>2</sub> = Central Zone

Z<sub>3</sub> = Northern Zone

efficiency in the job dimensions bearing office management in which a lesser magnitude was observed. While majority of Agricultural Officers of northern zone displayed low efficiency in all the job dimensions, in the case of the Agricultural Officers of central zone majority had high efficiency in the dimension of 'planning' and 'human relations'.

#### 4.2.3. Comparison of the Agricultural Officers of different zones based on overall job efficiency and job dimension

The overall job efficiency scores and job dimension scores of Agricultural Officers under different zones are presented in Table 19. It could be observed from the table that with respect to overall job efficiency the southern zone ranked first followed by central zone and northern zone respectively. The same pattern was revealed in the case of job dimensions of different zones also. Since the zone-wise mean and standard deviation of the overall efficiency scores as well as the job dimension scores of Agricultural Officers had shown variation, Kruskal-Wallis one way analysis of variance by ranks test was done to find whether the overall job efficiency and job dimension of Agricultural Officers vary among zones.

#### 4.2.4. Comparison of job dimensions of Agricultural Officer among zones

The rank mean of the Agricultural Officers of the State Department in the three zones with respect to their overall

Table 19. Comparison of overall job efficiency and job dimensions of Agricultural Officers under different zones.

Sl. No.	Job Efficiency (over all) and Job dimensions	Mean score		
		Z1 (n:36)	Z2 (n:43)	Z3 (n:36)
I	Job efficiency (overall)	101.28 (6.36)	93.98 (24.13)	89.83 (22.63)
II	Dimensions			
1	Planning	13.81 (2.72)	13.79 (3.75)	13.22 (4.90)
2	Coordination	12.61 (2.63)	10.88 (3.07)	10.33 (3.12)
3	Human relation	19.02 (2.19)	17.93 (5.43)	16.89 (5.28)
4	Office management	16.31 (3.38)	14.88 (4.24)	14.00 (3.95)
5	Professional competency	10.69 (3.98)	9.54 (3.92)	8.94 (2.22)
6	Farmer development	29.44 (6.36)	27.77 (7.22)	27.00 (6.41)

Value in the parentheses indicate the standard deviation

Z1 - Southern zone

Z2 - Central zone

Z3 - Northern zone

job efficiency as well as the six job dimensions are presented in Table 20. The rank mean of the overall job efficiency indicated that there was no significant difference between the overall job efficiency of Agricultural Officers among the three zones. At the same time, the rank mean of job dimensions of Agricultural Officers of the three zones had significant difference.

Hence, the hypothesis that there would be no significant difference in the job efficiency of Agricultural Officers of the three zones was accepted.

With respect to 'coordination', Agricultural Officers of southern zone differed significantly with those from the central and northern zone; but there was no significant difference between the Agricultural Officers of central and northern zones. In the case of 'office management' and 'professional competency' the Agricultural Officers of southern zone differed significantly with northern zone only. In the case of the other two dimension namely 'human relations' and 'farmer development' there was no significant differences among the Agricultural Officer of the three zones selected.

Hence, the hypothesis that there would be no significant difference in the job efficiency dimensions of Agricultural Officers of the three zones was rejected in the case

Table 20. Rank mean and the critical value of job efficiency and job dimensions.

Job efficiency and Job dimension	Rank mean (corrected to next integer)			$\chi^2$	Difference in Rank mean (critical value)		
	$Z_1$ n : 36	$Z_2$ n : 43	$Z_3$ n : 36		$Z_1Z_2$	$Z_1Z_3$	$Z_2Z_3$
I. Job efficiency (overall)	66.76	57.01	50.42	4.39			
II. a. Planning	63.01	59.84	50.79	2.67			
b. Coordination	72.26	54.14	48.34	10.31	18.12 (18.03)	23.92 (18.81)	5.80 (18.03)
c. Human relation	63.64	58.79	51.42	2.47			
d. Office management	68.07	56.69	49.00	5.75	11.38 (18.03)	19.07 (18.81)	7.69 (18.03)
e. Professional competency	69.78	54.01	50.09	6.82	15.77 (18.03)	19.69 (18.81)	3.08 (18.03)
f. Farmer development	64.46	57.05	52.68	2.32			

Value in the parenthesis indicate the critical value.

$Z_1$  - Southern zone

$Z_2$  - Central zone

$Z_3$  - Northern zone

of 'coordination', 'office management' and 'professional competency' and was accepted in the case of 'planning', 'human relation' and 'farmer development' dimensions.

**4.2.5. Dimension-wise relative efficiency level of Agricultural Officers at State and Zonal levels.**

The data on the dimension-wise relative efficiency level of Agricultural Officers at state and zonal levels are given in Table 21. In the case of total sample, it could be seen from the table that the dimension-wise relative performance was in the order of 'farmer development', 'planning', 'professional competency', 'office management', 'human relation' and 'coordination. In the case of southern zone, the rank order was more or less the same except for 'planning' and 'professional competency'. With regard to the central zone, the order differed from that of total sample only in 'human relation' and 'office management' dimensions. It could be noticed that the rank order pattern of Agricultural Officers in the northern zone exhibited similarity only in three dimensions, such as 'farmer development' 'planning' and 'professional competency', taking first, second and third places respectively.

**4.2.6. Comparison of Dimension-wise efficiency of Agricultural Officers**

Friedman two - way analysis of variance by rank test was done to test whether the dimension - wise efficiency

Table 21. Dimension-wise relative efficiency level of Agricultural Officers of different zones and also at State Level (Total sample).

(n=115)

Dimension	Mean score percentage				RANK			
	Z-1	Z-2	Z-3	S	Z-1	Z-2	Z-3	S
1. Planning	69.05	68.95	66.10	68.1	III	II	II	II
2. Coordination	63.05	54.44	51.65	56.2	VI	VI	V	VI
3. Human relation	63.40	59.77	56.30	59.83	V	IV	IV	V
4. Office management	65.29	59.52	41.60	60.2	IV	V	VI	V
5. Professional competency	71.26	65.60	59.60	64.73	II	III	III	III
6. Farmer development	73.6	69.43	67.5	70.13	I	I	I	I

Z<sub>1</sub> = Southern Zone      Z<sub>2</sub> = Central Zone  
Z<sub>3</sub> = Northern Zone      S = Overall State level

level of Agricultural Officers differed significantly at the state and zonal levels;

#### 4.2.6.1 Comparison of Dimension-wise efficiency of Agricultural Officers at State level

The results of Friedman test in terms of difference among rank sums of the dimensions, critical difference and Fr-value are presented in Table-22. the Fr-value was significant indicating that atleast one of the job dimensions differed significantly from the other dimension. The critical difference was computed based on multiple comparison which was 83.13. From the table it could be observed that the 'farmer development' dimension (D-6) differed significantly with all the remaining dimensions as the difference among the rank sums exceeded the critical difference. Similarly, the dimension 'planning'(D-1) and 'coordination'(D-2) also differed significantly with all the remaining five dimensions. Hence, the hypotheses that there would be no significant difference in the performance levels of various job efficiency dimensions by the Agricultural Officers at the State level was rejected.

#### 4.2.6.2 Comparison of Dimension-wise efficiency of Agricultural Officers at southern zone

The Fr-value revealed that there was significant difference among job dimensions performed by Agricultural



Table 22. Difference among rank sums of job dimension scores and critical value of Agricultural Officers at state level (Total sample).

(n=115)						
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	Critical difference
D <sub>2</sub>	*	281.50				
D <sub>3</sub>	*	296.00	* 85.50			
D <sub>4</sub>	*	179.44	102.16	16.66		** 83.13
D <sub>5</sub>	*	136.00	140.50	60.00	43.44	
D <sub>6</sub>	*	99.83	381.33	295.83	279.18	236.83
-----						
Fr Value	=	236.45				

\* Indicates difference among rank sums more than the critical difference

\*\* Significant at 0.01 percent level

D1 - Planning

D2 - Co ordination

D3 - Human relation

D4 - Office management

D5 - Professional competency

D6 - Farmer Development

Officers in southern zone. Hence, multiple comparison was done and difference among rank sums of dimensions and the critical value are presented in Table-23.

The difference among rank sums indicated that the performance of Agricultural Officers in the dimension 'farmer development' differed significantly with all other job dimensions in the southern zone. Similarly, the efficiency in the dimension of 'planning' differed significantly with 'coordination' and 'human relation', while the differences in the remaining two dimensions were not significant.

#### 4.2.6.3. Comparison of Dimensions-wise efficiency of Agricultural Officers at central zone

The Fr-value indicated that there was significant difference among the dimensions of the job of Agricultural Officers in the central zone. The multiple comparison was done and the data are presented in Table-24. The rank sums of 'farmer development' dimension (D-6) differed significantly with all other job dimensions except 'planning'. Correspondingly, the rank sums of planning dimension (D-1) differed significantly with all other job dimension scores except 'farmer development'. But in the case of other dimensions the differences were not significant.

Table 23. Difference among rank sums of job dimension scores and critical value of Agricultural Officers in the Southern Zone.

(n=115)

---

	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
D <sub>2</sub>	*	57.50			
D <sub>3</sub>	*	53.66	3.84		
D <sub>4</sub>		39.33	18.17	14.13	
D <sub>5</sub>		20.66	36.84	33.00	18.66
D <sub>6</sub>	*	*	*	*	*
	49.33	106.52	102.83	87.50	69.83

---

Critical value	46.51
Fr value	** 57.68

\* Indicates difference among rank sums more than the critical difference

\*\* Significant at 0.01 per cent level

D <sub>1</sub> - Planning	D <sub>4</sub> - Office management
D <sub>2</sub> - Coordination	D <sub>5</sub> - Professional competency
D <sub>3</sub> - Human relation	D <sub>6</sub> - Farmer Development

Table 24. Difference among rank sums of job dimension scores and critical value of Agricultural Officers in the Central Zone.

(n=115)					
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
D <sub>2</sub>		*			
	127.50				
D <sub>3</sub>		*			
	99.50	47.00			
D <sub>4</sub>		*			
	77.00	49.50	2.5		
D <sub>5</sub>		*			
	74.50	42.00	5.0	2.50	
D <sub>6</sub>		*	*	*	*
	17.50	140.00	98.0	94.50	93.00

Critical difference = 50.83

Fr value = 101.31\*\*

\* Indicates difference among rank sums more than the critical differences

\*\* Significant at 0.01 level

D <sub>1</sub> - Planning	D <sub>4</sub> - Office management
D <sub>2</sub> - Co ordination	D <sub>5</sub> - Professional competency
D <sub>3</sub> - Human relation	D <sub>6</sub> - Farmer Development

#### 4.2.6.4 Comparison of Dimension-wise efficiency of Agricultural Officers in the northern zone

The Fr-value indicated that there was significant difference among job dimensions of Agricultural Officers in the northern zone. Hence multiple comparison was done and the data are presented in Table-25. The rank sums exhibited more or less the same pattern as shown in the central zone, except with regard to 'coordination', and 'professional competency'. But in the case of the other dimensions the differences were not significant.

From the results obtained from the comparison of dimension-wise efficiency in the different zones, the hypothesis that there would be no significant difference among the dimension-wise efficiency at the Agricultural Officers at zonal level was rejected.

#### 4.3. RELATIONSHIP BETWEEN THE PERSONAL, JOB AND ORGANIZATION RELATED VARIABLES OF AGRICULTURAL OFFICERS WITH THEIR JOB EFFICIENCY

The relationship of the personal, job and organization related variables of Agricultural Officers with their job efficiency was established in this study from the findings of multiple regression analysis as it gives the contribution of each variable to job efficiency when other factors are kept constant; by step-wise regression analysis which

Table 25. Difference among rank sums of job dimension scores and critical value of Agricultural Officers in the Northern Zone.

(n=115)					
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
D <sub>2</sub>	97.50*				
D <sub>3</sub>	63.17*	44.70			
D <sub>4</sub>	63.00*	44.50	0.17		
D <sub>5</sub>	41.27	57.20*	22.10	22.3	
D <sub>6</sub>	32.17	130.77*	95.00*	95.2*	73.5*

Critical difference = 46.51

Fr value = 85.78\*\*

\* Indicates difference among rank sums more than the critical difference

\*\* Significant at 0.01 per cent level

D1 - Planning

D2 - Co ordination

D3 - Human relation

D4 - Office management

D5 - Professional competenc

D6 - Farmer Development

reveals the relative importance of various variables in job efficiency and by path analysis which delineates the direct and indirect effects of the independent variables on job efficiency. As explained in the Chapter III, the independent variables were selected based on their significant relationship in the correlation analysis.

#### 4.3.1 Mean score personal, job and organization related variables at State and Zonal level

The mean score of independent variables influencing job efficiency of the Agricultural Officers at State as well as at zonal levels were worked out and the results are presented in Table-26. From the table, it could be observed that the independent variable 'attitude towards profession' obtained the maximum mean percentage score at State level followed by 'self confidence', 'intrinsic motivation', 'communication behaviour', 'job involvement', 'guidance and supervision', 'organizational climate', 'job satisfaction', 'technical competency' and 'facilities and resources'.

It could be seen from the table that the zone-wise mean and mean percentage score of the independent variables were varying. The 'attitude towards profession' secured the first rank in the central and northern zones and the variable 'self

confidence' got first rank in the southern zone. Similarly, the variable 'facilities and resources' obtained the last rank in all the three zones. Since, the mean score of the independent variables had variation at zonal level, Kruskal-Wallis test was done to find whether there was any significant difference among the zones in the personal, job and organization related variables of the Agricultural Officers

From the Table-27, it could be observed that significant difference occurred only in the case of 'job satisfaction' and 'facilities and resources' and there was no significant difference in the case of the remaining variables. Hence, the hypothesis that there would be no significant difference among the zones in the case of 'job satisfaction' and 'facilities and resources' was rejected and the same hypothesis was accepted for the remaining variables.

#### 4.3.2. Contribution of the personal, job and organization related variables to job efficiency.

In order to identify the independent variables explaining the variation in the job efficiency level and also the contribution made by these variables, multiple regression analysis was carried out and the results of the same are presented in Table-28.

The F-value obtained from the analysis was significant indicating that the variables put together



Table 26. Distribution of mean score and mean percentage score of independent variables influencing job efficiency of Agricultural Officers

(n=115)

Independent variable	Mean score				Mean percentage score			
	S	Z <sub>1</sub>	Z <sub>2</sub>	Z <sub>3</sub>	S	Z <sub>1</sub>	Z <sub>2</sub>	Z <sub>3</sub>
1. Attitude towards profession	38.05 (50)	35.11	40.30	38.39	76.16	70.22	80.6	76.78
2. Self confidence	29.00 (40)	30.22	28.14	29.83	72.50	75.55	70.35	74.58
3. Intrinsic motivation	14.35 (20)	14.56	13.67	14.94	71.75	72.80	68.35	74.70
4. Job satisfaction	31.62 (54)	34.22	29.47	31.38	58.56	63.37	54.57	58.11
5. Job involvement	38.10 (60)	40.56	37.28	36.64	63.50	67.60	62.13	61.06
6. Technical competency	56.59 (100)	59.86	55.21	55.27	56.59	56.59	59.86	55.21
7. Communication behavior	41.86 (65)	42.17	40.72	42.91	64.40	64.88	62.65	62.65
8. Organizational climate	12.80 (21)	13.19	12.51	12.75	60.95	62.81	59.57	60.71
9. Guidance and Supervision	21.94 (35)	22.50	21.18	22.28	62.69	64.29	60.51	63.66
10. Facilities and Resources	15.24 (35)	16.16	13.91	12.92	43.54	46.17	39.74	36.9

Values in the parenthesis indicate the maximum score

S - Total Sample

Z<sub>1</sub> - Southern Zone

Z<sub>2</sub> - Central Zone

Z<sub>3</sub> - Northern Zone

confidence' got first rank in the southern zone. Similarly, the variable 'facilities and resources' obtained the last rank in all the three zones. Since, the mean score of the independent variables had variation at zonal level, Kruskal-Wallis test was done to find whether there was any significant difference among the zones in the personal, job and organization related variables of the Agricultural Officers

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The F-value obtained from the analysis was significant indicating that the variables put together

Table 27. Rank mean and the critical value of independent variables influencing Job efficiency

SL Independent No. variables	Rank Mean			KW	Difference in rank mean (Critical value)		
	Z <sub>1</sub> (n=36)	Z <sub>2</sub> (n=43)	Z <sub>3</sub> (n=36)		Z <sub>1</sub> &Z <sub>2</sub>	Z <sub>1</sub> &Z <sub>3</sub>	Z <sub>2</sub> &Z <sub>3</sub>
	1. Attitude towards profession	48.52	65.64		58.35	5.18	
2. Self confidence	62.04	52.67	60.32	1.81			
3. Intrinsic motivation	61.11	52.36	61.62	1.99			
4. Job satisfaction	68.64	49.15	57.93	6.72*	19.49 (18.03)	10.71 (18.81)	8.78 (18.03)
5. Job involvement	67.81	54.07	52.89	4.56			
6. Technical competency	65.46	53.52	55.88	2.73			
7. Communication behaviour	60.25	53.29	61.38	1.40			
8. Organizational climate	63.29	54.00	57.48	1.55			
9. Guidance and Supervision	61.22	53.71	59.90	1.17			
10. Facilities and resources	67.38	62.70	46.21	9.05**	4.68 (18.03)	21.17 (18.81)	16.49 (18.03)

\* Significant at 5 per cent level  
 \*\* Significant at 1 per cent level

Table 28. Multiple regression analysis of the personal, job and organization related variables with job efficiency of the Agricultural Officers.

(n=115)

Variable No.	Variable name	Regression coefficient 'b'	't' value	R <sup>2</sup>	'F' value
X <sub>1</sub>	Attitude towards profession	0.1029	0.935 <sup>NS</sup>		
X <sub>2</sub>	Self confidence	0.2880	3.064		
X <sub>3</sub>	Intrinsic motivation	-0.0770	-0.917 <sup>NS</sup>		
X <sub>4</sub>	Job satisfaction	-0.1057	-0.015 <sup>NS</sup>	0.7740	35.626
X <sub>5</sub>	Job involvement	0.1491	1.424 <sup>NS</sup>		
X <sub>6</sub>	Technical competency	0.4250	4.282		
X <sub>7</sub>	Communication Behaviour	0.2871	** 2.196		
X <sub>8</sub>	Organizational climate	0.1076	1.504 <sup>NS</sup>		
X <sub>9</sub>	Guidance and supervision	-0.0317	-0.324 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	-0.0283	-0.308 <sup>NS</sup>		

\*\* Significant at 1 per cent level

\* Significant at 5 per cent level

NS Not significant.

ontributed significantly to the variation in the job efficiency of Agricultural Officers. The coefficient of determination was 0.77 which revealed that over 77 percent of the variation in job efficiency was explained by all the variables selected for the study. Hence, the hypothesis that the variation in the job efficiency of the Agricultural Officers would not be explained by the personal, job and organization related variables included in the study was rejected.

The partial regression coefficients computed showed that out of the ten variables, three variables namely 'self confidence', 'technical competency' and 'communication behaviour' were significant in contributing to the job efficiency of Agricultural Officers. The variables which did not exhibit significant regression coefficients were 'attitude towards profession', 'intrinsic motivation', 'job satisfaction', 'job involvement', 'guidance and supervision', 'facilities and resources' and 'organizational climate'. The multiple regression equation predicting the job efficiency was as follows.

$$\begin{aligned}
 Y &= -8.2802 + 0.1029 X_1 + 0.2880 X_2 \\
 &\quad -0.077 X_3 - 0.1057 X_4 + 0.1491 X_5 \\
 &\quad -0.0317 X_9 - 0.0283 X_{10} + 0.1076 X_8 \\
 &\quad + 0.4250 X_6 + 0.2871 X_7
 \end{aligned}$$

NS                      NS                      \*\*  
 NS                      NS                      NS  
 NS                      NS                      NS  
 \*\*                                      \*\*

From the prediction equation it could be said that an increase in the 'technical competency' would lead to an increase in job efficiency by 0.4250 units, ceteris paribus. Similarly a unit increase in 'self confidence', 'communication behaviour' would lead to an increase in the job efficiency by 0.2880 and 0.2871 units, respectively.

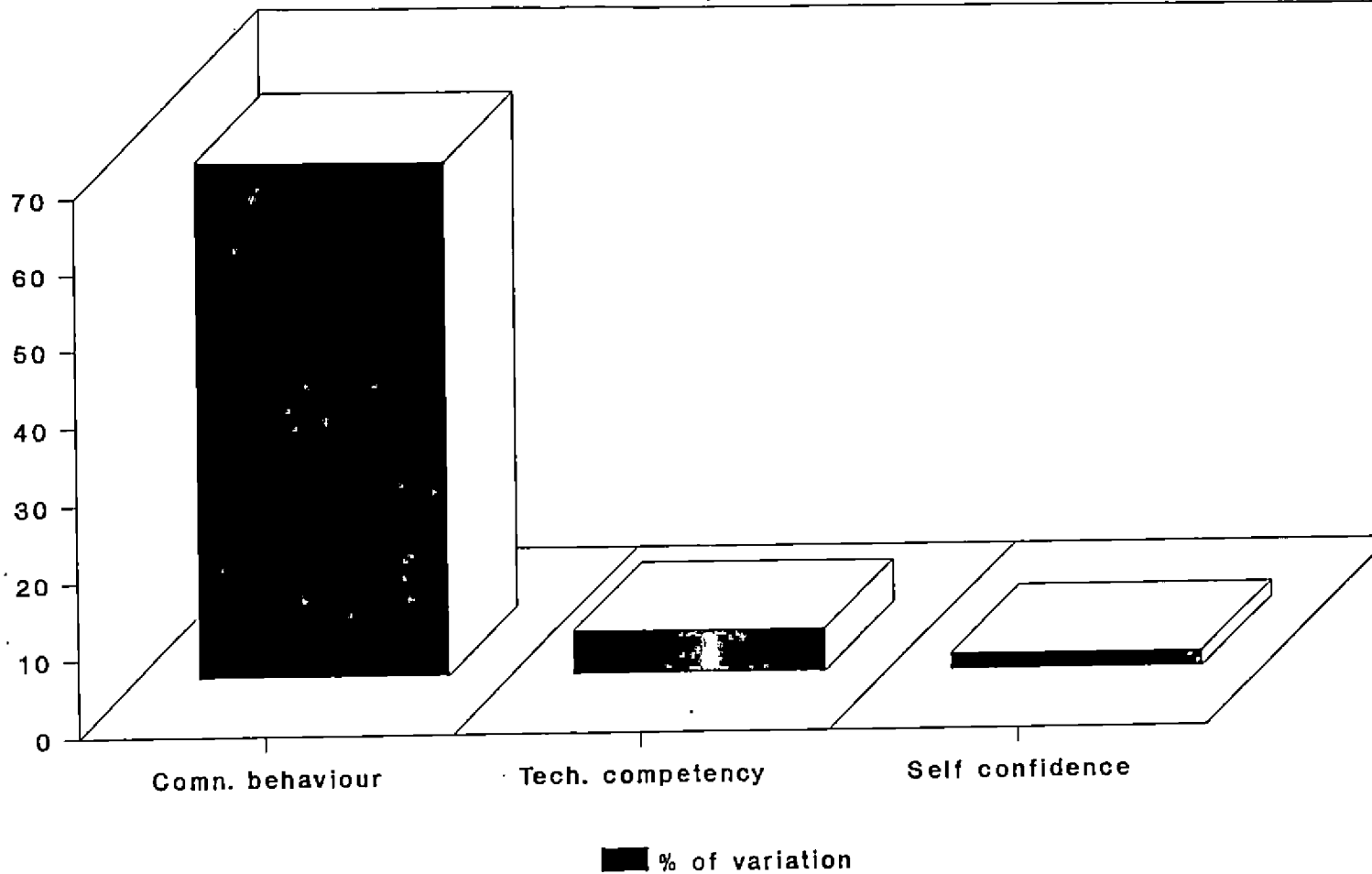
#### 4.3.3. Predictive power and relative contribution of personal, job and organization related variables in explaining variance in job efficiency of Agricultural Officers.

The technique of step-wise regression analysis was employed for selecting the best sub-group of variables out of many, for predicting the variations in job efficiency and also to determine the relative contribution of each variable included in the regression model.

The results of the step wise regression are presented in Table-29 and illustrated in Fig.3. It could be observed from the table that among the ten variables, 'communication behaviour' of the Agricultural Officer stood out as the most important variable as it explained variation in the job efficiency of Agricultural Officer to the tune of 67.05 per cent. The predictive power increased with the inclusion of the other variables in successive steps.

Step No.	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour $X^7$	229.9687	67.05
2.	Communication behaviour $X^7$ Technical competency $X^6$	156.2445	73.62
3.	Communication behaviour $X^7$ Technical competency $X^6$ Self confidence $X^2$	115.0106	75.66

Fig. 3. Step wise regression analysis  
of independent variables influencing JOB  
EFFICIENCY OF AGRICULTURAL OFFICERS





Step number two included one more variable 'technical competency' which along with 'communication behaviour' explained 73.62 per cent variation. The step which gave the highest  $R^2$  value was taken as the last step in which all the components included were significant. The last step comprised 'self confidence' along with the above two. All these together explained 75.66 per cent variation in the job efficiency in the step-wise regression model with a significant F-value. The regression equation obtained was :  $Y = -1.4932 + 0.2335X_2 + 0.4170 X_6 + 0.3826 X_7$

From the equation, it could be said that a unit change in the variables 'self confidence', 'technical competency' and 'communication behaviour' would result in an increase of 0.2335, 0.4170 and 0.3826 units ceteris paribus in the job efficiency of Agricultural Officers.

The step-wise regression analysis proved that among the ten variables, three of them, namely, 'self confidence', 'technical competency' and 'communication behaviour' were distinctly contributing to the efficiency level and hence, these three variables were regarded as relatively more important than other variables which influence job efficiency.

Based on this, the hypothesis that there would be no significant difference among the variables in influencing the job efficiency of Agricultural Officers was rejected.

#### 4.3.4. Direct and indirect effects of the personal, job and organization related variables on job efficiency of Agricultural Officers.

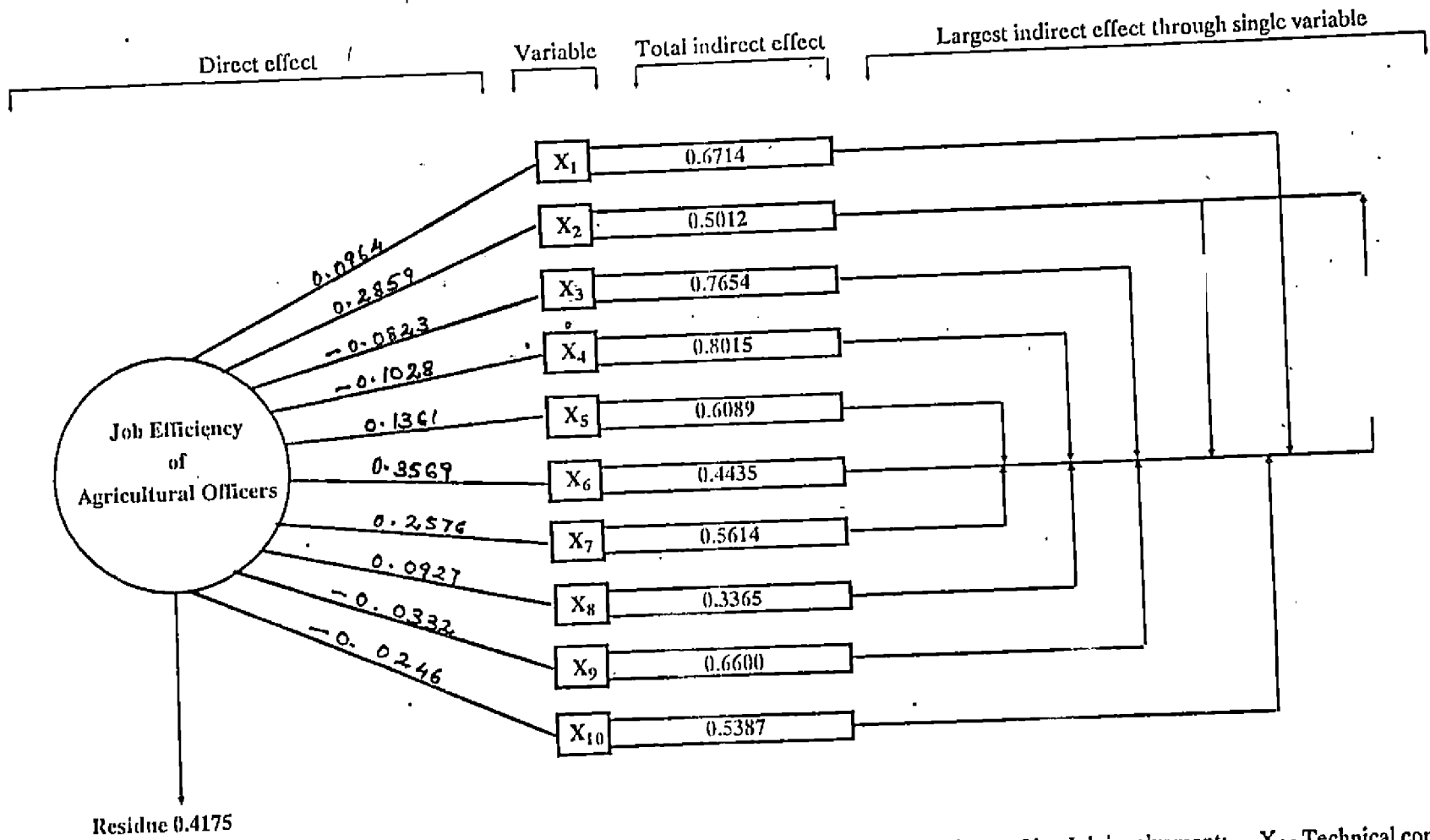
The results of path analysis are presented in Table 31 and illustrated in Fig.4. From the Table 30, it is evident that the variable 'technical competency' had the highest positive and direct effect (0.3569) on job efficiency. There were positive and direct effects of 'self confidence' (0.2859), 'communication behaviour' (0.2576), 'job involvement' (0.1361), 'attitude towards profession' (0.0964) and 'organisational climate' (0.0927) in that order of importance in terms of their direct effect on the job efficiency of the Agricultural Officers. The variables like 'job satisfaction' (-0.1028), 'intrinsic motivation' (-0.0823), 'guidance and supervision' (-0.0332) and facilities and resources (-0.0246) showed negative effect on job efficiency.

Further it could be seen from the Table-31 that out of the 30 substantial indirect effects, only four variables namely, 'technical competency' ( $X_6$ ), 'communication behaviour' ( $X_7$ ), 'self confidence' ( $X_2$ ) and 'job involvement' ( $X_5$ ) were involved in this process. The variables, 'technical competency' ( $X_6$ ), 'communication behaviour' ( $X_7$ ) and 'self confidence' ( $X_2$ ) had substantial indirect effects of as many as nine, nine and eight variables respectively channeled through these variables.

Table 30. Direct and indirect effects of the personal, job and organization related variables on  
 JOB EFFICIENCY (n=115)

Variable No.	Variable name	Direct effect	Total indirect effect	Substantial indirect effect channelled through		
				I	II	III
X <sub>1</sub>	Attitude towards profession	0.0964	0.6714	0.2627 (X <sub>6</sub> )	0.2210 (X <sub>7</sub> )	0.2198 (X <sub>2</sub> )
X <sub>2</sub>	Self confidence	0.2859	0.5012	0.2551 (X <sub>6</sub> )	0.2191 (X <sub>7</sub> )	0.1005 (X <sub>5</sub> )
X <sub>3</sub>	Intrinsic motivation	-0.0823	0.7654	0.2795 (X <sub>6</sub> )	0.2453 (X <sub>2</sub> )	0.2191 (X <sub>7</sub> )
X <sub>4</sub>	Job satisfaction	-0.1028	0.8015	0.2599 (X <sub>6</sub> )	0.2171 (X <sub>2</sub> )	0.2034 (X <sub>7</sub> )
X <sub>5</sub>	Job involvement	0.1361	0.6089	0.2597 (X <sub>6</sub> )	0.2110 (X <sub>2</sub> )	0.2048 (X <sub>7</sub> )
X <sub>6</sub>	Technical competency	0.3569	0.4435	0.2043 (X <sub>2</sub> )	0.2018 (X <sub>7</sub> )	0.0991 (X <sub>5</sub> )
X <sub>7</sub>	Communication behaviour	0.2576	0.5614	0.2797 (X <sub>6</sub> )	0.2265 (X <sub>2</sub> )	0.1083 (X <sub>5</sub> )
X <sub>8</sub>	Organizational climate	0.0927	0.3365	0.1699 (X <sub>6</sub> )	0.1437 (X <sub>7</sub> )	0.1171 (X <sub>2</sub> )
X <sub>9</sub>	Guidance and supervision	-0.0332	0.66	0.2437 (X <sub>8</sub> )	0.2005 (X <sub>2</sub> )	0.1819 (X <sub>7</sub> )
X <sub>10</sub>	Facilities and recourses	-0.0246	0.5387	0.2103 (X <sub>6</sub> )	0.1594 (X <sub>2</sub> )	0.1358 (X <sub>7</sub> )

Fig. 4 . Path diagram showing direct and indirect effects of personal, job and organization related variables on JOB EFFICIENCY OF AGRICULTURAL OFFICERS



X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency; X<sub>7</sub> - Communication behaviour; X<sub>8</sub> - Organizational climate; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources

It could be observed from the multiple regression analysis, step-wise regression and path analysis that the variables which had significant partial regression coefficients explaining significant variation also showed relatively higher direct effects as compared to other variables. From this, it could be concluded that the three variables namely, 'technical competency', 'communication behaviour' and 'self confidence' were the important ones in influencing job efficiency. Similarly, the variables 'job satisfaction' and 'intrinsic motivation' exerted substantial indirect effects on the overall job efficiency level of Agricultural Officers.

#### 4.4. RELATIONSHIP BETWEEN PERSONAL, JOB AND ORGANIZATION RELATED VARIABLES WITH THEIR JOB EFFICIENCY DIMENSIONS OF AGRICULTURAL OFFICERS

The relationship of personal, job and organization related variables with job efficiency dimensions were established through multiple regression analysis, step-wise regression analysis and path analysis, like that of overall job efficiency of Agricultural Officers as outlined elsewhere.

##### 4.4.1. Relationship of independent variables with the job efficiency dimension - PLANNING

The results of multiple regression analysis are presented in Table-31. It could be observed from the table, that

Table 31. Multiple regression analysis of the personal, job and organization related variables with PLANNING - job efficiency dimension of the Agricultural Officers

(n=115)

Variable No.	variable name	Regression co-efficient b	t-value	R <sup>2</sup>	F-value
X <sub>1</sub>	Attitude towards profession	0.0405	1.003 <sup>NS</sup>		
X <sub>2</sub>	Self confidence	0.0695	2.013 <sup>*</sup>		
X <sub>3</sub>	Intrinsic motivation	-0.0287	-0.920 <sup>NS</sup>		
X <sub>4</sub>	Job satisfaction	-0.0136	-0.357 <sup>NS</sup>	0.4885	19.9328 <sup>**</sup>
X <sub>5</sub>	Job involvement	0.0149	0.388 <sup>NS</sup>		
X <sub>6</sub>	Technical competency	-0.0032	-0.087 <sup>NS</sup>		
X <sub>7</sub>	Communication behaviour	0.0857	1.785 <sup>NS</sup>		
X <sub>8</sub>	Organizational climate	0.0350	1.331 <sup>NS</sup>		
X <sub>9</sub>	Guidance and supervision	0.0222	0.620 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	-0.0099	-0.292 <sup>NS</sup>		

\*\* Significant at 1 percent level    \* Significant at 5 percent level    NS - NON SIGNIFICANT

F-value obtained was significant at one per cent level indicating that the variables put together contributed significantly to the variation in the dimension of 'planning'. The coefficient determination was 0.488 revealing nearly 49 per cent of variation in 'planning' dimension could be explained by these variables. Among the ten independent variables, 'self confidence' was found to be significant at five per cent level and all the remaining variables were insignificant in influencing 'planning'.

To probe further, step-wise regression was done and the results are presented in Table-32. It could be observed from the table that among the ten independent variables, 'communication behaviour' stood out as the most important variable and it explained variation in the planning efficiency to the tune of 43.38 per cent. The predictive power increased with the inclusion of the other variables in the successive steps. The last step which gave the highest  $R^2$  value comprised 'communication behaviour', 'self confidence' and 'organizational climate'. All these together explained 47.57 per cent variation. Hence the hypothesis that the variation in the job efficiency dimension of the Agricultural Officers would not be explained by the personal, job and organization related variables included in the study was rejected.

The partial regression coefficient of all the three variables screened as relatively important ones by the step-wise

Table 32. Step-wise regression analysis of the independent variables influencing PLANNING - job efficiency dimension of Agricultural Officers

Step No.	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour X <sub>7</sub>	86.5703	43.3783
2.	Communication behaviour X <sub>7</sub> Self confidence X <sub>2</sub>	47.2435	45.7592
3.	Communication behaviour X <sub>7</sub> Self confidence X <sub>2</sub> Organizational climate X <sub>8</sub>	33.5654	47.5664



regression analysis were significant and the regression equation obtained was:

$$Y = 0.4201 + 0.0434 X_8 + 0.0629 X_2 + 0.0951 X_7.$$

From the equation, it could be interpreted that a unit change in the independent variables of 'self confidence', 'organizational climate' and 'communication behaviour' would ceteris paribus result an enhance of 0.0629, 0.0951 and 0.0434 units in the 'planning' respectively.

The analysis proved that among the ten independent variables, three of them, namely, 'communication behaviour', 'self confidence' and 'organizational climate' were distinctly contributing to planning and hence these three variables were regarded as relatively more important than the other seven independent variables in influencing 'planning' efficiency. Based on this, the hypothesis that there would be no significant difference among the variables in influencing the job efficiency dimension of the Agricultural Officers was rejected.

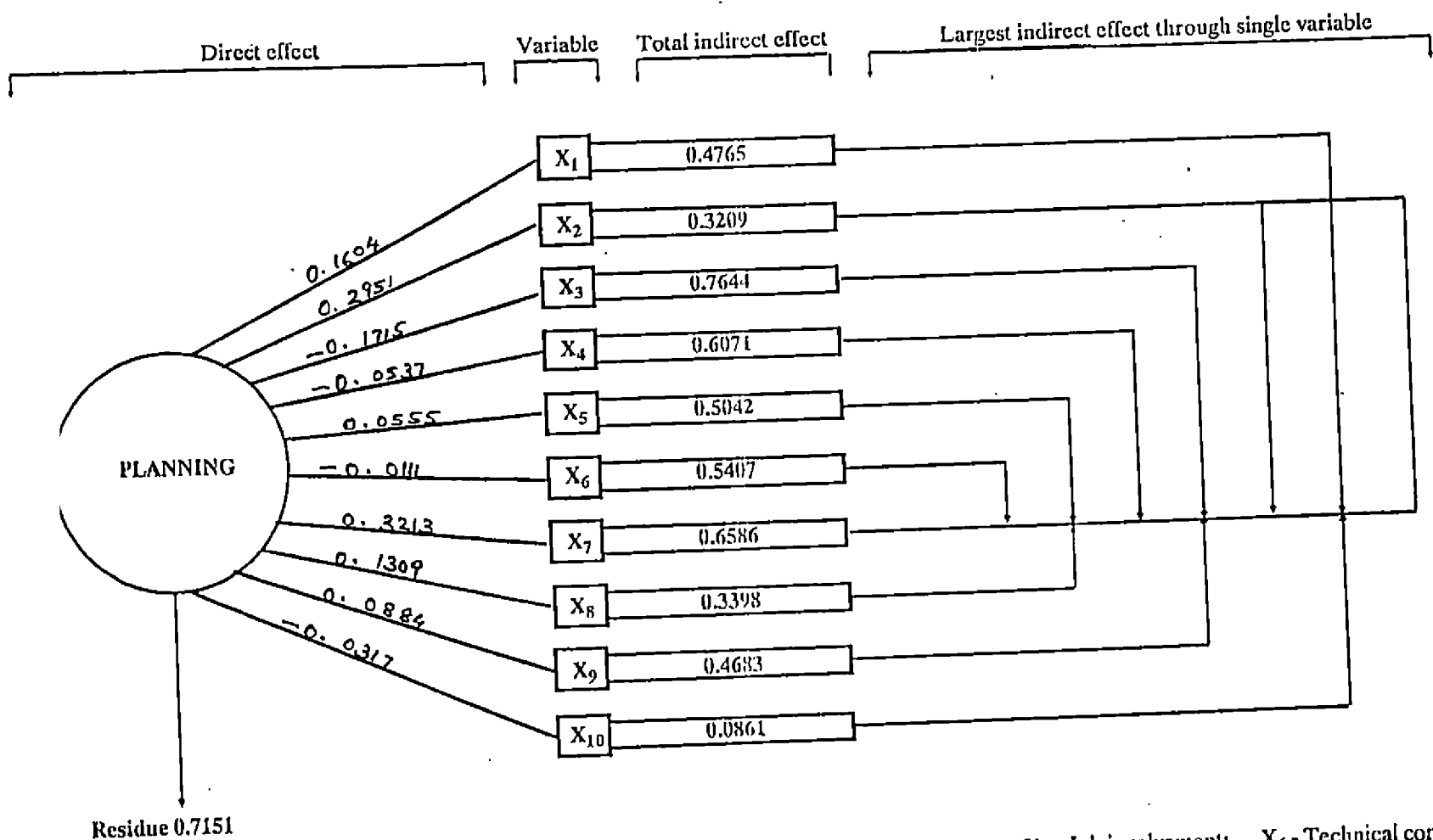
The results of path analysis are presented in Table-33 and illustrated in Fig.5. From the table it is evident that the variable 'communication behaviour' had the highest positive and direct effect (0.3213) on planning dimension followed by 'self confidence' (0.2951). Though the variable 'intrinsic motivation' had negative and direct effect (-0.1715)

Table 33. Direct and indirect effect of the personal, job and organization related variables on PLANNING - job efficiency dimension

(n=115)

	Direct effect	Total indirect effect	Substantial indirect effect channelled through		
			I	II	III
X <sub>1</sub> Attitude towards profession	0.1604	0.4765	0.2757 (X <sub>7</sub> )	0.2268 (X <sub>2</sub> )	0.0726 (X <sub>8</sub> )
X <sub>2</sub> Self confidence	0.2951	0.3209	0.2546 (X <sub>7</sub> )	0.1233 (X <sub>1</sub> )	0.0620 (X <sub>9</sub> )
X <sub>3</sub> Intrinsic motivation	-0.1715	0.7644	0.2733 (X <sub>7</sub> )	0.2532 (X <sub>2</sub> )	0.1321 (X <sub>1</sub> )
X <sub>4</sub> Job satisfaction	-0.0537	0.6071	0.2537 (X <sub>7</sub> )	0.2241 (X <sub>2</sub> )	0.1203 (X <sub>1</sub> )
X <sub>5</sub> Job involvement	0.0555	0.5042	0.2555 (X <sub>7</sub> )	0.2178 (X <sub>2</sub> )	0.1162 (X <sub>1</sub> )
X <sub>6</sub> Technical competency	-0.0111	0.5407	0.2517 (X <sub>7</sub> )	0.2109 (X <sub>2</sub> )	-0.1343 (X <sub>3</sub> )
X <sub>7</sub> Communication behaviour	0.3213	0.6586	0.2338 (X <sub>2</sub> )	0.1377 (X <sub>1</sub> )	-0.1459 (X <sub>3</sub> )
X <sub>8</sub> Organizational climate	0.1309	0.3398	0.1793 (X <sub>7</sub> )	0.1209 (X <sub>2</sub> )	0.0889 (X <sub>1</sub> )
X <sub>9</sub> Guidance and supervision	0.0884	0.4683	0.2269 (X <sub>7</sub> )	0.2070 (X <sub>2</sub> )	0.1210 (X <sub>1</sub> )
X <sub>10</sub> Facilities and resources	-0.0317	0.0861	0.1693 (X <sub>7</sub> )	0.1646 (X <sub>2</sub> )	0.1210 (X <sub>1</sub> )

Fig. 5. Path diagram showing direct and indirect effects of personal, job and organization related variables on job efficiency dimension – PLANNING



X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency;  
 X<sub>7</sub> - Communication behaviour; X<sub>8</sub> - Organizational climate; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources

it exerted the highest indirect effect through 'communication behaviour' (X<sub>7</sub>) and 'self confidence' which was found to exert highest direct effects on planning followed by communication behaviour, job satisfaction, job involvement and so on. Further, it could be seen from the table that out of the 30 substantial indirect effects, only five variables namely, 'communication behaviour', 'self confidence', 'attitude towards profession', 'guidance and supervision' and 'organizational climate' were involved in the process.

From the above analyses it could be concluded that the variables 'communication behaviour', 'self confidence' and 'organizational climate' were most important in influencing planning. The variables 'intrinsic motivation' and 'job satisfaction' may also be considered to have indirect influence on planning.

#### 4.4.2. Relationship of independent variables with the job efficiency dimension - COORDINATION

The results of multiple regression analysis done with the ten independent variables vis-a-vis 'coordination', the job efficiency dimension of Agricultural Officers, are presented in Table-34. The F-value was significant indicating that the variables put together contribute significantly to the variation in the 'coordination' dimension. The coefficient of

Table 34. Multiple regression analysis of the personal, job and organization related variables with COORDINATION - job efficiency dimension of the Agricultural Officers

(n=115)

Variable No.	variable name	Regression co-efficient b	t-value	R <sup>2</sup>	F-value
X <sub>1</sub>	Attitude towards profession	-0.0089	-0.381 <sup>NS</sup>		
X <sub>2</sub>	Self confidence	0.0587	2.953 <sup>**</sup>		
X <sub>3</sub>	Intrinsic motivation	-0.274	-1.529 <sup>NS</sup>		
X <sub>4</sub>	Job satisfaction	-0.293	-1.328 <sup>NS</sup>		
X <sub>5</sub>	Job involvement	0.0422	1.903 <sup>NS</sup>	0.7338	28.6 <sup>*</sup>
X <sub>6</sub>	Technical competency	0.0810	3.855 <sup>**</sup>		
X <sub>7</sub>	Communication behaviour	0.0804	2.908 <sup>**</sup>		
X <sub>8</sub>	Organizational climate	0.0217	1.431 <sup>NS</sup>		
X <sub>9</sub>	Guidance and supervision	-0.0237	-1.144 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	0.0374	1.921 <sup>NS</sup>		

\*\* Significant at 1 percent level    NS    Non Significant.

determination was 0.7338 which revealed that over 73 per cent of the variation in 'coordination' dimension was explained by all the variables selected for the study. Among the ten independent variables 'self confidence', 'technical competency' and 'communication behaviour' were found to be significant at one per cent level and the remaining seven variables were insignificant in influencing 'coordination' dimension of the job efficiency of Agricultural Officers.

To find out the best sub-set of variables for predicting the variation in 'coordination', step-wise regression analysis was done and the results are presented in Table-35. It is evident from the table that the variable 'communication behaviour' explained 61.43 per cent of variation in the coordination dimension of job efficiency. The predictive power increased with the inclusion of the other variables in the successive steps. The last step which gave the highest  $R^2$  value comprised of 'communication behaviour', 'technical competency', 'self confidence' and 'organizational climate'. These variables together explained 70.53 per cent of variation. The partial regression coefficient of all the four variables screened as relatively important ones by the step-wise regression analysis were significant and the regression equation obtained was:

$$Y = -1.4764 + 0.0271 X_8 + 0.0417 X_2 + 0.0791 X_6 + 0.0570 X_7$$

It is clear from the Table-35 that among ten independent variables, four variables, namely, 'communication behaviour', 'technical competency', 'self confidence' and 'organizational climate' were significantly contributing to 'coordination' dimension of the job efficiency of the Agricultural Officers.

The results of path analysis are presented in Table-36 and represented in Fig.7. A perusal of the table brought to focus certain interesting findings. As per the data, the highest direct effect was exerted by the variable 'communication behaviour' followed by 'technical competency' and 'self confidence'. The highest indirect effect was recorded by the variable 'intrinsic motivation'. As in the case of 'planning' dimension, the variable 'intrinsic motivation' recorded substantial indirect effect on 'coordination' followed by 'guidance and supervision', 'attitude towards profession', 'job satisfaction' and job involvement.

From the above analysis, it could be inferred that the variables 'communication behaviour', 'technical competency', 'self confidence' and 'organizational climate' were found to be the most important variables influencing the dimension coordination directly and 'guidance and supervision', 'attitude towards profession' and 'job involvement' influenced indirectly.

Table 35. Step-wise regression analysis of the independent variables influencing COORDINATION - Job efficiency of dimension of the Agricultural Officers

Step No	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour X <sub>7</sub>	179.9687	61.4293
2.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub>	118.7162	67.9480
3.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Self confidence X <sub>2</sub>	84.0588	69.4363
4.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Self confidence X <sub>2</sub> Organizational climate X <sub>8</sub>	65.8201	70.5315

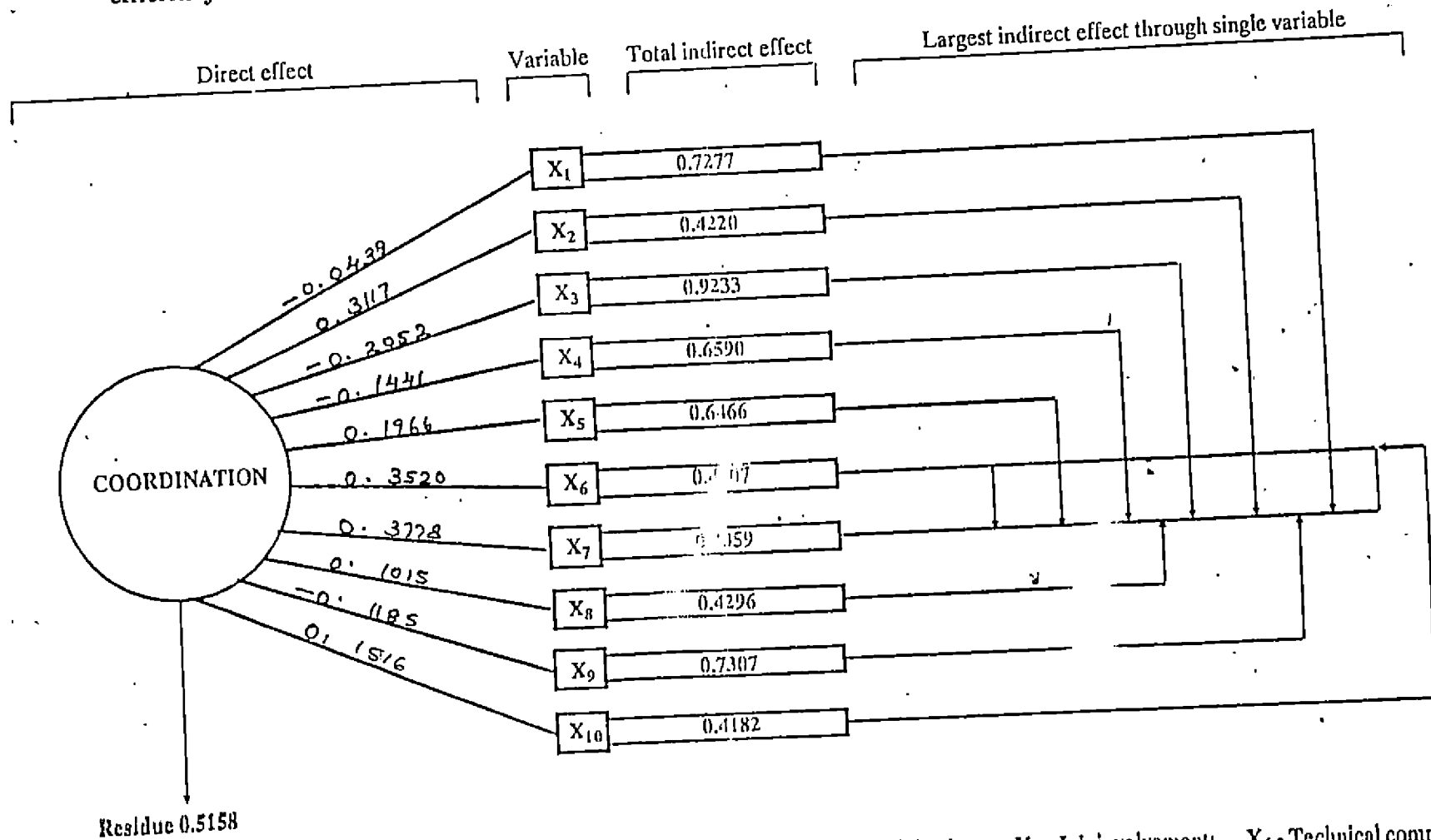


Table 36. Direct and indirect effect of the personal, job and organization related variables on COORDINATION - job efficiency dimension

(n=115)

		Direct effect	Total indirect effect	Substantial indirect effect channelled through		
				I	II	III
X <sub>1</sub>	Attitude towards profession	-0.0439	0.7277	0.3242 (X <sub>7</sub> )	0.2561 (X <sub>6</sub> )	0.2396 (X <sub>2</sub> )
X <sub>2</sub>	Self confidence	0.3117	0.4220	0.2994 (X <sub>7</sub> )	0.2516 (X <sub>6</sub> )	-0.1760 (X <sub>3</sub> )
X <sub>3</sub>	Intrinsic motivation	-0.2052	0.9233	0.3214 (X <sub>7</sub> )	0.2756 (X <sub>6</sub> )	0.2674 (X <sub>2</sub> )
X <sub>4</sub>	Job satisfaction	-0.1441	0.6590	0.2984 (X <sub>7</sub> )	0.2563 (X <sub>6</sub> )	0.2367 (X <sub>2</sub> )
X <sub>5</sub>	Job involvement	0.1966	0.6466	0.3005 (X <sub>7</sub> )	0.2561 (X <sub>6</sub> )	0.2301 (X <sub>2</sub> )
X <sub>6</sub>	Technical competency	0.3520	0.4207	0.2960 (X <sub>7</sub> )	0.2228 (X <sub>2</sub> )	0.1430 (X <sub>5</sub> )
X <sub>7</sub>	Communication behaviour	0.3778	0.4059	0.2758 (X <sub>6</sub> )	0.2470 (X <sub>7</sub> )	0.1745 (X <sub>2</sub> )
X <sub>8</sub>	Organizational climate	0.1015	0.4296	0.2108 (X <sub>7</sub> )	0.1678 (X <sub>6</sub> )	0.1277 (X <sub>2</sub> )
X <sub>9</sub>	Guidance and supervision	-0.1185	0.7307	0.2668 (X <sub>7</sub> )	0.2403 (X <sub>6</sub> )	0.2186 (X <sub>2</sub> )
X <sub>10</sub>	Facilities and resources	0.1516	0.4182	0.2076 (X <sub>6</sub> )	0.1992 (X <sub>7</sub> )	0.1738 (X <sub>2</sub> )

Fig. 6. Path diagram showing direct and indirect effects of personal, job and organization related variables on job efficiency dimension – COORDINATION



X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency; X<sub>7</sub> - Guidance and supervision; X<sub>8</sub> - Guidance and supervision; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources

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#### 4.4.3. Relationship of independent variables with the job efficiency dimension - HUMAN RELATION

The relationship of independent variables with 'human relation' was studied through multiple regression analysis and the results are presented in Table-37. The independent variables 'technical competency' and 'communication behaviour' are found to be significant at one per cent level and the variables 'attitude towards profession' and 'self confidence' were significant at 5 per cent level, in influencing 'human relation' dimension of Agricultural Officers. The F-value was significant and the coefficient of determination was 0.7892, which revealed that over 78 per cent of the variation in 'human relation' dimension was explained by all the variables selected for the analysis.

The results of the step-wise regression presented in Table-38 revealed that among the ten independent variables 'communication behaviour' stood out as the most important variable as it explained variation in human relation to the extent of 70.39 per cent. The predictive power increased with the inclusion of the other variables in successive steps. The step number two included one more variable 'technical competency' which explained 5.17 per cent of variation. The third and last step included one more independent variable 'attitude towards profession' along with the above two. All these together

Table 37. Multiple regression analysis of the personal, job and organization variables with HUMAN RELATION - job efficiency dimension Agricultural Officers

(n=115)

Variable No.	variable name	Regression co-efficient b	t-value	R <sup>2</sup>	F-value
X <sub>1</sub>	Attitude towards profession	0.0725	2.022*		
X <sub>2</sub>	Self confidence	0.0730	2.382*		
X <sub>3</sub>	Intrinsic motivation	-0.0597	-2.160*		
X <sub>4</sub>	Job satisfaction	-0.0453	-1.334 <sup>NS</sup>		
X <sub>5</sub>	Job involvement	0.0275	0.807 <sup>NS</sup>	0.7892	38.95 <sup>**</sup>
X <sub>6</sub>	Technical competency	0.1365	4.219**		
X <sub>7</sub>	Communication behaviour	0.1472	3.456**		
X <sub>8</sub>	Organizational climate	0.0215	0.921 <sup>NS</sup>		
X <sub>9</sub>	Guidance and supervision	0.0209	0.656 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	0.0026	0.088 <sup>NS</sup>		

explained 76.81 per cent variation in the human relation dimension of job efficiency, with a significant F-value. The best regression equation derived from the analysis was :

$$Y = 4.4576 + 0.0779 X_1 + 0.1311 X_6 + 0.1437 X_7$$

From the equation, it could be interpreted that a unit change in the independent variables of 'attitude towards profession', 'technical competency' and 'communication behaviour', would result an increase of 0.0779, 0.1311 and 0.1437 units in the 'human relation' dimension respectively.

A bird's eye view of the results furnished in Table-38 revealed the fact that among the ten variables, three of them, namely, 'communication behaviour', 'technical competency' and 'attitude towards profession' were distinctly contributing to the efficiency of 'human relation', and hence, these three variables were considered as relatively more important than the other seven variables.

The results of path analysis in Table-39 (delineated in Fig. 8.) point out that the independent variable 'communication behaviour' (0.3995) followed by 'technical competency' (0.3429), 'self confidence' (0.2239) and 'attitude towards profession' (0.2027) exerted substantial direct positive effect on 'human relation' dimension of job efficiency. Though the variable 'intrinsic motivation' (-0.2582) had direct negative

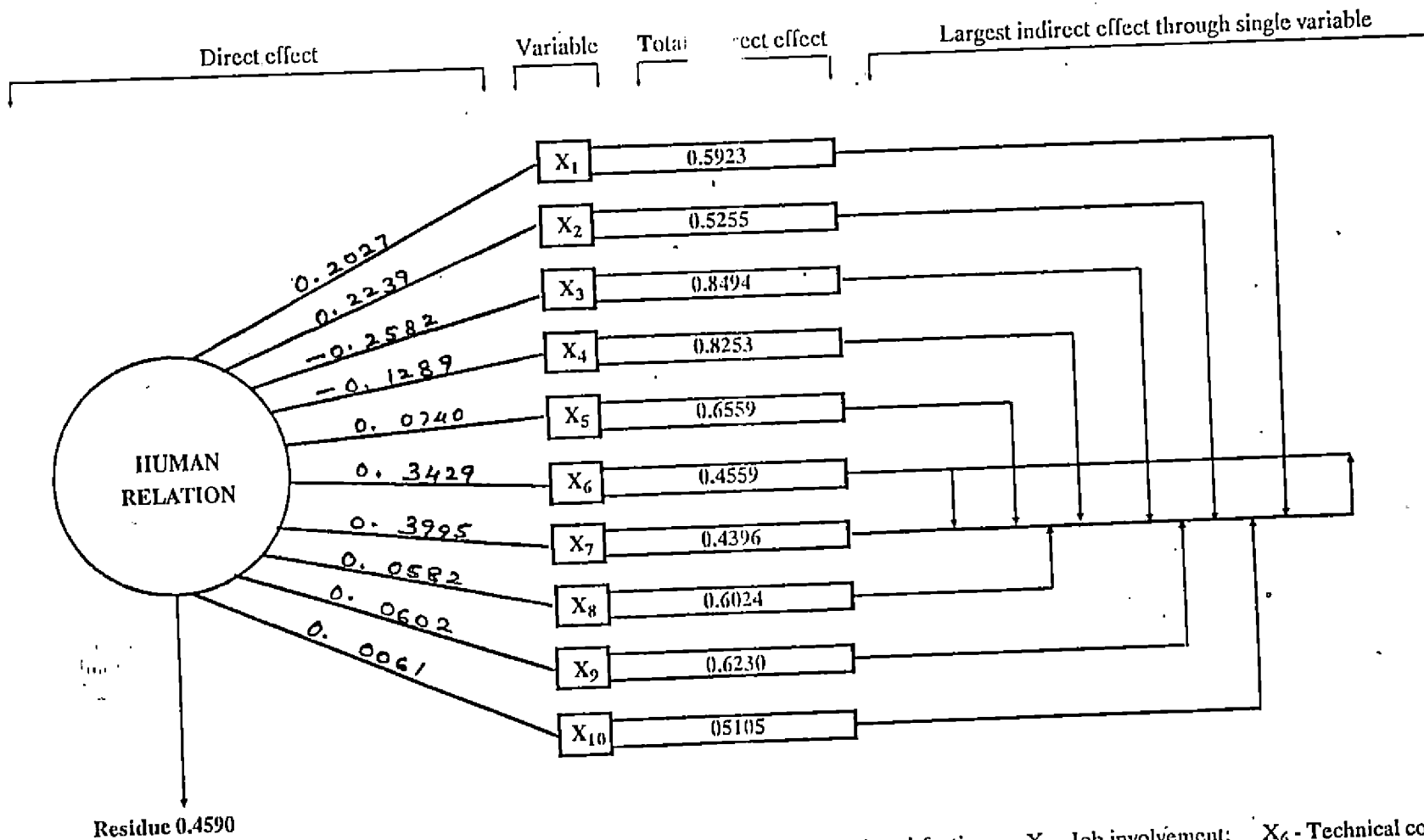
Table 38. Step-wise regression analysis of the independent variables influencing HUMAN RELATIONS - Job efficiency dimension of the Agricultural Officers

Step No.	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour X <sub>7</sub>	268.5709	70.3856
2.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub>	173.109	75.5575
3.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Attitude towards profession X <sub>1</sub>	122.5817	76.8144

Table 39. Direct and indirect effect of the personal, job and organization related variables on HUMAN RELATION.- dimension of the job efficiency

Variable No.	variable name	Direct effect	Total indirect	Substantial indirect effect channelled through		
				I	II	III
X <sub>1</sub>	Attitude towards profession	0.2027	0.5923	0.3428 (X <sub>7</sub> )	0.2523 (X <sub>6</sub> )	-0.2125 (X <sub>3</sub> )
X <sub>2</sub>	Self confidence	0.2239	0.5255	0.3166 (X <sub>7</sub> )	0.2450 (X <sub>6</sub> )	-0.2215 (X <sub>3</sub> )
X <sub>3</sub>	Intrinsic motivation	-0.2582	0.8494	0.3399 (X <sub>7</sub> )	0.2685 (X <sub>6</sub> )	-0.1921 (X <sub>2</sub> )
X <sub>4</sub>	Job satisfaction	-0.1289	0.8253	0.3156 (X <sub>7</sub> )	0.2496 (X <sub>6</sub> )	-0.2003 (X <sub>3</sub> )
X <sub>5</sub>	Job involvement	0.0740	0.6559	0.3177 (X <sub>7</sub> )	0.2495 (X <sub>6</sub> )	-0.1970 (X <sub>3</sub> )
X <sub>6</sub>	Technical competency	0.3429	0.4559	0.3130 (X <sub>7</sub> )	-0.2196 (X <sub>3</sub> )	0.1525 (X <sub>1</sub> )
X <sub>7</sub>	Communication behaviour	0.3995	0.4396	0.2687 (X <sub>6</sub> )	-0.2196 (X <sub>3</sub> )	0.1778 (X <sub>1</sub> )
X <sub>8</sub>	Organizational climate	0.0582	0.6024	0.2229 (X <sub>7</sub> )	0.1635 (X <sub>6</sub> )	-0.1289 (X <sub>3</sub> )
X <sub>9</sub>	Guidance and supervision	0.0602	0.623	0.2822 (X <sub>7</sub> )	0.2341 (X <sub>6</sub> )	-0.2013 (X <sub>3</sub> )
X <sub>10</sub>	Facilities and resources	0.0061	0.5105	0.2106 (X <sub>7</sub> )	0.2020 (X <sub>6</sub> )	-0.1668 (X <sub>3</sub> )

Fig. 7. Path diagram showing direct and indirect effects of personal, job and organization related variables on job efficiency dimension – HUMAN RELATION



X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency;  
 X<sub>7</sub> - Communication behaviour; X<sub>8</sub> - Organizational climate; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources



effect on human relation as in the case of previous dimensions, it exerted the highest indirect effect on 'human relation' dimension also. Besides, the 30 indirect effects indicated that only four variables such as 'communication behaviour', 'technical competency', 'intrinsic motivation' and 'attitude towards profession' were involved in the process.

The foregoing analyses divulge the fact that the variables 'technical competency', 'self confidence', 'attitude towards profession', 'intrinsic motivation' and 'job satisfaction' were the important ones in influencing 'human relation' dimension of Agricultural Officers.

#### 4.4.4. Relationship of independent variables with the job efficiency dimension - OFFICE MANAGEMENT

The result of multiple regression analysis are presented in Table-40. A cursory glance of the table reveals that among the ten independent variables only two variables viz., 'technical competency' and 'self confidence' were significantly influencing 'office management' dimension of Agricultural Officers. The F-value was significant and the coefficient of determination was 0.7322. To find out the best sub-set of variables for predicting the variations in 'office management' dimension, step-wise regression analysis was done and the results are presented in Table-41. Here also, the independent variable 'communication behaviour' stood out as the most important

Table 40. Multiple regression analysis of the personal, job and organization related variables with OFFICE MANAGEMENT - job efficiency dimension of the Agricultural Officers

(n=115)

Variable No.	variable name	Regression co-efficient b	t-value	R <sup>2</sup>	F-value
X <sub>1</sub>	Attitude towards profession	0.0234	0.791 <sup>NS</sup>		
X <sub>2</sub>	Self confidence	0.0593	2.342 <sup>*</sup>		
X <sub>3</sub>	Intrinsic motivation	-0.0127	-0.556 <sup>NS</sup>		
X <sub>4</sub>	Job satisfaction	-0.0041	-0.145 <sup>NS</sup>		
X <sub>5</sub>	Job involvement	0.0230	0.816 <sup>NS</sup>	0.7322	28.44 <sup>**</sup>
X <sub>6</sub>	Technical competency	0.1029	3.847 <sup>**</sup>		
X <sub>7</sub>	Communication behaviour	0.0551	1.536 <sup>NS</sup>		
X <sub>8</sub>	Organizational climate	0.0120	0.623 <sup>NS</sup>		
X <sub>9</sub>	Guidance and supervision	0.0079	0.302 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	-0.0002	-0.009 <sup>NS</sup>		

\*\* Significant at 1 percent level    \* Significant at 5 percent level    NS - Non Significant

variable and explained nearly 63 per cent of variation in 'office management' dimension followed by 'technical competency' and 'self confidence' in the second and third step and altogether explained 70 and 72 per cent of variation, respectively. The F-value was found to be significant. The best fitting regression equation was:  $Y = 0.603 + 0.0606 X_2 + 0.1099 X_6 + 0.0801 X_7$

A perusal of the Table-41 indicates that among the ten independent variables, three of them, namely 'communication behaviour', 'technical competency' and 'self confidence', were distinctly contributing to the efficiency in 'office management' dimension of Agricultural Officers, and hence, these three variables were considered as relatively more important than the other seven variables.

An examination of the results of path analysis (Table-42 and Fig.9) indicates that the variable 'technical competency' (0.3527) put out the highest positive direct effect on 'office management' dimension followed by 'self confidence' (0.2484), 'communication behaviour' (0.2036) and so on. The results also revealed the fact that the variable 'intrinsic motivation' exercised the highest positive indirect effect followed by 'job satisfaction', 'attitude towards profession', 'guidance and supervision', 'job involvement' and so on. It could be construed well that similar to overall job efficiency of

Table 41. Step-wise regression analysis of the independent variables influencing OFFICE MANAGEMENT - Job efficiency dimension of the Agricultural Officers

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Step No.	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour X <sub>7</sub>	190.3982	62.7552
2.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub>	131.7187	70.1681
3.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Self confidence X <sub>2</sub>	87.1327	72.41538

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Table 42. Direct and indirect effect of the individual, job and organization selected variables on OFFICE MANAGEMENT - dimension of the job efficiency

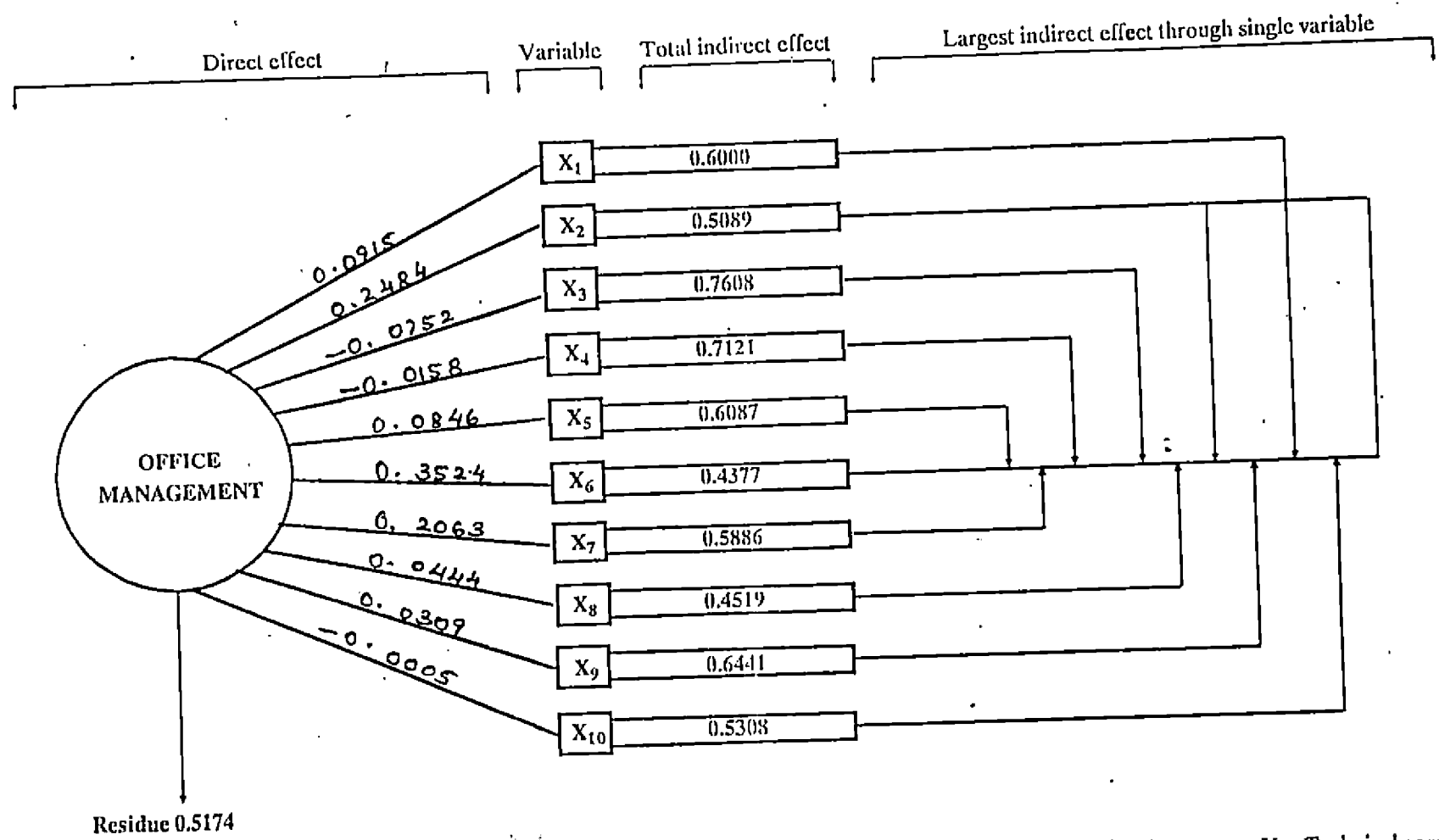
(n=115)

Variable No.	variable name	Direct effect	Total indirect	Substantial indirect effect channeled through		
				I	II	III
X <sub>1</sub>	Attitude towards profession	0.0915	0.6600	0.2593 (X <sub>6</sub> )	0.1978 (X <sub>7</sub> )	0.1747 (X <sub>2</sub> )
X <sub>2</sub>	Self confidence	0.2484	0.5089	0.2518 (X <sub>6</sub> )	0.1616 (X <sub>7</sub> )	0.0704 (X <sub>1</sub> )
X <sub>3</sub>	Intrinsic motivation	-0.0752	0.7608	0.2759 (X <sub>6</sub> )	0.2131 (X <sub>2</sub> )	0.1732 (X <sub>7</sub> )
X <sub>4</sub>	Job satisfaction	-0.0158	0.7121	0.2565 (X <sub>6</sub> )	0.1886 (X <sub>2</sub> )	0.1608 (X <sub>7</sub> )
X <sub>5</sub>	Job involvement	0.0846	0.6087	0.2564 (X <sub>6</sub> )	0.1834 (X <sub>2</sub> )	0.1619 (X <sub>7</sub> )
X <sub>6</sub>	Technical competency	0.3524	0.4377	0.1775 (X <sub>2</sub> )	0.1596 (X <sub>7</sub> )	0.6774 (X <sub>1</sub> )
X <sub>7</sub>	Communication behaviour	0.2063	0.5886	0.2761 (X <sub>6</sub> )	0.1968 (X <sub>2</sub> )	0.0786 (X <sub>1</sub> )
X <sub>8</sub>	Organizational climate	0.0444	0.4519	0.1608 (X <sub>6</sub> )	0.1136 (X <sub>7</sub> )	0.1017 (X <sub>2</sub> )
X <sub>9</sub>	Guidance and supervision	0.0309	0.6441	0.2406 (X <sub>6</sub> )	0.1742 (X <sub>2</sub> )	0.1438 (X <sub>7</sub> )
X <sub>10</sub>	Facilities and resources	-0.0005	0.5308	0.2076 (X <sub>6</sub> )	0.1385 (X <sub>2</sub> )	0.1073 (X <sub>7</sub> )



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Fig. 8. Path diagram showing direct and indirect effects of personal, job and organization related variables on job efficiency dimension -- OFFICE MANAGEMENT



X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency;  
 X<sub>7</sub> - Communication behaviour; X<sub>8</sub> - Organizational climate; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources

Agricultural Officers, the 'office management' dimension was directly influenced by 'communication behaviour' 'technical competency and 'self confidence' and these variables were indirectly influenced by 'intrinsic motivation', 'job satisfaction' and 'attitude towards profession'.

#### 4.4.5. Relationship of independent variables with the job efficiency dimension - PROFESSIONAL COMPETENCY

It could be observed from the Table-43, that 'self confidence' and 'intrinsic motivation' were the two independent variables influencing professional competency dimension at one per cent level and the variable 'technical competency' influencing the dependent structure, 'professional competency' dimension at five per cent level in the multiple regression analysis (Table-43). All the remaining seven variables were insignificant in influencing 'professional competency'. The F-value was significant and the coefficient of determination was 0.5319.

The step-wise regression analysis was done and the results are presented in Table-44. As in the case of previous dimensions, here also the variable 'communication behaviour' ranked first as the most important variable and it explained nearly 39 per cent of variation in 'professional competency' dimension followed by 'job satisfaction' (2.86 per cent),

Table 43. Multiple regression analysis of the personal, job and organization related variables with PROFESSIONAL COMPETENCY - job efficiency dimension of the Agricultural Officers

(n=115)

Variable No.	Variable name	Regression co-efficient b	t-value	R <sup>2</sup>	F-value
X <sub>1</sub>	Attitude towards profession	0.0230	0.648 <sup>NS</sup>		
X <sub>2</sub>	Self confidence	0.0914	3.106 <sup>**</sup>		
X <sub>3</sub>	Intrinsic motivation	0.0995	3.641 <sup>**</sup>		
X <sub>4</sub>	Job satisfaction	0.0561	1.671 <sup>NS</sup>		
X <sub>5</sub>	Job involvement	0.0352	1.042 <sup>NS</sup>	0.5319	19.82 <sup>**</sup>
X <sub>6</sub>	Technical competency	0.0611	2.991 <sup>**</sup>		
X <sub>7</sub>	Communication behaviour	0.749	1.777 <sup>NS</sup>		
X <sub>8</sub>	Organizational climate	0.0383	1.658 <sup>NS</sup>		
X <sub>9</sub>	Guidance and supervision	-0.0424	-1.347 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	0.0038	0.127 <sup>NS</sup>		



Table . 44. Step-wise regression analysis of the independent variables influencing PROFESSIONAL COMPETENCY - Job efficiency dimension of the Agricultural Officers

Step No.	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour X <sub>7</sub>	71.5152	38.7584
2.	Communication behaviour X <sub>7</sub> Job satisfaction X <sub>4</sub>	39.9168	41.6161
3.	Communication behaviour X <sub>7</sub> Job satisfaction X <sub>4</sub> Intrinsic motivation X <sub>3</sub>	29.5355	44.3906
4.	Communication behaviour X <sub>7</sub> Job satisfaction X <sub>4</sub> Intrinsic motivation X <sub>3</sub> Self confidence X <sub>2</sub>	25.9251	48.5261
5.	Communication behaviour X <sub>7</sub> Job satisfaction X <sub>4</sub> Intrinsic motivation X <sub>3</sub> Self confidence X <sub>2</sub> Technical competency X <sub>6</sub>	22.3629	50.6374

'intrinsic motivation' (2.98 per cent), 'self confidence' (4.13 per cent) and 'technical competency' (2.10 per cent). All these five variables altogether explained 50.64 per cent of variation and the F-value was found to be significant. The best regression equation derived was

$$Y = -4.1420 + 0.0674 X_6 + 0.08928 X_2 + 0.1025 X_3 + 0.0559 X_4 + 0.1162 X_7$$

The analysis proved that among the ten independent variables, five of them, namely, 'communication behaviour', 'job satisfaction', 'intrinsic motivation', 'self confidence' and 'technical competency' were distinctly contributing to 'professional competency' dimension.

The results of path analysis in Table-45 (Fig.10.) indicate that the variable 'self confidence' (0.4227) put out the highest direct positive effect on 'professional competency' followed by 'communication behaviour' (0.3063), 'job satisfaction' (0.2407), 'technical competency' (0.2312) and so on. The variable, 'intrinsic motivation' (0.8244) exerted the highest indirect positive effect on professional competency. It had substantial positive indirect effect on 'self confidence' (0.3626), 'communication behaviour' (0.2605) as well as on 'job satisfaction' (0.1867).

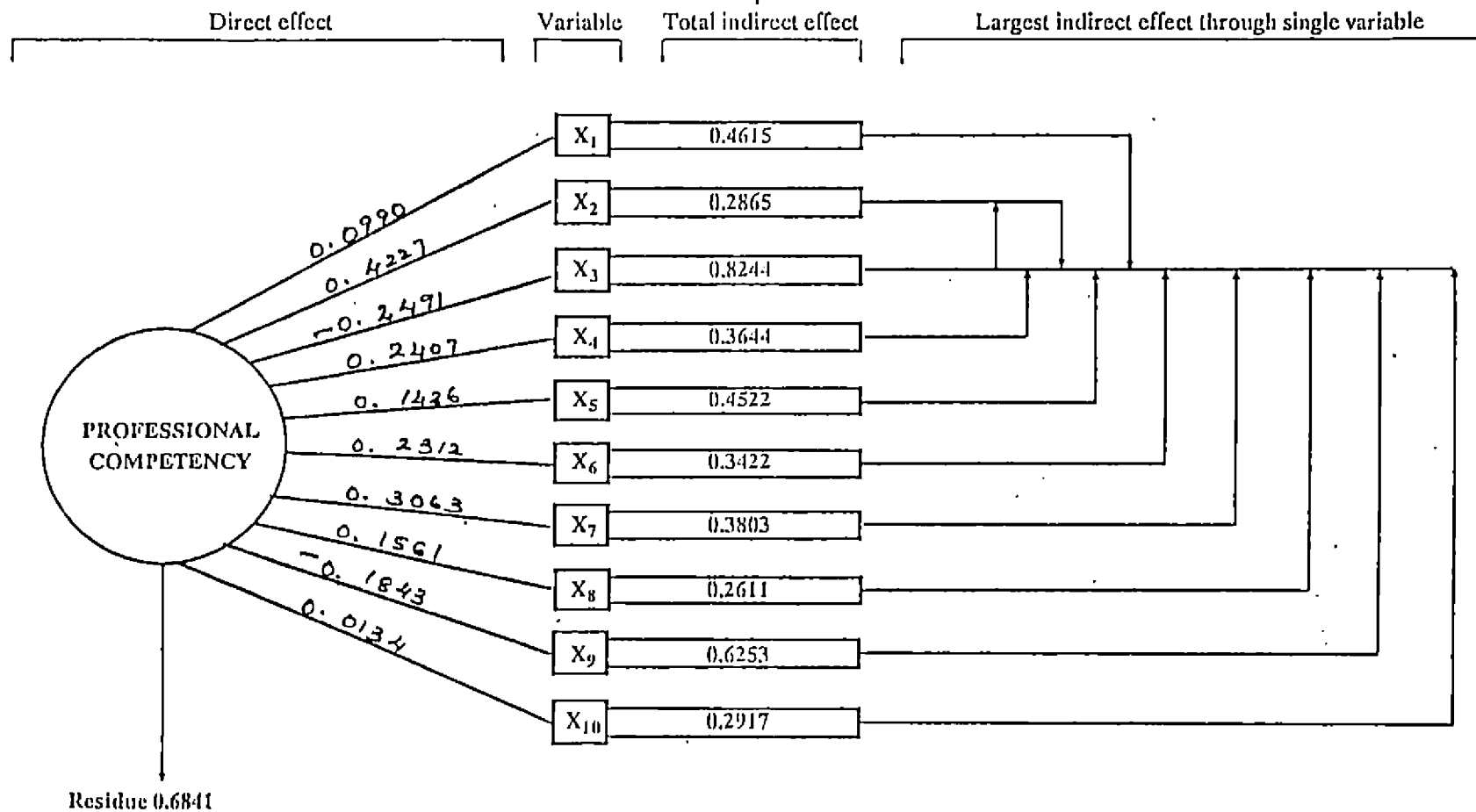
From the above analysis, it could be concluded that the variables such as 'communication behaviour', 'job

Table 45. Direct and indirect effect of the personal, job and organization related variables on PROFESSIONAL COMPETENCY - dimension of job efficiency

(n=115)

Variable No.	variable name	Direct effect	Total indirect	Substantial indirect effect channelled through		
				I	II	III
X <sub>1</sub>	Attitude towards profession	0.0990	0.4615	-0.5343 (X <sub>3</sub> )	0.3249 (X <sub>2</sub> )	0.2628 (X <sub>7</sub> )
X <sub>2</sub>	Self confidence	0.4227	0.2865	-0.5569 (X <sub>3</sub> )	0.4227 (X <sub>2</sub> )	0.2427 (X <sub>7</sub> )
X <sub>3</sub>	Intrinsic motivation	-0.2491	0.8244	0.3626 (X <sub>2</sub> )	0.2605 (X <sub>10</sub> )	0.1867 (X <sub>4</sub> )
X <sub>4</sub>	Job satisfaction	0.2407	0.3644	-0.5036 (X <sub>3</sub> )	0.3209 (X <sub>2</sub> )	0.2419 (X <sub>7</sub> )
X <sub>5</sub>	Job involvement	0.1426	0.4522	-0.4969 (X <sub>3</sub> )	0.3120 (X <sub>2</sub> )	0.2435 (X <sub>7</sub> )
X <sub>6</sub>	Technical competency	0.2312	0.3422	-0.5082 (X <sub>3</sub> )	0.3020 (X <sub>2</sub> )	0.2400 (X <sub>7</sub> )
X <sub>7</sub>	Communication behaviour	0.3063	0.3803	-0.5522 (X <sub>3</sub> )	0.3399 (X <sub>2</sub> )	0.3063 (X <sub>7</sub> )
X <sub>8</sub>	Organizational climate	0.1561	0.2611	-0.3240 (X <sub>3</sub> )	0.1731 (X <sub>2</sub> )	0.1709 (X <sub>7</sub> )
X <sub>9</sub>	Guidance and supervision	-0.1843	0.6253	-0.5061 (X <sub>3</sub> )	0.2964 (X <sub>2</sub> )	0.2163 (X <sub>7</sub> )
X <sub>10</sub>	Facilities and resources	0.0134	0.2917	-0.4194 (X <sub>3</sub> )	0.2357 (X <sub>2</sub> )	0.1614 (X <sub>7</sub> )

Fig. 9. Path diagram showing direct and indirect effects of personal, job and organization related variables on job efficiency dimension – PROFESSIONAL COMPETENCY



X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency; X<sub>7</sub> - Communication behaviour; X<sub>8</sub> - Organizational climate; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources

satisfaction', 'self confidence' and 'technical competency' were directly influencing the job efficiency dimension 'professional competency' and the variable 'intrinsic motivation' exerted substantial direct as well indirect effect on the 'professional competency' dimension.

#### 4.4.6. Relationship of independent variables with the job efficiency dimension - FARMER DEVELOPMENT

The relationship of independent variables with 'farmer development' dimension was studied through multiple regression analysis and the results are presented in Table-46. The independent variables 'technical competency', 'self confidence' and 'organizational climate' were found to be significant at one per cent level and the variables 'communication behaviour' and 'attitude towards profession' were significant at five per cent level, in influencing farmer development dimension of Agricultural Officers. The F-value was found to be significant and the coefficient of determination was 0.8257, which revealed that over 82 per cent of the variation in 'farmer development' dimension was explained by all the variables included in the analysis.

The results of the step-wise regression are presented in Table-47. It could be observed from the table that as in the previous dimensions, here also the variable

Table 46. Multiple regression analysis of the personal, job and organization related variables with FARMER DEVELOPMENT - job efficiency dimension of the Agricultural Officers

(n=115)

Variable No.	variable name	Regression co-efficient b	t-value	R <sup>2</sup>	F-value
X <sub>1</sub>	Attitude towards profession	0.0864	2.104*		
X <sub>2</sub>	Self confidence	0.1055	3.005**		
X <sub>3</sub>	Intrinsic motivation	-0.0398	-1.255 <sup>NS</sup>		
X <sub>4</sub>	Job satisfaction	0.0112	0.289 <sup>NS</sup>		
X <sub>5</sub>	Job involvement	-0.0090	-0.230 <sup>NS</sup>	0.8257	49.26**
X <sub>6</sub>	Technical competency	0.1734	4.677**		
X <sub>7</sub>	Communication behaviour	0.1113	2.278*		
X <sub>8</sub>	Organizational climate	0.0704	2.633**		
X <sub>9</sub>	Guidance and supervision	0.0101	0.278 <sup>NS</sup>		
X <sub>10</sub>	Facilities and resources	-0.0254	-0.738 <sup>NS</sup>		

\* Significant at 1 percent level  
 NS Non Significant

\* Significant at 5 percent level

'communication behaviour' emerged as the most important variable and explained variation in the 'farmer development' dimension to the extent of 71.68 per cent. Through successive steps the predictive power increased, by including the variable namely 'technical competency', 'attitude towards profession', 'self confidence' and 'organizational climate'. All these variables concurrently explained 82 per cent of variation in 'farmer development' dimension with a significant F-value. The best regression equation derived from the analysis was

$$Y = -2.7772 + 0.0625 X_8 + 0.0790 X_2 + 0.0845 X_1 + 0.1559 X_6 + 0.0981 X_7$$

The results furnished in Table-47, unveil the fact that among the ten variables, five namely, 'communication behaviour', 'technical competency', 'attitude towards profession', 'self confidence' and 'organizational climate' were distinctly contributing to the efficiency of the 'farmer development' dimension. Hence, these variables were considered relatively more important than the other five variables.

The results of path analysis are presented in Table-48 and illustrated in Fig.11. From the table it is evident that the variable 'technical competency' (0.3447) exercised the highest direct positive effect followed by 'self confidence' (0.2573), 'communication behaviour' (0.2394),

Table 47. Step-wise regression analysis of the independent variables influencing FARMER DEVELOPMENT - Job efficiency dimension of the Agricultural Officers

(n=115)

Step No.	Independent variables in regression analysis	F ratio	Percentage of variation explained
1.	Communication behaviour X <sub>7</sub>	285.9534	71.6759
2.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub>	197.8777	77.9421
3.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Attitude towards profession X <sub>1</sub>	147.8135	79.9863
4.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Attitude towards profession X <sub>1</sub> Self confidence X <sub>2</sub>	116.4971	80.9024
5.	Communication behaviour X <sub>7</sub> Technical competency X <sub>6</sub> Attitude towards profession X <sub>1</sub> Self confidence X <sub>2</sub> Organizational climate X <sub>8</sub>	99.8505	82.0798

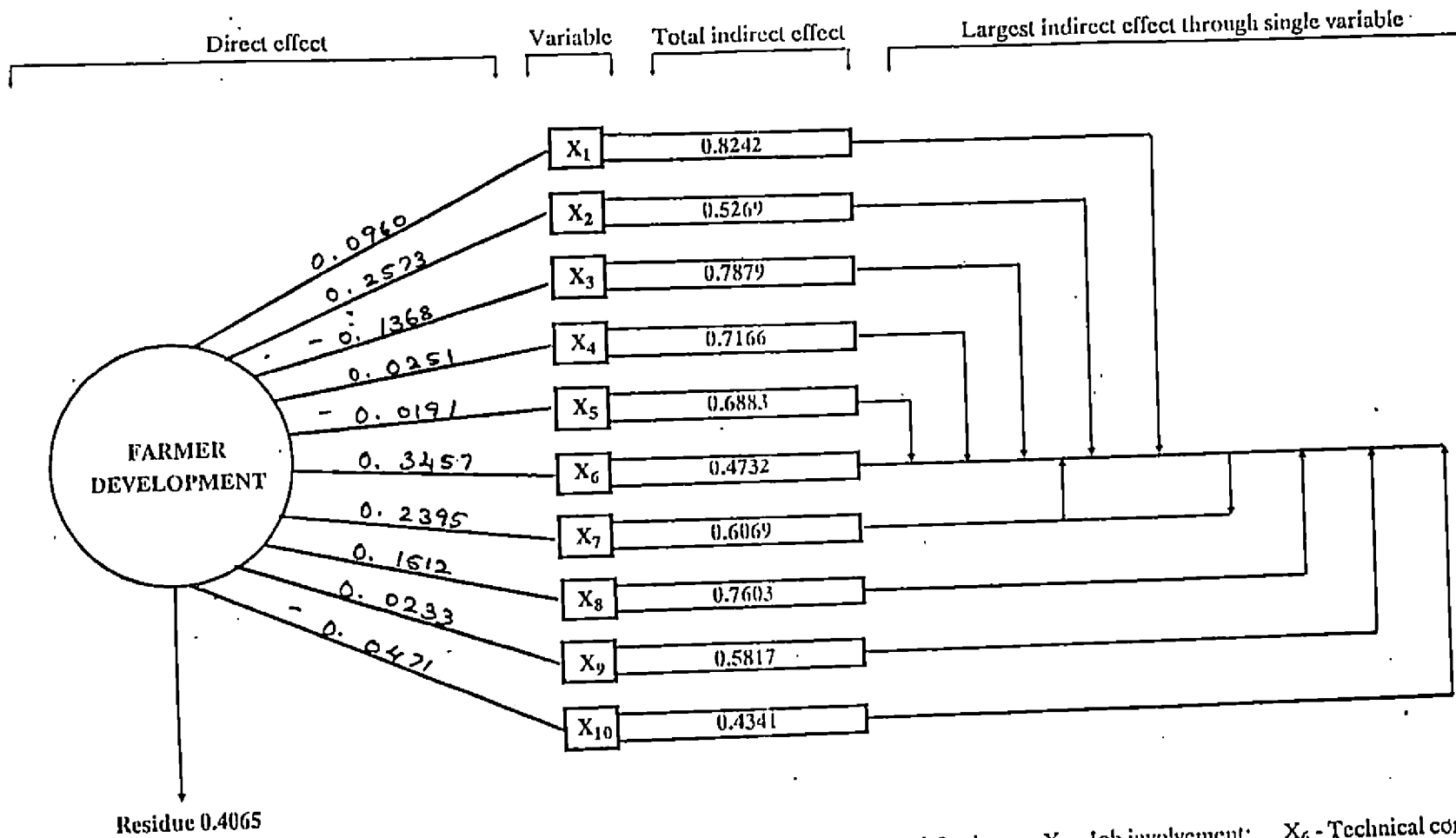


Table 48. Direct and indirect effect of the personal, job and organization related variable on FARMER DEVELOPMENT - dimension of job efficiency

(n=115)

Variable No.	variable name	Direct effect	Total indirect	Substantial indirect effect channelled through		
				I	II	III
X <sub>1</sub>	Attitude towards profession	0.0960	0.8242	0.5448 (X <sub>6</sub> )	0.2056 (X <sub>7</sub> )	0.1978 (X <sub>2</sub> )
X <sub>2</sub>	Self confidence	0.2573	0.5269	0.2470 (X <sub>6</sub> )	0.1898 (X <sub>7</sub> )	0.1506 (X <sub>1</sub> )
X <sub>3</sub>	Intrinsic motivation	-0.1368	0.7879	0.2707 (X <sub>6</sub> )	0.2207 (X <sub>2</sub> )	0.2038 (X <sub>7</sub> )
X <sub>4</sub>	Job satisfaction	0.0251	0.7166	0.2517 (X <sub>6</sub> )	0.1953 (X <sub>2</sub> )	0.1892 (X <sub>7</sub> )
X <sub>5</sub>	Job involvement	-0.0191	0.6883	0.2515 (X <sub>6</sub> )	0.1905 (X <sub>7</sub> )	0.1899 (X <sub>2</sub> )
X <sub>6</sub>	Technical competency	0.3457	0.4732	0.1877 (X <sub>7</sub> )	0.1838 (X <sub>2</sub> )	0.1442 (X <sub>1</sub> )
X <sub>7</sub>	Communication behaviour	0.2395	0.6069	0.2709 (X <sub>6</sub> )	0.2038 (X <sub>2</sub> )	0.1681 (X <sub>1</sub> )
X <sub>8</sub>	Organizational climate	0.1512	0.7603	0.1648 (X <sub>6</sub> )	0.1337 (X <sub>7</sub> )	0.1054 (X <sub>2</sub> )
X <sub>9</sub>	Guidance and supervision	0.0233	0.5817	0.2360 (X <sub>6</sub> )	0.1804 (X <sub>2</sub> )	0.1692 (X <sub>7</sub> )
X <sub>10</sub>	Facilities and resources	-0.0471	0.4341	0.2037 (X <sub>6</sub> )	0.1434 (X <sub>2</sub> )	0.1265 (X <sub>7</sub> )

Fig. 10. Path diagram showing direct and indirect effects of personal, job and organization related variables on job efficiency dimension – FARMER DEVELOPMENT



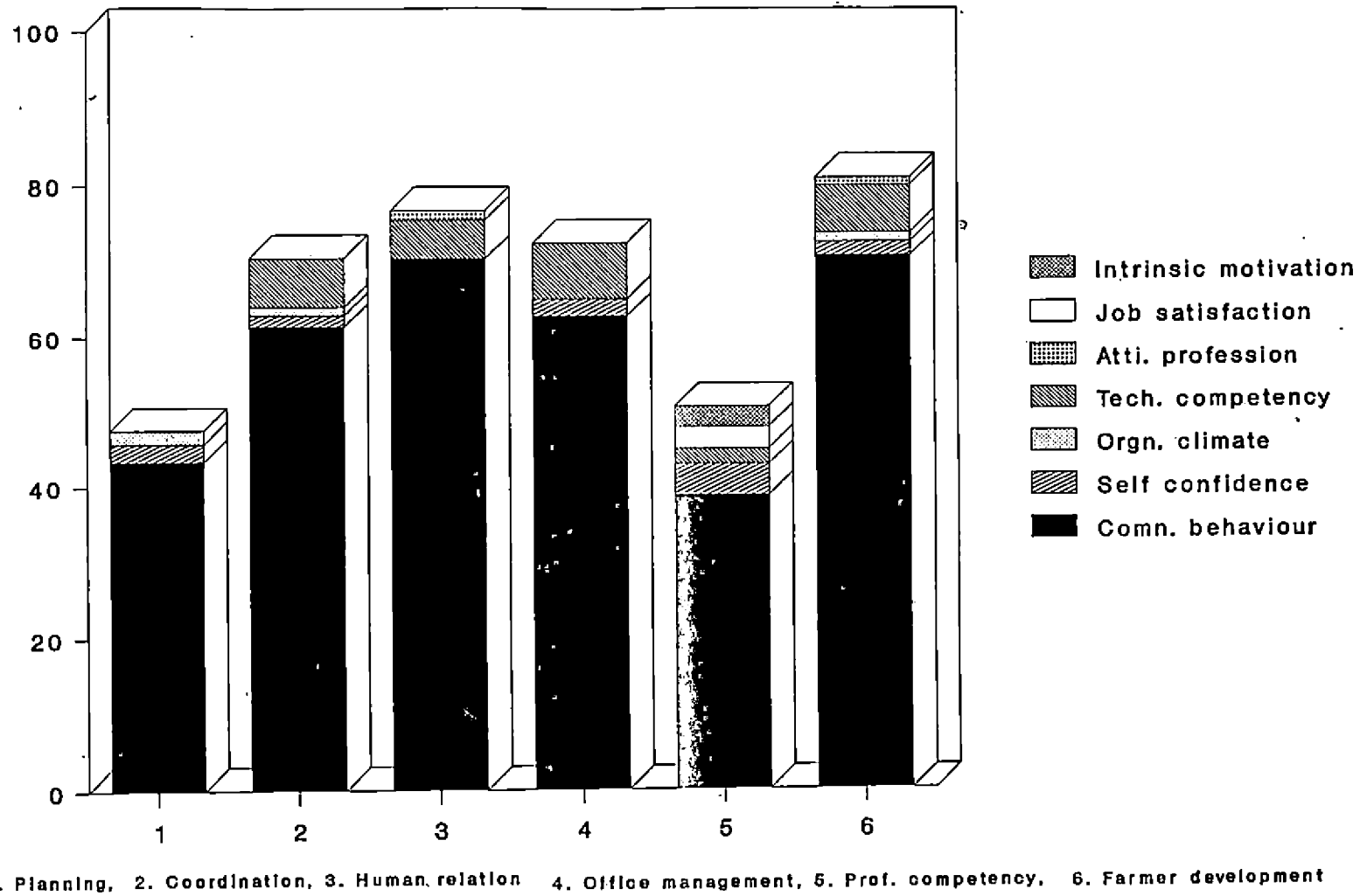
X<sub>1</sub> - Attitude towards profession; X<sub>2</sub> - Self Confidence; X<sub>3</sub> - Intrinsic motivation; X<sub>4</sub> - Job satisfaction; X<sub>5</sub> - Job involvement; X<sub>6</sub> - Technical competency;  
 X<sub>7</sub> - Communication behaviour; X<sub>8</sub> - Organizational climate; X<sub>9</sub> - Guidance and supervision; X<sub>10</sub> - Facilities and resources

'attitude towards profession' (0.1960) 'organizational climate' (0.1512) and so on. Here also, the variable 'intrinsic motivation' put out direct negative effect of -0.1368 on the 'farmer development' dimension.

'Farmer development' dimension is the biggest dimension in the job efficiency scale. It is interesting to note that this dimension was directly influenced by five of the selected variables such as 'self confidence', 'communication behaviour', 'technical competency', 'attitude towards profession' and 'organizational climate' and indirectly influenced substantially by 'intrinsic motivation' and 'job satisfaction'.

In nutshell the relationship of personal, job and organization related variables with each of the job dimensions revealed quite a few interesting facts (Fig. 12). The 'communication behaviour' and 'technical competency' were the two variables influencing all the job efficiency dimensions to a substantial extent. Next to these two variables, 'self confidence' was found to be influencing all the job dimensions except 'human relation' dimension. The variables like 'organizational climate', 'attitude towards profession', 'intrinsic motivation' and 'job satisfaction' were also found to be important in this respect. Nevertheless, the importance of variables namely 'intrinsic motivation', 'job satisfaction', 'attitude towards profession' and 'organizational climate' cannot

**Fig. 11. Step wise regression analysis of independent variables influencing JOB EFFICIENCY DIMENSIONS**



be overlooked as they were found to exercise substantial indirect effects on the 'job efficiency' dimensions through the other important variables such as 'communication behaviour', 'technical competency', 'self confidence' and 'attitude towards profession'.

#### 4.5. JOB CONSTRAINTS AS PERCEIVED BY THE AGRICULTURAL OFFICERS

The dimension-wise constraints as perceived by the Agricultural Officers are presented in Table 49-54. The constraints were ranked on the basis of the mean score on the intensity of each constraints as perceived by the Agricultural Officers. It is evident from the Table-44, that more number of programmes at Krishi bhavan level stood out as the most important constraint to 'planning' by securing the mean score of 4.16. Similarly, the constraints 'more work load in the last quarter of the financial year' gained the mean score of 4.10 and was ranked second. Unrealistic norms hinder the preparation of programmes, 'inadequate supply of inputs' and 'untimely supply of inputs' were the other three constraints ranked third, fourth and fifth by securing the mean score of 4.00, 3.86 and 3.82 respectively.

'Lack of sufficient knowledge about programmes of sister departments' was the major constraint (mean score 4.65) ascribed by the Agricultural Officers with regard to the job efficiency dimension 'coordination' (Table-50). The second and third important constraints were 'for the same programme

Table 49. Job constraints to PLANNING

(n-115)			
Sl No.	Constraints	Mean score	Rank
1.	More number of programmes at krishi bhavan level	4.16	I
2.	More work load in the last quarter of financial year	4.10	II
3.	Unrealistic norms hinder the preparation of programmes	4.00	III
4.	Inadequate supply of inputs	3.86	IV
5.	Untimely supply of inputs	3.82	V
6.	Poor guidance from higher-ups	3.60	VI
7.	Lack of timely communication about the areas where programmes are to be prepared	3.54	VII
8.	Allot equal amounts to Krishi Bhavan not considering the situation and programme	3.26	VIII
9.	Targets beyond capacity	3.24	IX
10.	Unmanageable operational area	3.19	X

Table 50. Job constraints to COORDINATION

(N=115)

Sl. No.	constraints	Mean score	Rank
1.	Lack of sufficient knowledge about programmes of sister department	4.65	I
2.	For the same programme, different agencies give different rate of benefits to clients	4.20	II
3.	Name sake programme with nominal benefits to clients.	4.18	III
4.	Too much of official formalities in implementing programmes.	4.05	IV
5.	Conflicting demand of works	4.00	V
6.	Lack of effective supervision	3.96	VI
7.	One agency find fault to her agency's programme	3.50	VII
8.	Too much of work load	3.40	VIII

different agencies give different rate of benefits to clients' and 'name sake programme with nominal benefits to clients'. Too much of official formalities in implementing programmes and conflicting demand of works' were the other two constraints ranked fourth and fifth respectively (mean score 4.05 and 4.00).

The constraints to 'human relation' expressed by the Agricultural Officers are listed in Table-51 in the descending order based on the mean score. It could be seen from the table that 'lack of sufficient knowledge on personnel management' was the most important constraint (4.60) followed by 'lack of training on personnel management techniques' (4.00), 'inadequate number of subordinates' (3.82) and 'insufficient job involvement of higher-ups' (3.20).

Regarding the dimension 'office management' the 'inadequate office facilities' (4.65) stood out as the most important constraint followed by 'insufficient supply of registers, records and other stationeries' (4.39), 'much of desk work' (4.20), and 'more number of periodical and other reports' (4.06), 'lack of sufficient training on office management' was ranked fifth important constraint perceived by the Agricultural Officers. (Table-52).

Among the co: competency' (Table-53), 'lack of skill oriented training on



Table 51. Job constraints to HUMAN RELATION

(n=115)			
Sl. No.	constraints	Mean score	Rank
1.	Lack of sufficient knowledge on personnel management	4.60	I
2.	Lack of training on human management techniques	4.00	II
3.	Inadequate number of subordinates	3.82	III
4.	Insufficient job involvement of higher ups	3.20	IV

Table 52. Job constraints to OFFICE MANAGEMENT

(n=)			
Sl. No.	constraints	Mean score	Rank
1.	Inadequate office facilities	4.65	I
2.	Insufficient supply of registers, records and other stationery	4.39	II
3.	Much of desk work	4.20	III
4.	More number of periodicals and other reports	4.06	IV
5.	Lack of sufficient training on office management	3.97	V
6.	Frequent meetings	3.82	VI
7.	Lack of sufficient office staff	3.68	VII

Table 53. Job constraints to PROFESSIONAL COMPETENCY

(n=115)

Sl. No.	constraints	Mean score	Rank
1.	Lack of skill oriented trainings on viable technologies	4.32	I
2.	Lack of involvement of higher-ups	4.02	II
3.	More number of reports	3.96	III
4.	Major portion of the office time allotted for attending routine work	3.82	IV
5.	Lack of promotion chances	3.50	V
6.	Late communication of research finding	3.25	VI
7.	Lack of knowledge on handling A.V. equipments	3.10	VII
8.	Lack of recognition for work	3.00	VIII
9.	Inadequate facilities to training subordinates	2.85	IX

This was followed by 'lack of involvement of higher ups' (4.02) and 'more number of reports' (3.96). With regard to 'farmer development' (Table-54), 'delay in sanctioning and disbursing subsidy and other benefits to farmer (4.35) was the most important constraint followed by lack of allowances to cover expenses during local tour/visit (4.26). Majority of the programmes sanctioned only in the last quarter of the financial year (4.08) 'inadequacy of relief measures when calamities occurred' (4.08), 'unrealistic norms hinder the implementation of programmes' (3.96), 'inadequate conveyance facilities' (3.82), 'lack of facilities to repair plant protection equipment in the office' (3.60), 'political interference in work' (3.42), 'lack of time required for routine office work' (3.02) and 'more number of periodical and other reports' (3.00).

Table 54. Job constraints to FARMER DEVELOPMENT  
(n=115)

Sl. No.	constraints	Mean score	Rank
1.	Delay in sanctioning and disbursing subsidies and other benefits to farmers	4.35	I
2.	Lack of allowance to cover expenses during local tour/visit	4.26	II
3.	Inadequate supply of inputs	4.14	III
4.	Programmes sanctioned only in the last quarter of the financial year	4.08	IV
5.	Inadequacy of relief measures when calamities occurred	4.08	V
6.	Unrealistic norms/conditions hinder the implementation of the programme	3.96	VI
7.	Inadequate conveyance facilities	3.82	VII
8.	Lack of facilities to repair p.p.equipment in the office	3.60	VIII
9.	Political interference in work	3.42	IX
10.	Lack of sufficient field staff	3.22	X
11.	Additional charges of post(s)	3.12	XI
12.	More time required for routine office work	3.02	XII
13.	More number of periodicals and other reports	3.00	XIII
14.	Frequent official meetings	2.82	XIV

## **DISCUSSION**

## DISCUSSION

The results of the study presented in the previous chapter are discussed under the following heads.

- 5.1. Dimensions of the job efficiency scale
- 5.2. Job efficiency of the Agricultural Officers
- 5.3. Relationship between the personal, job and organization related variables of the Agricultural Officers and their job efficiency
- 5.4. Relationship between the personal, job and organization related variables of the Agricultural Officers and their job dimensions
- 5.5. Job constraints as perceived by the Agricultural Officers
- 5.6. Job efficiency of the Agricultural Officers - A bird's eye view
- 5.7. Strategies to augment the job efficiency of Agricultural Officers

### 5.1. DIMENSIONS OF THE JOB EFFICIENCY SCALE

The linkage analysis done with the selected 30 activities of the scale clustered the activities into six dimensions namely, 'planning', 'coordination', 'human relation',

'office management', 'professional competency' and 'farmer development.

The emergence of these six dimensions in explaining the job efficiency of Agricultural Officers is not beyond reasoning. To execute the objective of an organization especially in Development Departments, any officer should plan the programme by critically studying the existing resources, coordinate with different organizations and maintain optimal relationship with fellow people and his clients.

Likewise, capability of the officer in gaining knowledge and skill is another important dimension for the successful implementation of the programme. It is obvious that transfer of technology can be effectively achieved only when the thrust was given to clients and their development. The upkeep and maintenance of the office is pre-requisite for the smooth and efficient functioning of the office which accelerates the accomplishment of the officer. Similarly, the liaison and the relationship with farmer determine the capability of an officer in achieving his objectives. Thus, the job dimensions emerged through the analysis reflected crucial areas of job expectation of Agricultural Officer for accomplishing overall goals of the department.

The aforesaid explanation justifies amply the emergence of the dimensions in describing the job efficiency of

the Agricultural Officers. Further, the dimensions identified were more or less in line with the job description dimensions suggested by Koontz et al. (1986) and the same also derived support from Reddin (1987) who described job dimensions as planning, organizing, control, delegating and staffing. Rao (1991) postulated that managerial efficiency is the culmination of technical, managerial, behavioural and conceptual capabilities.

It could be observed that the six dimensions of job efficiency objectively arrived represented fairly the main areas of job efficiency as derived in the theoretical orientation elsewhere. The dimensions of the scale had the representation of important job areas of Agricultural Officers viz. planning, organizing, administration, supervision, supply and service and evaluation as stated by Perumal (1975) and Janardhanana (1979). The dimensions were also in line with findings the views of Gulothungan (1986) who classified the roles such as education, training, planning, supervision, organizing, supply and service and administration. The job roles identified by Reddy (1987) namely, teach people to help themselves, teach how to think, help people to determine their own needs, flexible in objectives, sound knowledge with ability and enthusiasm to teach people, love and sympathy for people, work in harmony with culture and help people to work together in groups are in line with the dimensions identified. Kunwar and Williams (1990) identified



six job dimensions namely programme determination, programme strategy, programme implementation, education, female farmers and youth development and evaluation also reflected the dimensions arrived for the scale.

Furthermore, Misra (1990) identified eight major job activities of agricultural extension personnel such as area acquaintance, education, training and visit, organization, planning, office management and input coordination. Similarly, Reddy (1990) identified seven job areas of Agricultural Officers such as planning, education, supply and service, supervision, coordination, office work and evaluation which also corroborate the job efficiency dimensions identified in the scale.

Moreover, a comparison of classification of activities under the dimensions arrived objectively through linkage analysis as mentioned above and grouped theoretically under eight dimensions as shown in the Appendix - IV, revealed only slight variation of the arrived dimensions from the classification of activities made theoretically under eight dimensions such as 'planning', 'coordination', 'human relation', 'office management', 'professional competency', 'farmer development', 'direction and supervision' and 'information management'. The final scale had only six dimensions and two dimensions such as 'direction and supervision' and 'information management' were dropped, consequent upon the following reasons.

The activities included under the dimension 'direction and supervision' were initially rejected through item analysis procedure. It was derived that the activities under direction and supervision were done more or less promptly by majority of Agricultural Officers as these form the part of routine nature of work. As a result, these activities might have failed to discriminate officers and hence the resultant elimination of these items in the item analysis process. With regard to activities in the 'information management' dimension after item analysis only one activity 'use of mass media to give information to farmers' was selected and that was grouped under the farmer development dimension in the linkage analysis. Even though the activity reflected the act of communication, the activity was carried out for the benefit of the farmer and thus carrying more inclination towards farmer development. This may be the reason why the activity had come under 'farmer development'.

## 5.2. JOB EFFICIENCY OF THE AGRICULTURAL OFFICERS

The results obtained with regard to the distribution of the Agricultural Officers in the high and low groups of job efficiency and the job dimensions, zone-wise comparison and the relative efficiency in the performance of the job dimensions are discussed in this part.

From the distribution pattern of Agricultural Officers in the high and low efficiency groups presented in Table-17, and the mean score percentage presented in Table-21 it may be inferred that, in general, Agricultural Officers possessed better job efficiency and were efficient in performing the job dimensions. However, Agricultural Officers were not efficient in the dimensions namely, 'coordination' and 'office management'.

The overall better performance could be viewed in terms of cause and effect relationship, cause being the system or the environment in which the Agricultural Officers serve and the effect being the efficiency output. The systems effect could be explained in terms of systems theory as enunciated by Koontz et al. (1986) and Ghosh et al. (1988). The systems concept is concerned with a wholistic view of interacting components in dynamic, complex situations. The interrelated components function together within constraints toward a common purpose. The Kerala State administration as such could be considered as a mega system in which the agricultural Department forms a system. Table-62 shows that Kerala has outdone other states in most of the development spheres. Similarly, the State Department of Agriculture also has progressive indicators to its credit such as fertilizer consumption rate, per ha yield of cash crops, percentage of cropped area, percentage of area under cash crops, per hectare yield of food grains and cash crops. (Table -55). In

Table 55. Indicators of development

Indicators	Unit	Kerala	India
1. Growth rate of population (1981 to 1991)	%	13.98	23.50
2. a. Effective literacy rate	%	91.00	52.00
b. Effective literacy Male	%	94.00	64.00
c. Effective literacy Female	%	87.00	39.00
3. Percapita expenditure on Education (1985-86)	Rs.	165.00	103.00
4. a. Birth rate (Rural & Urban) 1986	%	22.40	32.40
b. Death rate (Rural & Urban) "	%	6.70	11.10
c. Infant death rate (Rural & Urban)	1000	27.00	96.00
5. a. General fertility rate (1981).		83.60	145.20
b. Gross reproduction rate "		1.20	2.20
c. Total fertility rate "		2.40	4.50
6. Expectation of life at birth (1981)			
a. Male	Years	66.90	64.20
b. Female	"	72.80	68.40
c. All	"	69.70	66.50
7. Per capita expenditure on public health (1985-86)	Rs.	63.00	55.00

---contd.---

Table 55. (Contd...)

Indicators		Unit	Kerala	India
8.	Population below poverty line (1987-88)	%	17.00	29.00
9.	Membership of primary Agricultural credit societies (1989-90)	'000 Nos.	8217	81239
10. a.	Average yield of Rice (1987-88)	kg/ha	1806	1603
b.	Average yield of HYV Rice 89-90	"	2218	2310
c.	Average yield of non-HYV rice 89-90	"	1956	1662
11.	Fertilizer consumption per ha of gross cropped area (1989-90)	kg	74.50	65.40
12.	Income generated in Agriculture per ha of gross cropped area 1987-88	Rs.	7606	4209
13.	Net area sown as percentage to total area (1985-86)	%	56.15	46.90
14.	Percentage of area under non food crops to total area (1986-87)	%	75.60	28.10
15.	Average yield of rice in unirrigated area (1985-86)	kg/ha	1567	1090
16.	Per hectare yield of total food grains (Average of 1987 to 1990)	kg	1708	1284

addition to these facts, the State Department of Agriculture introduced a host of structural and organizational reorientations such as Intensive Paddy Development Programme, Special Agricultural Development Package Programme, Training and Visit system, National Agricultural Extension Programme and the latest Krishi Bhavan Programme which are unique in nature when compared to other states. While these programmes definitely help the State Department of Agriculture to strengthen the administrative efficiency, the inbuilt special features evolved, namely, single line of command, strong information flow system, ensured people's participation through Karshaka Vikasana Samithies, periodical and regular trainings to extension personnel, better research-extension linkage through monthly workshops at research stations, formulation and implementation of location specific programmes played major role in the efficiency of the Agricultural Officers.

The zone - wise analysis (Table 18) had shown that majority of the Agricultural Officers were better in their overall job efficiency level as well as in job dimensions. However, a slight declining trend, in general could be observed from south to north. It is observed well that the area of operation, number of farm families and number of operational holdings are more in north and central zones than in south. Similarly, literary status, availability of supporting staff transport facilities etc. are relatively lower in the northern zone than in the southern zone. Over and above, some

Agricultural Officers are holding the additional charges of neighbouring Krishi Bhavans and the block level Assistant Directors are also holding the additional charges which affect the supervising ability of the officers. These are the some of the major reasons for the general decline in the job efficiency level of Agricultural Officers from south to north.

Similarly, the dimension-wise relative efficiency level of Agricultural Officers at different zones and also at State level (Table-21) indicated that the efficiency level of Agricultural Officers ranks first in the 'farmer development' dimension and least in the case of 'coordination'. Lakoh (1988), pointed out that good performance results from better client orientation. It was suggested by Ban and Hawkins (1988), that extension agents should primarily concerned about the development of the farmers than achieving his targets. The people's participation through Vikasana Samithies and development of programmes formulated at panchayat level proved that the officers were much concerned about the 'farmer development'. These factors might have been the reason for the better performance on this dimension. 'Coordination' as an entity has peculiar features as compared to other dimensions as it is governed by the policies of the other departments, manner and style of performance of the other departments, government policies, and attitude of the officers of the other departments. This may be

the reasons hindered the Agricultural Officers in accomplishing the task of 'coordination'. Likewise, a declining trend was noticed in all the dimensions, while scanning from south to north. It is interesting to note that the declining trend was maximum in the case of 'office management' followed by 'professional competency', 'coordination', 'human relation', 'farmer development' and 'planning'. This is more or less similar to overall job efficiency score of Agricultural Officers at state level. Kruskal-Wallis test done also indicated that there existed significant differences in the zones with regard to the dimensions 'coordination', 'office management' and 'professional competency'.

The striking trend may be due to the constraints mentioned elsewhere. Apart from this, the factors like more area of operation, poor number of supporting staff, lack of field staff, additional charges of krishi bhavan, more number of programmes implemented in the last quarter of the financial year, more number of periodical and other reports etc. which might have been contributed much for the differences in the efficiency level in the dimensions among the zones. It is interesting to note that the Agricultural Officers efficiency level with regard to 'farmer development' dimension and the 'planning' was excellent at state level as well as the zonal level. The main aim of the functionaries of State Agricultural Development itself is to bring development in the farming



community. The results indicate that the Agricultural Officers should conceive this truth and must act accordingly.

### 5.3 RELATIONSHIP BETWEEN THE PERSONAL JOB AND ORGANIZATIONAL RELATED VARIABLES OF THE AGRICULTURAL OFFICERS WITH THEIR JOB EFFICIENCY

The multiple regression analysis carried out between the personal, job and organization related variables of the Agricultural Officers and their job efficiency (Table-28) clearly indicated that the variables included in the study could explain 77 per cent of the variation in the job efficiency which was found to be significant. Out of the independent variables, three variables namely 'self confidence', 'technical competency', and 'communication behaviour' were found to contribute significantly to the job efficiency. The step-wise regression also revealed the above mentioned variables as the best sub-set for predicting variation in job efficiency and these three variables explained 75.66 per cent of the variation in job efficiency. Communication behaviour is the single most important variable which explained 67 percent of the variation in job efficiency (Table-29). The result of path analysis also indicated the fact that 'technical competency' had the highest positive and direct effect on job efficiency followed by 'self confidence' and 'communication behaviour'. It is fascinating to note that all the selected independent variables exerted

substantial indirect effects on 'technical competency' followed by 'communication behaviour', 'self confidence' and 'job involvement' (Table-30).

The reasons for the observed nature of relationship of these independent variables with job efficiency of the Agricultural Officers in the study are discussed as follows:

### 5.3.1 Communication behaviour

This variable had emerged as an important one and explained 67 per cent of variation on job efficiency of Agricultural Officers. It is natural that the very existence of extension itself depends on the communication act of the extension personnel. Leagans (1958) stated that the ability to communicate effectively is one of the most important competencies needed for an extension worker. Rogers and Svenning (1969) postulated that communication processes are integral, vital elements of modernization and development. Rogers and Shoemaker (1971) stated that it is essential for social change. It is quite logical that higher the communication behaviour of the change agent higher will be his enthusiasm in gathering as much information as possible, evaluating and passing on the same to his clientele for further larger adoption. Similarly, in confirmity with the findings, Swanson and Claar (1984) stated that the role of the agricultural extension worker is that of an

educator and communicator. This may be the reason for this variable to emerge as the most influential in determining the job efficiency of the Agricultural Officers. This finding is in line with that of Talukdar (1984) and Reddy (1986) who found that communication behaviour was positively related to job productivity of agricultural development officers and village extension officers, respectively. The same pattern was revealed by Reddy and Jayaramaiah (1988) while studying the job effectiveness of village extension officers.

### 5.3.2 Technical competency

This variable also showed positive, significant relationship and also explained 6 per cent of variation in job efficiency of Agricultural Officers. The agricultural extension work is of professional nature and it is expected to give appropriate advice and support to farmers to enhance their income and standard of living. To do this act, one of the pre-requisites is sound technical knowledge. He is expected to keep in close touch with relevant scientific developments and research findings in order to formulate specific useful production recommendations for farmers with all resource constraints. He must have the competency to identify the production constraints in the field and develop appropriate measures to counter them. In the transfer of technology process, building credibility among the client system is most warranted. This can be achieved only

through convincing them that he is competent in handling farming problems in a professional manner. As viewed by Sofranko (1984), the extension workers role in technological change calls for a unique blend of knowledge, skills and talents. According to Reddy (1987), sound technical knowledge with ability and enthusiasm to teach people are the pre-requisites of extension personnel. The result of the study is in accordance with the findings of Mathew (1989) who reported the positive and significant relationship between technical competency and leadership of Assistant Directors of Agriculture.

### 5.3.3 Self confidence .

The psychologists contend that self confidence is essential for personality development, which reflects the behavioural pattern of an individual. Muthayya and Gnanakannan (1973) agreed that only those who have high self confidence will take risk and persistent efforts to excel others. It could be seen that 'self confidence' is indirectly influenced by 'technical competency', 'communication behaviour' and 'job involvement'. It shows very clearly that these three variables influence each other and exert synergic effect to job efficiency of Agricultural Officers (Table - 31). To act as an efficient Agricultural Officer in the field level in addition to technical knowledge and communication ability, the officer should possess confidence in the mind. The self confidence acts as a motivator and gives

power to act even in unfavourable field situations. This is similar to Rogers' (1961, 1977) self concept theory. Self concept is a most important element in personality development of the individual. Self concept includes thoughts, ideas and judgment about self. Self concept is that we think of ourselves. According to Rogers (1977), a strong positive self concept is the goal of the human beings. The finding is similar to Muthayya and Gnanakannan (1973) and NIRD (1992), who reported positive and significant relationship between self confidence and job satisfaction. Similarly, Subhalekshmi and Singh (1974) and Joseph (1983) reported positive significant relationship between self confidence and job effectiveness of gramsevikas and agricultural demonstrators, respectively.

#### 5.3.4 Job satisfaction

The results of multiple regression analysis indicated that there was no significant relation between job satisfaction and job efficiency of Agricultural Officers (Table-28). The results of path analysis (Table-30) revealed that it exerted indirect effect on job efficiency through 'technical competency', 'communication behaviour' and 'self confidence'. Luthans (1989) rightly pointed out that the satisfaction-performance controversy has raged over years. Although most people assume a positive relationship, the preponderance of research evidence indicated that there is no strong linkage between satisfaction and productivity. Iffaldano and Muchinsky

(1958) have conducted a comprehensive meta analysis on job satisfaction and job performance and found that only 0.17 as average correlation value between job satisfaction and job performance. Satisfied Officers will not necessarily be the highest producers or most efficient in their performance level. There are many possible mediating variables, such as self confidence, reward, job involvement and so on. This result is in accordance with the findings of Reddy (1982) and Jhansirani (1985) who reported that there was no significant direct relationship between job satisfaction and productivity of agricultural scientists. However, the finding is contradicted by Talukdar (1984), Reddy (1986), Sabarathnam (1988), Mathew (1989) and Halkatti (1991).

#### 5.3.5 Attitude towards profession

Though this variable showed insignificant contribution to the job efficiency of Agricultural Officers (Table - 28), the path coefficients indicated that the variable 'attitude towards profession' exerted indirect influence on 'technical competency', 'communication behaviour' and 'self confidence' (Table-30). It may be due to the fact that more favourable attitude towards profession is not going to benefit any officer to become efficient, but definitely help in building up sufficient technical competency and communication ability and self confidence. Unless and other wise the officer has possessed

favourable attitude towards his profession, he cannot do justice to his client system. The mean percentage score indicated very clearly that the Agricultural Officers had favourable attitude towards profession. This finding is similar to that of Steer and Porter (1975), who reported the positive relationship between job attitude and role performance of industrial workers. Similarly, Mohanty (1988) reported same pattern of relationship between attitude and productivity among industrial workers.

#### 5.3.6 Job involvement

The results of the multiple regression analysis showed that there was a positive relation between job involvement and job efficiency, but it was not significant (Table-28). The path coefficient revealed the fact that (Table-30), it exerted substantial indirect effect on 'technical competency', 'self confidence' and 'communication behaviour'. As in the case of 'attitude towards profession', here also job involvement influenced these variables and inturn these three variables influence job efficiency significantly. Involvement or interest on the part of the officer acts as a catalyst and gives momentum or helps the officer to sharpen his competency and gives confidence to act. Similar to attitude towards profession, job involvement of the officer is a pre requisite for the efficient execution of his activities. This is in accordance with the findings of Lawler and Hall (1970), Singh and Patiraj (1987) and

Reddy and Jayaramaiah (1988), who all reported that there was no direct significant relation between job involvement and job effectiveness of industrial workers and village extension officers. However, the finding is contradicting to the findings of Siegal and Ruh (1973), Mowday et al. (1979), Veerabhadriah (1980) and Radhakrishnamoorthy (1987).

### 5.3.7 Intrinsic motivation

In contrast to the variable mentioned earlier, this variable had shown negative insignificant partial regression coefficients and negative direct effect (Table-28) on the job efficiency of Agricultural Officers. The path coefficient (Table-30) indicated that it exerted substantial indirect effect on 'technical competency', 'self confidence' and 'communication behaviour' similar to job involvement. As described elsewhere the extension profession itself is a specialised field and only those who have determination and persistence alone can do something for the well-being of the client system. Only people with these characteristics can survive in the vicious circle, maintain their tempo and self confidence and make success even in an unfavourable condition.

As pointed in the Porter-Lawler model motivation does not directly lead to performance. It is mediated by abilities, personality traits, job attitude and so on. Here it is a cyclic process. The Agricultural Officer is expected to



perform a series of activities and the result of the activity performed lead to some reward, and the reward further acts as a motivator and it goes on spirally.

### 5.3.8 Guidance and supervision

Similar to intrinsic motivation, this also showed negative but insignificant relationship with job efficiency of Agricultural Officers. Similarly, the path coefficients indicated that the direct effect was also negative but it was only nominal (Table-30). But the indirect influence of the variable on 'technical competency', 'self confidence' and 'communication behaviour' was appreciable.

Guidance and supervision by the higher ups, if carried out in a democratic way, would kindle the inner self of the Agricultural Officers to perform their job efficiently by developing their technical competency, skill and techniques. It may be logical to construe that the guidance and supervision of this upper hierarcheal position is feable and at times hinder their efficiency level. Judicious guidance and supervision on technical aspects and professional growth would play a pivotal role in bringing out success among Agricultural Officers. The higher ups to Agricultural Officers (Assistant Directors and Deputy Directors) are the supervisors to Agricultural Officers in all senses. Supervisors especially Assistant Directors are the creators of surrounding which become conducive for performance.

The supporting reason for the non-significant relationship here may be that there might be a missing link in the counselling by superiors. While analysing the constraints perceived by the Agricultural Officers, majority of the officers named 'lack of timely communication', 'programmes formulated at higher level and communicated', 'poor guidance from superiors', 'conflicting demand of work', 'inadequate office facilities' as major ones. This confirms that the majority of the officers are having the perception that the guidance and supervision is not sufficient enough to motivate them to perform their job efficiently. This relationship conforms to the results evinced by Reddy (1976), Hosur (1977), Talukdar (1984), Reddy (1988) and Reddy (1990).

### 5.3.9 Facilities and resources

This variable also showed a very similar pattern of response like guidance and supervision in multiple regression and step-wise regression analyses and showed negative insignificant relationship between facilities and resources and job efficiency (Tables-28 and 30). Similar to the guidance and supervision the Agricultural Officers perceived 'poor guidance from superiors', 'lack of effective supervision', 'insufficient job involvement of superiors' etc. as the factors which hinder their performance. It shows that the existing facilities and resources are not sufficient to encourage the Officers to perform their work efficiently. This is in accordance with the findings

of Reddy (1983), Jansirani (1985) and Reddy and Jayaramaiah (1988) and contradicted with the results of Talukdar (1984), Reddy (1986) and Reddy (1990).

#### 5.3.10 Organizational climate

The results of multiple regression analysis showed that there was positive insignificant relationship between organizational climate and job efficiency (Table-28). The path coefficient indicated that the direct effect was only nominal (Table-30). Similar to the 'attitude towards profession' and 'job satisfaction', it exerted substantial indirect effect on 'technical competency', 'communication behaviour', and 'self confidence'. Public organizations especially in development departments where the bureaucratic devil is more predominant, employees never expect a highly favourable organizational climate. Rigid rules and regulations, redundant levels of hierarchy, favouritism, undercutting and back biting and many other shortcomings will definitely score away their hopes. But favourable climate will definitely influence their technical competency and communication behaviour.

It can be concluded that the perception of Agricultural Officers regarding their organizational climate is more or less similar and they perceive that the climate is not too congenial and expect some more favourable conditions to enhance their job efficiency. As pointed by Tagiuri (1968),

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'organizational climate' is the enduring quality of the internal environment experienced by its members, which influences their behaviours and which can be described in terms of the values of particular set of characteristics of the organization. Schneider (1975) observed that each individual perceives or conceptualises his organization in any number of ways, depending upon the context and the set of information about the organization, which is operative for that individual. Koehler et al. (1976) opined that that employees may experience the same climate differently at different times or different employees may perceive the same climate differently depending upon seniority, age or position in the hierarchy. The finding is in conformity with the findings of Talukdar (1984) and Reddy (1986).

#### 5.4 RELATIONSHIP BETWEEN THE PERSONAL JOB AND ORGANIZATION RELATED VARIABLES OF THE AGRICULTURAL OFFICERS WITH THEIR JOB DIMENSIONS

The step-wise regression and path analyses carried out between the personal, job and organization related variables of the Agricultural Officers with their job efficiency dimensions (Tables-31 to 48) revealed some interesting findings.

##### 5.4.1 Attitude towards profession

The step-wise regression analysis (Tables-38 and 47) revealed that the variable explained nearly two per cent

variation in human relation and farmer development dimension of job efficiency. It can be understood that the two dimensions are having some commonalties such as human values, importance for others feelings, emotions, their needs, ambitions etc. The results of the path analysis indicated that the variable exerted highest indirect effect on 'farmer development' dimension through 'technical competency', 'communication behaviour' and 'self confidence'.

It showed very clearly that mere favourable attitude towards profession is not going to make any substantial effect on job efficiency, but the favourable attitude will definitely influence 'technical competency', 'communication behaviour' and 'self confidence'. This may be the reason why these three variables emerged as the most important ones in influencing the overall job efficiency of Agricultural Officers. This is in accordance with the findings of Kalavathy (1989) who reported that there was no direct significant relation between job satisfaction and job attitude of Agricultural graduates. However, the findings are contradicted by Steers and Porter (1975) and Mohanty (1988) who found positive significant relation between industrial worker and their role performance and productivity, respectively.

The overall mean percentage score of the variable was 76.16 and it indicated that majority of the respondents were having favourable attitude towards their profession.

#### 5.4.2 Self confidence

The results of step-wise regression analysis (Tables-32, 35, 41, 44 and 47) revealed very clearly that the variable self confidence emerged as one of best subset in explaining the variation of all the job efficiency dimensions ranging from three per cent on planning to two per cent on farmer development. Similarly this is one of the variables influencing directly the overall job efficiency level of Agricultural Officers.

From this it could be interpreted that the 'self confidence' is one of the variables influencing greatly the job efficiency dimensions. The path analysis also revealed the fact that the variable exerted highest direct effect on professional competency dimension of the Agricultural Officers. As pointed out by Adams (1982) the extension profession should not be considered as a plug to fill up the existence of the individual. He must have motivation and urge to do something for the community. He should have pride and confidence to feel as a change agent Benor et al. (1983), while delineating the status of extension personnel viewed that in the developing countries the extension service is having low status and low pay. This vicious circle undermines the extension agents self confidence making success even less likely in most of the situations. Swanson and Claar (1984) reported that one of the important

problems solved through T & V system is to improve the status of extension personnel by giving them a relatively clear-cut job with reasonable expectations that they can successfully carry it out, which will increase their level of respect in the community and will build their self confidence. This is in accordance with the findings of Muthayya and Gnanakannan (1973), Pandyaraj (1978), Joseph (1983) and Sheela (1989).

#### 5.4.3 Intrinsic motivation

The results of step-wise regression analysis (Table-44) indicated that this variable explained nearly three percent of variation in professional competency dimension of the Agricultural Officers. Similarly, the path analysis indicated that the variable exerted highest direct effect on 'farmer development' dimension. The variable also exerted highest indirect effect on four job efficiency dimensions such as 'planning', 'human relation', 'office management' and 'professional competency'. Except in the 'coordination' dimension, this variable exerted influence on all the job efficiency dimensions in one way or the other. As pointed out by Hackman and Lawler (1971), the officer himself generates enthusiasm, acts and derives some sort of satisfaction. Hence it can be concluded that the role of intrinsic motivation is pivotal in influencing the job efficiency of Agricultural Officers.

#### 5.4.4 Job satisfaction

The results of step-wise regression analysis (Table-44) indicated that the variable 'job satisfaction' explained 3 per cent variation on 'professional competency'. The results of path analysis indicated that the variable exerted substantial indirect effect on five job efficiency dimensions such as 'human relation', 'farmer development', 'office management', 'coordination', 'planning' and 'professional competency' in the descending order (0.8253, 0.7166, 0.7121, 0.6590, 0.6071 and 0.3622 respectively). It may also be noted that the indirect effects were channeled through the very important variables 'communication behaviour', 'technical competency', 'self confidence' and 'intrinsic motivation'.

As stated by Cooper (1958) an individual wants a job at work that interests him. He wants good tools and machines with which to do his job. He wants a fair wage in return for doing this job and opportunity for career advancement. He wants satisfactory conditions including hours of employment, surroundings, suitable transport facilities and so on.

The mean percentage score (Table-26) is only 58.56, and that itself indicates that the Agricultural Officers are not entirely satisfied with the present system. Though the influence of the variable 'job satisfaction' is not direct, it is indirect.



Hence the management should take effort to enhance the job satisfaction levels of Agricultural Officers.

#### 5.4.5 Job involvement

Similar to 'job satisfaction' the variable 'job involvement' also exerted nominal direct effect on job efficiency dimensions. At the same time, the variable exerted substantial indirect effect on all the job efficiency dimensions. It may also be noted that the indirect effects channeled through the variables 'communication behaviour', 'technical competency' and 'self confidence' and these variables explained the overall job efficiency of Agricultural Officers also.

As viewed by Adams (1982), it is essential for the extension worker to have involvement or commitment to succeed in his work because much of the time he is expected to work unsupervised in a profession demanding a great deal of patience and persistence. Here also, the management should take effort to enhance the job involvement of Agricultural Officers. Job involvement in turn exerts effort on the variables which directly influence job efficiency.

#### 5.4.6 Guidance and Supervision

The results of path analysis indicated that the direct effect of the variable on job dimension is very nominal.

At the same time, the total indirect effect of the variable on all the job dimensions. It may also be noted that similar to 'job involvement' the indirect effect was mainly channeled through the most important variables namely 'communication behaviour', 'technical competency' and 'self confidence' which influence the overall job efficiency of Agricultural officers. The mean percentage score of this variable is 62.69 and which indicates that the guidance and supervision is not sufficient.

As pointed out by Cooper (1958), subordinates like to work under a supervisor, who is smart and committed. The supervisor who cannot think fast loses the respect of his subordinates. The superior officer must possess integrity, followed by fairness in his treatment of subordinates and must possess sound judgment. Since the Agricultural Officers are under the direct supervision of Assistant Directors of Agriculture and controlled by Deputy Directors of Agriculture, the manner in which these officers guide and supervise their subordinates will definitely reflect on the ability of the officers with regard to their performance.

The finding contradicted the findings of Jayaraman (1973), Reddy (1976), Talukdar (1984), Reddy (1986), Reddy (1990) and Waris et al. (1990).

#### 5.4.7 Facilities and resources

This variable exerted very nominal direct effect on the job dimensions. However, the variable exerted substantial indirect effect on 'office management' dimension followed by 'human relation', 'farmer development', 'coordination', 'professional competency' and 'planning'. It may also be noted that the indirect effect was channeled through the variables 'communication behaviour', 'technical competency', 'self confidence', 'intrinsic motivation' and 'attitude towards profession'.

As pointed out by Claar and Bentz (1984), the primary function of an extension organization is to transmit information and skills about new agricultural technology. Therefore, the first need of an extension organization is to be able to communicate with its own staff. Extension workers, consequently, need to be placed where they can be reached easily. They need a place where clientele can meet them. The questions of office configuration, necessary office equipment, the need for clerical staff and office procedures must be resolved within the resource constraints of each organization. They further stated that some common errors associated with facilities management include inadequate clerical support, resulting in extension professionals performing clerical and other routine tasks to the detriment of their educational roles.

The finding contradicted the findings of Talukdar (1984), Reddy (1986) and Reddy (1990) who reported direct positive significant relationship between the variable facilities and resources and productivity and job performance. Similarly, it contradicted another set of findings that there was no significant relation between the variable 'facilities and resources' and job effectiveness (Reddy and Jayaramaiah, 1988).

The mean percentage score of this variable is only 43.54, the lowest among all the independent variables. The value itself indicates that the perception of Agricultural Officers about the 'facilities and resource' is not sufficient. It has to be tuned further to enhance the efficiency of the Agricultural Officers.

#### 5.4.8 Organizational climate

The results of step-wise regression analysis indicated that this variable explained two per cent variation in 'planning' and one per cent variation on 'farmer development' dimensions of Agricultural Officers. The path analysis indicated that the variable exerted substantial indirect effort on 'farmer development', 'human relation', 'office management', 'coordination', 'planning' and 'professional competency'. It revealed very clearly that the variable influenced job dimension in one way or the other. If an officer has to do anything for the client system, definitely he must have an inclination towards

farmer development and be able to understand their feelings. As stated by Benor and Harrison (1977), the extension system must focus on the well being of client system under a single line of command.

As pointed out by Luthans (1989), the Weberian bureaucratic model emphasises that specialization serves to increase productivity and efficiency, but in some situations it can also create conflict between specialized units, to the detriment of the overall goals of the organization.

#### 5.4.9 Technical competency

The results of step-wise regression analysis show that the variable 'technical competency' explained nine per cent variation in 'coordination', six percent variation in 'human relation', seven per cent variation in 'office management' and six percent variation in 'farmer development' dimension of Agricultural Officers.

Similarly, the results of path analysis indicated that the direct effects of the variable on job efficiency dimension are substantial on 'coordination', 'human relation', 'office management' and 'farmer development' dimensions. At the same time, the total indirect effect of the variable on 'planning' and 'professional competency' were substantial.

As rightly pointed by Kossen (1977), a competent manager requires skill and knowledge, both of which are not inborn; they are developed and acquired. To act as an efficient Agricultural Officer at field level, one must possess sufficient technical competency, only then he can gain credibility and respect among the client group.

#### 5.4.10 Communication behaviour

As in the case of 'technical competency' the results of step-wise regression analysis indicated that the variable explained 72 per cent of variation in 'farmer development' dimension followed by 70 per cent of variation in 'human relation', 63 per cent variation in 'office management', 61 per cent of variation in 'coordination', 43 per cent of variation in 'planning' and 39 per cent of variation in 'professional competency'.

The results of path analysis also indicated the fact that the variable 'communication behaviour' exerted substantial direct effect and indirect effect on all the job dimensions from 'planning' to 'farmer development'. As stated by Fliegel (1956), effective extension communication not only requires substantial knowledge of the complex means - ends linkages that affect decisions, but can also capitalize on the information-transfer capabilities of that social fabric and minimize the negative consequences of factors that impede

information flow. He further stated that the objective of extension communication is to provide firm knowledge on which action can be based, to persuade the farmer to make a decision to try the new technology, to provide the information necessary for actual implementation and to provide the information needed by the farmer to assess the results of that decision and hopefully to confirm the decision.

The analysis revealed that communication act of the extension agent was the most important variable in influencing all the selected job dimensions. Since it is one of the vital factors in the technology transfer process, the emergence of the variable 'communication behaviour' as most important is not beyond reasoning.

#### **5.5 JOB CONSTRAINTS AS PERCEIVED BY THE AGRICULTURAL OFFICERS**

While viewing the constraints in total, constraints like 'more number of programmes at Krishi Bhavan level', 'name sake programmes with nominal benefits to farmers' and 'more work load in the last quarter of the financial year' were reported more frequently hindering the efficient performance of the job dimensions. According to Benor and Harrison (1977) the extension system should be designed in such a way to give each extension worker a defined job, timely training, technical backstopping, timely and appropriate and meaningful farmer oriented programmes

and adequate supervision. As rightly pointed by Swanson and Claar (1984) the programmes implemented in the Third world in general were having the main objective of increasing national agricultural production in a wider circle. While analysing these programmes and objectives, it is very important to consider the policy context in which extension operates, to determine which objectives are given priority, whether the farmers objective or the national objectives. There is a possibility of conflicting demand Nelson (1992) while studying the performance of Krishi Bhavans at Panchayat level also reported the above mentioned constraints.

Similarly 'much of desk work', 'more number of periodical and other reports' and 'more time required for attending routine work' were the constraints reported in the second order. It indicates clearly that the Agricultural Officers are spending more time in attending desk work than field work. As pointed out by Swanson and Claar (1984) under T & V system, the only report or activity record an extension worker is expected to keep is his daily record of contact farmers visited, trainings imparted, problems encountered, recommendations made and any other comments or observations that seem important. The present Krishi Bhavan system conceived the essence of T & V system also with some additional responsibilities and duties. Reddy (1990) and Nelson (1992) have reported that the time required for desk work is more.



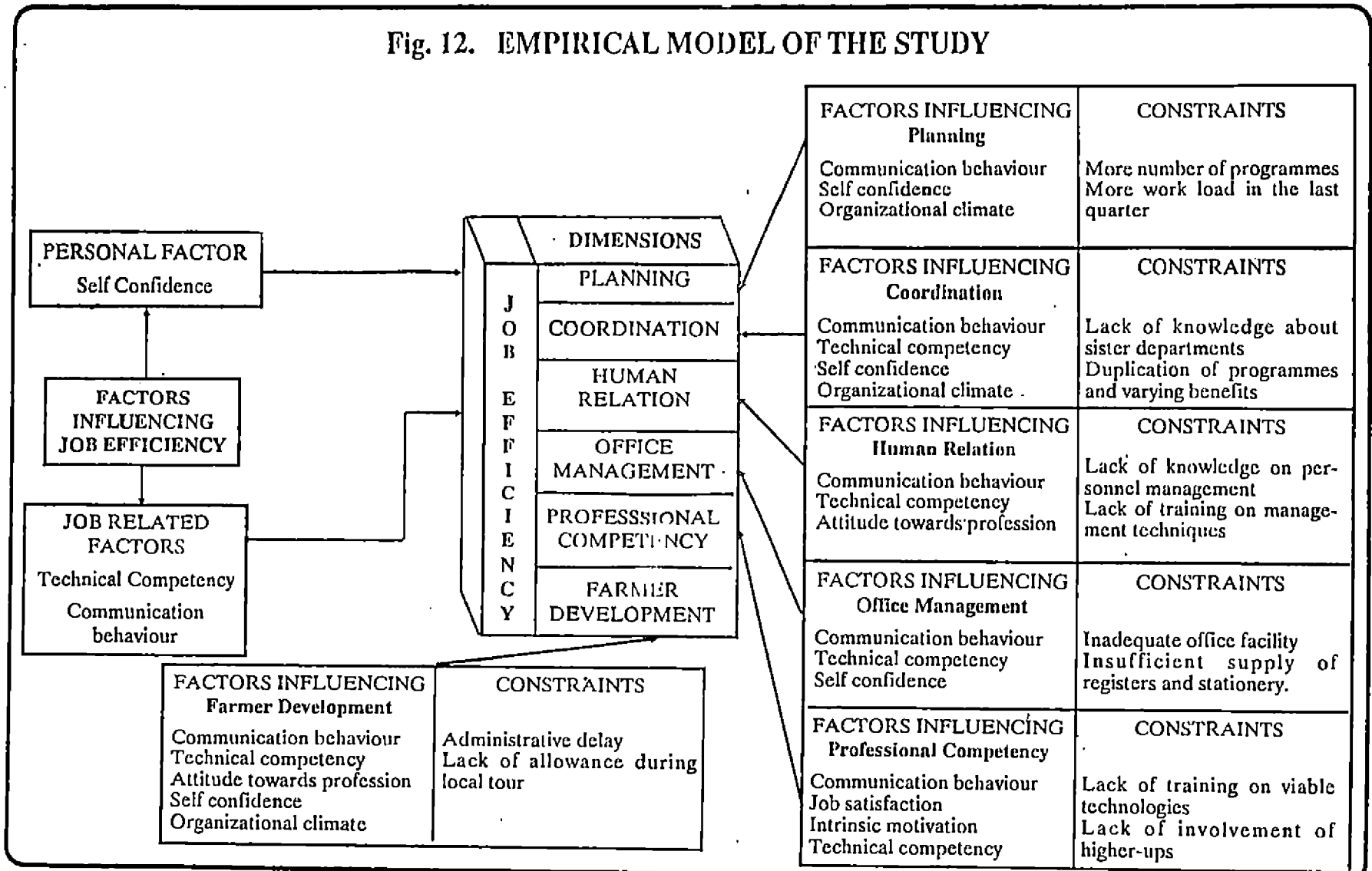
## 5.6. JOB EFFICIENCY OF THE AGRICULTURAL OFFICERS - A BIRD'S EYE VIEW

The essence of the result on job efficiency of Agricultural Officers is epitomized in the empirical model diagrammatically (Fig.12).

The model depicted in Fig.12 has three segments, one represents the factors influencing the job efficiency, the central segment: represents the job dimensions which inturn reflect job efficiency and the last part consists of factors and constraints influencing job efficiency. It indicates that 'self confidence', 'technical competency', and 'communication behaviour' are the three factors which directly influence the job efficiency of Agricultural Officers. The central segment represents the job dimensions namely 'planning', 'coordination', 'human relation', 'office management', 'professional competency', and 'farmer development'. Performance of these dimensions reflect the job efficiency of Agricultural Officers. The last segment represents the factors and constraints influencing the job dimension empirically.

It indicates very clearly that the factors, 'communication behaviour', 'self confidence' and 'organizational climate' are the three factors influence planning and 'more number of programmes' and 'more workload in the last quarter' are the major constraints. In the case of coordination, 'communication behaviour', 'technical competency', 'self

**Fig. 12. EMPIRICAL MODEL OF THE STUDY**



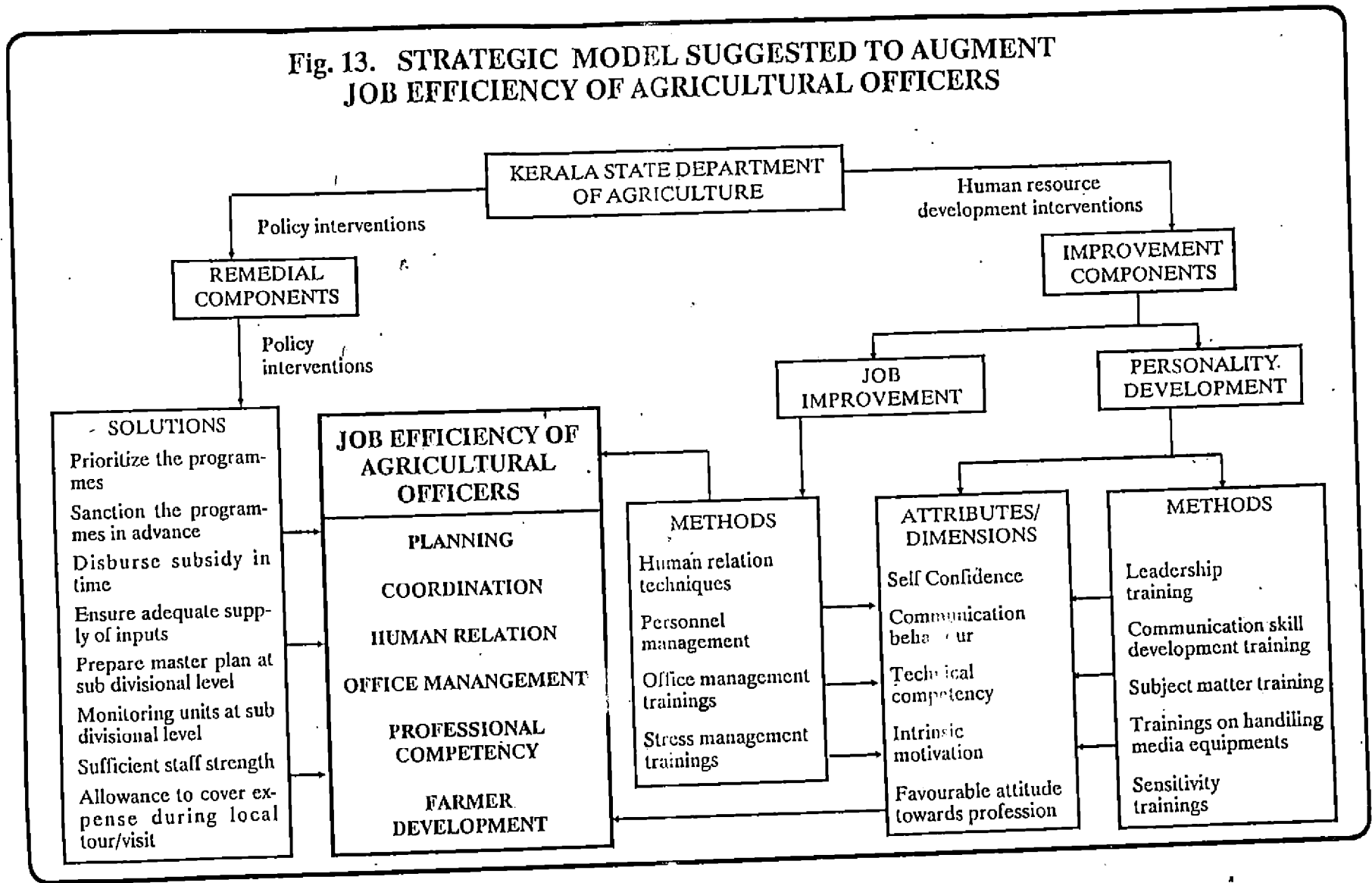
confidence' and 'organizational climate' are the four factors which directly influence coordination and 'lack of knowledge about sister departments' and 'duplication of programmes and varying benefits' are the major constraints. With regard to human relation 'communication behaviour', 'technical competency', and 'attitude towards profession' are the three factors which influence this dimension and the major constraints are 'lack of knowledge on personnel management' and 'lacking of training on management technique'.

With reference to office management, 'communication behaviour', 'technical competency' and 'self confidence' are the three factors directly influencing this dimension and 'inadequate office facility' and insufficient supply of registers and stationery are the major constraints. Adverting to the professional competency, the four factors which directly influence are 'communication behaviour', 'job satisfaction', 'intrinsic motivation' and 'technical competency' and 'lack of training on viable technologies' and 'lack of involvement of higher-ups' are the major constraints perceived by the Agricultural Officers. In the case of farmer development dimension, 'communication behaviour', 'technical competency', 'attitude towards profession', 'self confidence' and 'organizational climate' and the five factors influencing this dimension and the major constraints are 'administrative delay' and 'lack of allowance during local tours'.

### 5.7. STRATEGY TO AUGMENT THE JOB EFFICIENCY OF AGRICULTURAL OFFICERS

A strategic model has been suggested to enhance the job efficiency of Agricultural Officers of the Kerala State Department of Agriculture (Fig. 13). Fundamentally the model relies on two types of organizational intervention one is of policy nature and other of Human Resource Development (HRD) character. The policy component comprise remedial measures construed from the major constraints identified through the study which can be achieved through the policy interventions of the Government. The HRD component focus on two separate strategies one is personality development and the other job development. The ways of improving personality of Agricultural Officers are considered as methods of personality improvement it includes leadership trainings, communication skill development trainings, sensitivity training and so on. These methods may help in influencing the attributes such as 'self confidence', 'communication behaviour', 'intrinsic motivation' and create favourable attitude towards profession. Similarly, the job development approach may contain methods like 'advanced trainings on viable technologies', 'trainings on office management', 'human relation development trainings', 'trainings on material management', 'stress management' and so on. These methods would directly help in enriching job as well as indirectly play a role for personality improvement also.

**Fig. 13. STRATEGIC MODEL SUGGESTED TO AUGMENT JOB EFFICIENCY OF AGRICULTURAL OFFICERS**



# SUMMARY

## SUMMARY

Agriculture plays a dominant role in the economic development of the country. The food production at present may be comfortable, yet, the task ahead is rather enormous in view of accomplishing the demands of the growing population. The key factors most essential to realize this dream are in the spheres of Agricultural Technology Generation and Technology Transfer to Farming Community. The success of technology transfer has a direct bearing on the efficiency of the extension personnel engaged in this process. Agricultural Officers form the vital force in performing the herculean task of technology transfer, which otherwise means that development in farm front is directly proportional to the job efficiency of this sector of transfer of technology system. This warrants an information package at the hands of policy makers of transfer of technology system on various aspects of job efficiency of Agricultural Officers. Past studies in this area neither came out with a measuring device nor with a comprehensive information on job efficiency of Agricultural Officers and related factors of it. Considering the above factors, the present study was undertaken with the following objectives.

### 6.1. OBJECTIVES

1. To develop and standardise a scale to measure the job efficiency of Agricultural Officers.

2. To measure the job efficiency of panchayat level Agricultural Officers of State Department of Agriculture.
3. To delineate the important job dimensions of Agricultural Officers.
4. To study the relationship of personal and situational variables with the job efficiency of Agricultural Officers.
5. To identify the constraints in influencing the job dimensions as perceived by the Agricultural Officers.
6. To develop an extension strategy to augment the job efficiency of Agricultural Officers.

## 6.2. METHODOLOGY

The study was undertaken in three Agro climatic zones of Kerala covering six districts, two each from the zones. The selected districts were Pathanamthitta and Kottayam (Southern Zone), Ernakulam and Thrissur (Central Zone) and Kozhikode and Kannur (Northern Zone). From each districts one Agricultural sub division was randomly selected. All the panchayat level Agricultural Officers working in the Krishi Bhavan of the sub divisions were selected, subject to the condition that each officer should have completed a minimum one year service in the present post and present place. Finally 154 Agricultural Officers were selected for the main study and the analysis and



interpretation were carried out with the responses obtained from 115 respondents.

The dependent variable of the study was job efficiency of Agricultural Officers and the same was measured with the help of a scale developed for the study and rated by the Assistant Directors of the selected Agricultural Officers. BARS technique was used to develop the job efficiency scale. Based on the Nominal Group Technique, 160 items reflecting job activities of Agricultural Officers were generated. From this list of activities, 65 activities were selected based on the judges relevancy rating method. These 65 activities were subjected to item analysis, from which 30 activities which had shown significant discrimination index, and item total score correlation were selected. Response category for each of the activities in terms of behaviours and the weightages allotted in a five point continuum formed the final scale. The scale was standardised by conducting various tests of validity and reliability. The dimensions of the scale were identified empirically through linkage analysis.

Twenty independent variables (personal and situational related variables of Agricultural Officers) viz. educational status, rural-urban background, training received, attitude towards profession, attitude towards farmers, self

concept, self confidence, achievement motivation, intrinsic motivation, job experience, perceived work load, job autonomy, job satisfaction, job involvement, technical competency, communication behaviour, guidance and supervision, facilities and resources, organizational climate and organizational involvement were selected based on judges relevancy rating to find out the influence of these variables on job efficiency of Agricultural Officers. Technical competency of Agricultural Officers was measured by developing a scale and the rest of the independent variables were measured with the help of available scales. A pilot study was conducted to screen and select independent variables. Finally ten variables namely, attitude towards profession, self confidence, intrinsic motivation, job satisfaction, job involvement, technical competency, communication behaviour, organizational climate, guidance and supervision, and facilities and resources were selected for inclusion in the study.

The data were collected using a pre-tested and structured interview schedule and mailed questionnaire during November 1991 to February 1992. The statistical tools used were mean, percentage, mean score percentage, Fried-man two way analysis, Kruskal Wallies test, multiple regression, step-wise regression and multivariate path coefficient analysis. The salient findings of the study are as follows.

### 6.3. FINDINGS

6.3.1. The job dimensions of the scale identified based on the linkage analysis were 'planning', 'coordination', 'human relation', 'office management', professional competency, and 'farmer development'.

6.3.2. The analysis of the overall job efficiency of the Agricultural Officers indicated that little more than half of the Agricultural Officers (51.31 percent) had high job efficiency.

6.3.3. The dimension-wise analysis with respect to the Agricultural Officers on the whole revealed that majority of them fall under the category of high group except 'office management' dimension.

6.3.4. The Kruskal-wallies test indicated that there was no significant difference between overall job efficiency of the Agricultural Officers among the three zones.

6.3.5. The results of Kruskal-Wallies test indicated that there was significant difference among the Agricultural Officers of the zones in the job dimension namely 'coordination', 'office management' and professional competency'.

6.3.6. The Friedman test value showed that the job dimension 'farmer development' 'planning' and 'coordination' differed significantly with all other dimensions at State level.

6.3.7. The Friedman test indicated that the job dimension 'farmer development' and 'planning' differed significantly with all other dimensions in all the three zones.

6.3.8. The mean percentage score of the independent variables indicated that the Agricultural Officers possessed relatively high favourable 'attitude towards profession' and 'facilities and resources' 'was perceived to be poor at state level.

6.3.9. The mean percentage score of the independent variable indicated that the Agricultural Officers of the central and northern zone possessed highly favorable attitude towards profession and the officers of the southern zone possessed high 'self confidence'.

6.3.10. The result of the Kruskal-Wallis test indicated that the Agricultural Officers of the three zones differed significantly only in the independent variables of job satisfaction and facilities and resources.

6.3.11. The multiple regression analysis revealed that the ten independent variables put together contributed significantly to the job efficiency of the Agricultural Officers and explained 77 percent of the variation in job efficiency:

6.3.12. The variables namely, 'technical competency', 'self confidence' and 'communication behaviour' were found to have significant contribution and direct effect on job efficiency.

6.3.13. The best sub-set of variables for predicting the variation in job efficiency were 'communication behaviour' 'technical competency' and 'self confidence' which explained 76 percent of variation in the job efficiency of Agricultural Officers.

6.3.14. The result of path analysis indicated that the variable technical competency had highest direct effect on job efficiency and the variable 'job satisfaction' exerted the highest indirect effect on job efficiency of Agricultural Officers.

6.3.15. The result of multiple regression analysis revealed that the ten variables put together explained 49 percent variation in the job efficiency dimension-planning.

6.3.16. The best sub-set for predicting planning consisted of three variables such as 'communication behaviour' 'self confidence' and organizational climate' and explained 48 percent of variation of job efficiency dimension-planning.

6.3.17. The results of path analysis indicated that the variable communication behaviour had the highest direct effect and the intrinsic motivation had the highest indirect effect on job efficiency dimension-planning.

6.3.18. The result of multiple regression analysis revealed that the ten variables put together explained 73 percent variation in the job efficiency dimension-coordination.

6.3.19. The step-wise regression analysis selected the best sub-set consisted of three variables such as 'communication behaviour' 'self confidence' and organizational climate'.

6.3.20. The results of path analysis indicated that the variable 'communication behaviour' exerted the highest direct effect followed by 'technical competency' and 'self confidence' and the variable 'intrinsic motivation' exerted the highest indirect effect on coordination, similar to planning dimension.

6.3.21. The result of multiple regression analysis revealed that the ten variables put together explained 79 percent variation in the job efficiency dimension-human relation.

6.3.22. The step-wise regression analysis selected the best sub-set consisted of three variables such as 'communication behaviour' 'technical competency' and 'attitude towards profession' and explained 77 per cent of variation in human relation dimension of job efficiency.

6.3.23. The results of path analysis indicated that the variable 'communication behaviour' exerted the maximum direct effect and the variable 'intrinsic motivation' exerted the highest indirect effect on the human relation dimension of job efficiency.

6.3.24. The result of multiple regression analysis revealed that the ten variables put together explained 73 percent variation in the office management dimension of job efficiency.

6.3.25. The step-wise regression analysis selected the best sub-set consisted of three variables such as 'communication behaviour' 'technical competency' and 'self confidence' and explained 72 percent variation in office management.

6.3.26. The results of path analysis indicated that the variable 'technical competency' exerted the highest direct effect and the variable 'intrinsic motivation' exerted the highest indirect effect on office management dimension of job efficiency.

6.3.27. The result of multiple regression analysis revealed that the ten variables put together explained 53 percent variation in the professional competency dimension.

6.3.28. The step-wise regression analysis selected the best sub-set consisted of four variables such as 'communication behaviour' 'job satisfaction' 'intrinsic motivation' 'self confidence' and 'technical competency' and explained 51 percent of variation in the professional competency dimension.

6.3.29. The results of path analysis indicated that the 'self confidence' exerted the highest direct effect and the

variable 'intrinsic motivation' exerted the highest indirect effect on 'professional competency' dimension of job efficiency of Agricultural Officers.

6.3.30. The result of multiple regression analysis indicated that the ten variables put together explained 83 percent variation in the farmer development dimension of job efficiency.

6.3.31. The step-wise regression analysis selected the best sub-set consisted of five variables such as 'communication behaviour', 'technical competency', 'attitude toward profession', 'self confidence' and 'organizational climate' and explained 82 per cent of variation of farmer development dimension of job efficiency.

6.3.32. The results of path analysis indicated that the variable 'technical competency' exerted the highest direct effect and the variable 'intrinsic motivation' exerted the highest indirect effect on the farmer development dimensions of job efficiency.

6.3.33. From the analysis done to find out the relationship of individual, job and organization related variable on job efficiency as well as job dimensions, the variable 'communication behaviour', 'technical competency', 'self confidence', 'job



satisfaction', 'job involvement' and 'intrinsic motivation' were identified as most important variables. Similarly these variables were found to be influencing job dimension either directly or indirectly.

6.3.34. The major constraints perceived by the Agricultural Officers were 'more number of programmes', 'lack of sufficient knowledge about the programmes of sister departments', 'lack of sufficient knowledge on personnel management', 'inadequate office facilities', 'lack of skill oriented trainings on viable technologies' and 'administrative delay in disbursing subsidies and other benefits to farmers'.

#### 6.4. IMPLICATION OF THE STUDY

6.4.1. The job efficiency scale developed in this study can be used to assess the efficiency of any field level extension worker and the items of the scale are constructed in such a manner that it can be handled quickly and effectively.

6.4.2. As the job efficiency scale developed has clear cut dimensions which could be used to measure the efficiency of Agricultural Officers on these dimensions.

6.4.3. The empirical identification of the dimensions involved in the scale brought out in clear terms the major job areas of extension functionaries. These job areas delineated in the study

can be used as the basis for the formulation of job enrichment programmes of officers.

6.4.4. The items included under each dimension indicated the important activities to be performed by the Agricultural Officers. It will tell the performance level as well as the weaknesses. This can very well form basis for job enrichment of Agricultural Officers and Human Resource Development Programmes.

6.4.5. The study focused that the dimension 'office management', required special thrust and officers must be equipped to act as an efficient administrator in addition to their professionalism.

6.4.6. The results of study on the dimensions 'planning' and 'coordination' brought out some note worthy findings that the officers are having poor knowledge about the programmes and activities of sister departments. Hence, at sub-divisional level trainings are to be organised to give exposure.

6.4.7. Though the department is guided with the new Agricultural policy at state level, it is essential to have a sub-divisional level plan to implement the policy in the field level.

6.4.8. The study throws light on the fact that as an extension worker, 'communication behaviour', 'technical competency', self confidence, and job involvement are the most valuable variables influencing job efficiency as well as job dimensions. Hence,

special programmes aiming at the development of these attributes may be worked out.

6.4.9. The study has brought out the substantial indirect effect of intrinsic motivation on job efficiency at overall level as well as at dimensions level. Hence, the proposed reward system included in the Agricultural policy has been implemented at the earliest.

6.4.10. To ensure the effective supervision and efficient performance, the officers are expected to conduct regular visits in their work area. Since lack of mobility, much of desk work, poor travel allowances etc. were reported as constraints, the Government should sanction a lump sum amount per month to meet their petty expenses.

6.4.11. Since more number of reports and periodicals at monthly interval was reported as an important constraint, as suggested by many extension experts like Benor and Harrison (1977), Adams (1982), Claar and Bentz (1984) and Swanson (1984) the burden of reporting the work has to be reduced to the maximum extent.

## 6.5 SUGGESTED LINES OF FUTURE RESEARCH

6.5.1. The present study has been undertaken only with regard to Agricultural Officers of Krishi Bhavan (panchayat level). It

is suggested that similar studies may be initiated for the extension personnel such as Agricultural Assistants, Assistant Directors, Deputy Directors, Top level executives like Joint Directors since they also play vital role in the transfer of technology process.

6.5.2. The scope of the present investigation was restricted to a single entity group in the Extension System. However, considering the gaining importance of wholistic or total system approach in solving problems, there is a need to study the efficiency of total system as such.

6.5.3. Action research studies may be initiated to standardise the course content of various job dimensions that can form a base material for imparting suitable trainings for the Agricultural Officers and also to analyse the impact of such trainings in the execution process.

6.5.4. It is also necessary to develop suitable measuring devices exclusively for the individual job dimensions such as planning, coordination, human relation, office management, professional competency and farmer development to gain in-depth knowledge on these dimensions.

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# APPENDICES

APPENDIX - I

KERALA AGRICULTURAL UNIVERSITY

Dr. G.T. Nair  
Professor & Head

Dept. of Agrl. Extension  
College of Agriculture  
Vellayani - 695 522  
08-08-1991

Dear Sir/Madam,

Mr. S. Mothilal Nehru, Ph.D. Scholar in Agricultural Extension working under my guidance is developing a scale to measure "JOB EFFICIENCY OF AGRICULTURAL OFFICERS" as a part of his doctoral research programme.

In view of your high academic qualifications and vast experience in the field of Agricultural Extension, we are pleased to choose you as a judge for the selection of variables which influence job efficiency.

Job efficiency of Agricultural Officers refers to the extent of ability of officer in achieving his tasks, duties, responsibilities and assignments within the frame of job assigned and organizational objectives.

You are requested to kindly spare a few minutes to express your frank opinion about the variables provided in the appendix. Please put a tick mark (✓) against each variable to indicate your judgment on the DEGREE OF RELEVANCY OF VARIABLE TO JOB EFFICIENCY OF AGRICULTURAL OFFICER AT KRISHI BHAVAN LEVEL (Panchayat level).

Care has been taken to include the important variables, still there may be scope for addition. Please do that if you think it necessary.

Please send the Appendix duly filled up to Mr. S. MOTHILAL NEHRU, Ph.D. Scholar, Department of Agricultural Extension, College of Agriculture, Vellayani - 695 522 in the self addressed stamped envelope enclosed.

Thanking you,

Yours Sincerely,

(G.T. NAIR)

Encl: Appendix  
Stamped self addressed envelope.

Sl. No.	Variables	Operational definition	Most Rele.	More Rele.	Rele-vent	Less Rele.	Least Rele.
1	2	3	4	5	6	7	8
1.	Achievement Motivation	refers to the motive or desire within the Agricultural Officer (A.O.) to successfully complete a task, attain a goal or reach a given standard of excellence.					
2.	Age	refers to the chronological age of the A.O.					
3.	Attitude towards farmers	Degree of like or dislike of the A.O. towards his farmers or clientele.					
4.	Communication behaviour	refers to the summation of information input, processing, output and feedback.					
5.	Communication skill	refers to the ability of the officer in communication.					
6.	Complaining behaviour	Extent to which an A.O. is making complaints and airing grievances about the job.					
7.	Convenience in posting	The perception of A.O. about the extent to which he is posted conveniently.					
8.	Conveyance facilities	Transport facility available at the disposal of the A.O. for performing his job.					
9.	Educational level	The level of formal education attained by the A.O.					
10.	Facilities and resources	The perception of A.O. about the extent of availability of men, money, material and methods at his disposal which aids in the successful accomplishment of his job.					
11.	Family involvement	The perception of A.O. about the extent to which he gives importance to his family.					
12.	Attitude towards profession	refers to the positive or negative effect of the A.O. towards his profession.					



1	2	3	4	5	6	7	8
13.	Family responsibility	refers to the responsibility of A.O. in terms his martial status, age of the youngest child, number of children etc.					
14.	Family size	Refers to the number of person (inclusive of children) in the family depending on the respondent including the respondent himself.					
15.	Gregariousness	The tendency, habit or desire of the A.O. to be with other people or the inclination of a person to seek and enjoy the company of other people and colleagues.					
16.	Guidance and supervision	The perception of A.O. about the extent of counselling and advice received by the A.O. from his superior officer in connection with his job.					
17.	Information seeking behaviour	The tendency, habit or desire of the A.O. to collect information from all the possible sources.					
18.	Interpersonal contact	The extent of face to face interaction between the A.O. and his subordinates, superior officers, peers, farmers and any others in performing his job.					
19.	Intrinsic motivation	Refers to the degree of feeling of accomplishment or of personnel worth as perceived by the A.O.					
20.	Job Autonomy	The perception of A.O. about the degree to which his job gives freedom, independance and direction in scheduling work and determining how the work has to be carried out.					
21.	Job commitment	Refers to the degree to which the A.O. is dedicated or involved with his job.					
22.	Job experience	Number of completed years of experience in the State Department of Agriculture or in related fields.					

1	2	3	4	5	6	7	8
23.	Job involvement	The extent to which the A.O. identifies himself with his job.					
24.	Job satisfaction	The degree to which an A.O. is satisfied in his job.					
25.	Job Security	Refers to the subjective evaluation of the success, satisfaction and surety with respect to the carrying out of the job.					
26.	Job Stress	The degree to which an A.O. feels psychological and physical pressure in his job.					
27.	Job knowledge	Refers to body of information possessed by the A.O. relating to his job activities.					
28.	Level of aspiration.	The future level of achievement desired in the job by the A.O.					
29.	Life satisfación	The degree to which an A.O. is satisfied with his life as a whole.					
30.	Locus of control	The tendency of the A.O. to attribute cause or control of events to internal (i.e., ability, effort) or external (i.e., luck) factors.					
31.	Morale	The mental state of the individual with regard to spirit and confidence.					
32.	Organizational climate	The overall perception of an A.O. about his organization.					
33.	Organizational communication	The process of the flow (transmission and reception) of goal oriented messages between, in a pattern and through a medium or media.					
34.	Organizational involvement	Refers to the sense of loyalty and psychological attachment of the A.O. towards his own organization.					
35.	Personal importance	The degree to which A.O. feels that he made significant and appreciable contribution to the attainment of organizational goals.					

1	2	3	4	5	6	7	8
36.	Perceived workload	Refers to the feeling of the officer towards his work assigned in the organization within a specified time.					
37.	Professional commitment	The extent to which the A.O. is willing to exert high level of effort through his profession or job to achieve the objectives.					
38.	Role ambiguity	The extent to which an A.O. is unclear about the role expectations of others as well as the degree of uncertainty associated with his own role performance.					
39.	Rural urban background	The A.O.'s background as to whether he hails from urban or rural areas.					
40.	SPART (self perceived task relevant abilities)	Refers to the individuals self estimate of his capacity to perform a set of activities relevant and useful in the performance of jobs.					
41.	Self confidence	Extent of assurance possessed by the A.O. about his capacities and abilities in not only confronting problem situations but also in finding solution to them.					
42.	Self concept	Refers to the global evaluation made by the A.O. about himself.					
43.	Self reliance	Extent of one's own belief confidence, credence, dependence or faith control the span of life for future.					
44.	Sociability	Refers to the inclination or desire of the A.O. to seek and enjoy the company of other people.					
45.	Self esteem	Refers to the individual's sense of personal adequacy or inadequacy and a sense of having achieved (or not achieved) need satisfaction in the past.					

1.	2	3	4	5	6	7	8
46.	Task difficulty	Degree to which an A.O. perceived his job as difficult.					
47.	Task identity	The perception of the A.O. about the degree to which the job requires completion of a whole and identifiable piece of work i.e., doing a job from beginning to end with a risible outcome					
48.	Task variety	The perception of A.O. about the degree to which his job requires a variety of different activities in carrying out the work which involve the use of a number of different skills and talents.					
49.	Technical competence	The extent to which the A.O. possess knowledge in the various aspects of scientific Agriculture.					
50.	Training received	The number of trainings received by the A.O.					

## APPENDIX - II

Independent variables with their mean relevancy score and coefficient of variation.

Sl. No.	Variables	Mean relevancy score	coefficient of variation.
1.	Age	2.35	36.50
2.	Family size	2.82	37.94
* 3.	Rural (urban) background	3.62	26.34
* 4.	Educational level	3.69	24.17
* 5.	Training received	3.82	22.83
6.	Family responsibility	2.39	43.52
* 7.	Attitude towards farmers	4.29	12.39
8.	Level of aspiration	3.42	38.21
* 9.	Achievement motivation	4.81	14.54
* 10.	Intrinsic motivation	4.68	16.55
11.	Life satisfaction	3.21	33.22
12.	Locus of control(internal)	3.34	39.48
13.	Family involoment	3.45	40.21
14.	Personal importance	3.14	34.17
15.	Morale	3.09	32.94
16.	Inter personal contact	2.81	46.14
* 17.	Communication behaviour	4.80	13.84
18.	Complaining behaviour	3.12	36.12

Sl. No.	Variables	Mean relevancy score	coefficient of variation.
19.	Self reliance	3.00	42.11
20.	Self perceived task relevent abilities (SPART)	2.81	31.65
21.	Professional commitment	3.39	37.12
22.	Self esteem	3.41	32.54
* 23.	Self concept	4.28	16.58
* 24.	Self confidence	4.31	18.16
25.	Gregariousness	3.39	41.59
26.	Information seeking behaviour	3.08	30.54
27.	Communication skill	3.43	38.64
28.	Sociability	3.21	44.23
29.	Conceniene in posting	2.89	39.62
30.	Conveyance facility	3.32	46.34
31.	Role ambiquity perceived supervisory support	3.21	42.79
* 32.	Technical competence	4.41	20.96
* 33.	Job experiance	3.68	36.41
34.	Job knowledge	3.45	28.92
* 35.	Attitude towards profession	3.69	17.85
* 36.	Job autonomy	3.85	19.47
* 37.	Job involvement	4.15	18.43

Sl. No.	Variables	Mean relevancy score	coefficient of variation.
38.	Job Security	3.02	36.17
39.	Job commitment	3.15	42.54
40.	Job stress	2.85	48.32
* 41.	Job satisfaction	3.94	18.75
42.	Task identity	3.20	29.36
43.	Task difficult	3.15	32.56
44.	Task variety	3.25	31.72
* 45.	Perceived workload	4.15	19.69
46.	Organizational communication	3.40	28.16
* 47.	Organizational climate	3.89	17.94
* 48.	Organizational involvement	3.64	19.56
* 49.	Guidance and supervision	3.90	16.73
* 50.	Facilities and resources	4.10	15.24
		175.45	1499.64

\* - variables selected for the pilot study

Items generated with mean score and coefficient of variation based on judges relevancy ratings.

Sl.No.	Items	Mean score	Coefficient of variation
*1	Gain first hand information about the area in which works (soil type, topography, population, institution etc.).	4.48	15.01
*2	Assess the basic resources in the panchayat area.	4.57	12.98
*3	Identify the cropping pattern of the area.	4.50	13.87
*4	Collect the details of major crops and varieties grown in the area.	4.58	12.88
*5	Prepare area map	4.50	16.10
6	Maintain resource register.	4.38	15.19
*7	Prepare soil fertility map.	4.98	16.44
8	Identify the extension programme needs of the farmers to suit their farming situation to increase their income.	3.01	21.57
9	Develop calendar of operation.	2.8	22.59
*10	Prepare location specific programme	4.53	11.81
11	Prepare annual plan of work.	2.91	17.04
*12	Prepare action plan for group management in major crops.	4.48	12.65
13	Assist A.D.A and Dy.D.A. in budget preparation.	2.58	20.58
14	Assist A.D.A in annual planning.	2.83	18.57
15	Identify the leadership pattern.	2.80	21.16
*16	Assess the requirements of critical inputs	4.65	11.76
17	Establish programme priorities.	2.86	18.80
18	Involve community agencies in planning.	2.71	18.04
*19	Encourage farmers to work together to reduce cost of cultivation	4.55	14.26
*20	Select progressive farmers to conduct trails and demonstrations.	4.55	12.42
21	Encourage farmers to practice new technologies (such as seed production, Nursery etc.)	2.95	25.29
22	Promote programmes to increase the income of farmers in major crops.	2.93	20.69
*23	Arrange the supply of critical inputs (such as seeds, fertilizers, P.P Chemicals etc.) at cost.	4.55	11.74



Sl.No.	Items	Mean score	Coefficient of variation
24	Render help to other development Dept. Officials to implement their programme.	2.92	19.24
25	Organize Karshaka samithies (crop-wise group)	3.05	22.11
*26	Organize group farming committees on paddy.	4.33	11.76
27	Maintain working relationship with financial institutions.	4.32	13.14
*28	Contact Agrl. input agencies for the supply.	4.25	16.56
*29	Maintain working relationship with other Dev. Department for implementing programme.	2.86	20.77
*30	Arrange credit facility for farming through financial institutions.	4.38	16.87
*31	Acquainted with the representatives of all sections of clients in the area.	4.41	15.19
*32	Appreciate the subordinates for good work and effort.	4.46	14.55
33	Take genuine interest on sub-ordinates.	2.95	21.09
*34	Listen to the views of subordinates.		
35	Take actions to convince the farmers that he works for the development of farmers.	3.01	23.23
*36	If necessary seek the guidance and suggestion from superior.	4.41	15.75
*37	Maintain liaison with farmers.	4.45	15.15
*38	Involve subordinates and create a sense of responsibility in work.	4.42	13.77
*39	Take action to draw and disburse the salary and other allowances to the subordinates in time.	4.56	12.33
40	Respect all sections of farmers.	2.95	22.86
41	Take interest to understand the subordinates personal and related problems.	2.90	22.76
*42	Encourage farmers office visit.	4.45	13.25
*43	Give importance to the views of farmers.	4.35	14.55
*44	Gather information regarding development in the field of Agriculture through different sources.	4.65	12.41
*45	Gain sufficient knowledge about the Agricultural situation in that area.	4.37	15.18
*46	Provide technical advise to farmers related to their farming problems whenever alike.	4.45	13.55

Sl.No.	Items	Mean score	Coefficient of variation
47	Help the people to make them aware about latest developments in farming.	2.81	19.04
*48	Give specific information on farming on request to farmers.	4.61	12.02
49	Increase the professional skill.	3	23.77
50	Organize crop competitions.	2.83	23.57
51	Use appropriate teaching, teaching methods in adults for implementing extension programmes.	2.81	25.72
*52	Conduct demonstration to convince the merit of the technology.	4.18	16.16
*53	Organize group discussions with farmers to transfer the technology.	4.47	13.95
54	Organize field days.	2.83	19.67
*55	Make farm and home visits to advise farmers and also to study the field problem.	4.36	13.31
56	Hold subjects matter meetings with farmers.	2.98	17.98
57	Organize farmers tours and field trips.	2.75	20.77
*58	Listen to farm radio programmes.	2.7	21.88
59	Use several teaching methods in conducting extension programmes.	2.83	19.67
*60	Prepare and use appropriate teaching materials for educating farmers in the transfer of technology process.	4.51	12.61
61	Use posters, wall charts for mass communication.	2.85	22.21
62	Use circular letters in conducting extension co-activities.	2.75	18.48
63	Organize campaigns.	2.76	22.43
64	Organize film shows	2.58	20.52
65	Organize public meetings to inform the farmers about various extension programmes.	2.83	18.57
*66	At the time field visit, A.A.'s are also taken and given training in dealing farm problem.	4.41	12.70
*67	Train the A.A.'s to improve their technical competency.	4.33	13.87
*68	Organize farm clinic.	4.38	14.60
69	Organize trainings for farmers, farm women, youth and for others.	2.90	22.63
*70	Reading farm periodicals.	2.75	18.48
71	Stabilize change by reinforcing messages to farmers and prevent discontinuous.	2.83	18.57

Sl.No.	Items	Mean score	Coefficient of variation
*72	Collect and Display samples, specimens, photographs etc. in the office for transferring technology.	4.36	13.96
73	View Krishi Darshan Programme.	2.71	19.27
74	Organize Agricultural seminar.	2.78	21.01
*75	Organize Agricultural discussion classes.	4.43	12.71
*76	Keep the records of demonstration.	4.41	14.00
*77	Maintain Notice board in the office (Display notices and other information) for farmers.	4.5	13.25
*78	Utilize newspaper through Farm News Column (inform the availability of inputs, outbreak of any diseases new farm programmes, schemes etc.).	4.35	14.55
*79	Utilize farm broadcast (availability of inputs, outbreak of any diseases new farm programmes, schemes etc.)	4.41	12.70
*80	Utilize the service of Farm information Bureau (giving information in different media through F I B)	4.40	12.69
*81	Distribute farm literature to farmers.	4.26	14.86
82	Enroll farmers for farm periodicals.	2.66	20.32
83	Communicate the opinion and problems of farmers to the concerned agencies.	2.98	19.98
*84	Provide feedback informations regarding the programmes implemented in the office to the higher ups.	4.40	14.61
85	Place notices in common places to communicate with farmers.	2.72	18.04
86	Maintain information hall in the office.	2.73	18.89
87	Set specific office hours for farmers visit.	2.78	16.32
88	Try to inform and educate the public through Krishi Darshan programme.	2.75	17.28
*89	Identification and reporting of technical field problems to A.D.A which can't be solved by himself, which inturn will be taken to monthly workshop.	4.38	16.31
*90	Ensure that the office function from 10 A.M. to 5 P.M.	4.32	15.66
*91	Allot wards to each A.A and ensure all subordinates are having equal work.	4.5	13.87
*92	Maintain movement Register.	4.3	15.01
93	Maintain the establishment details of subordinates.	3.01	23.98
*94	Review the work diary of A.A's.	4.46	13.95

Sl.No.	Items	Mean score	Coefficient of variation
95	Reporting of monthly periodicals.	3.01	28.21
*96	Maintain office order book.	4.25	17.12
97	Maintain the records of demonstration	4.03	20.90
98	Maintaining training register ( the details of trainings conducted-date, topic etc.)	2.85	20.20
99	Organize K.V.S. meetings and discuss various activities of K.B.	4.11	18.48
100	Implement location specific programmes.	3.33	23.20
101	Maintenance of office records and other registers.	2.93	21.62
102	Maintenance of schemes register(selection of beneficiary address, subsidy, input given etc.)	2.95	20.15
*103	Insist the A.A's to maintain daily work register.	4.3	15.01
*104	Encourage farmers office visit	4.26	15.47
105	Maintenance of Attendance register	2.67	20.32
106	Maintenance of stock and stores.	2.65	21.77
107	Report target achievement and other relevant information to the superiors.	2.91	20.25
*108	Supervise and guide Agrl.assts. where applicable.	4.41	15.19
*109	Report natural calamities and other important events.	4.43	14.00
110	Determine causes for non-compliance (non-acceptance) of recommendation and solutions.	2.9	17.61
111	Discuss informally the activity of K.B.with K.V.S. members to finalize the extn.programmes.	2.9	20.76
*112	Implement location specific programme.	4.28	14.94
*113	Implement other special programmes (like group management in paddy, pepper etc.)	4.36	12.62
114	Collect soil sample for analysis.	2.76	22.43
*115	Collect samples of P.P.chemicals and fertilizer for analysis to ensure quality.	4.26	14.86
116	Implement employment generation programme.	4.21	17.51
*117	Attend the trainings organized at RATTTC or other training centre	4.21	14.54
118	Attend A.O's training at S D A O level.	2.98	19.01
*119	Attend A.O's & A.A's training at S D A O level.	4.25	16.56

Sl.No.	Items	Mean score	Coefficient of variation
*120	Attend monthly meeting of A.O's at S D A O level.	4.46	14.55
121	Implement Biogas programme.	2.76	19.64
*122	Distribute subsidy and other benefits to the farmers.	4.36	14.59
123	Discuss with superior officers and fellow members regarding new schemes and clarify doubts	2.98	19.98
124	Implement farm trials.	4.41	26.82
125	Conduct crop cutting survey.	2.65	18.15
126	Implement community nursery programme.	2.6	20.77
127	Evaluate the results of extension activities .	4.31	17.83
128	Evaluate the impacts of extension programmes.	2.81	17.89
129	Identify problems requiring additional research.	2.91	19.29
130	Make assessment of overall accomplishment	2.91	21.21
131	Evaluate one's own performance as an extension worker.	2.8	15.83
132	Participate in professional activities.	2.75	19.25
133	Modify recommendation according to local agro climatic condition	2.88	19.25
134	Evaluate the crop loss due to Natural calamities.	2.69	16.38
*135	Use mass media to update information	4.3	15.61
136	Issue certificate for stock and scale of P.P. chemicals	2.86	20.77
137	Implement other special programmes of the department.	2.83	22.66
138	Conduct field visit to acquaint himself with farmers and their farming problems.	2.88	18.66\
139	Implement sc/st Development Programmes.	2.70	19.64
140	Maintain the notes of new knowledge of technology.	2.91	23.01
*141	Distribute subsidy and other benefits to farmers.	4.58	10.84
**142	Give first hand information to farmers regarding the various Agricultural programmes of the Dept.	4.45	12.70
143	Educate the farmer about the participating in the programme.	3.46	22.19
*144	Visit farmers field on sheduled date and time.	4.5	11.92
145	During visit discuss with farmer and make them to adopt necessary crop management practices.	2.9	16.44

Sl.No.	Items	Mean score	Coefficient of variation
*146	During visit, discuss atleast with progressive farmers, samithy convenors and group leaders regarding local farm problem.	4.5	11.81
**147	Arrange the supply of critical inputs.	4.45	13.35
148	Arrange the supply of straight fertilizer.	2.96	15.15
149	Maintain the name and address of progressive farmers, group leader and samithy convenors in the area.	2.58	16.87
150	Organize Agro clinic	4.51	12.55
152	Lay out DEMonstrations in farmers field.	2.9	15.15
153	Distribute farm literature to farmers on request.	2.91	15.86
*154	Ensure the availability of farm machinery such as tractor, tiller in season.	4.56	11.66
155	Organize crop competition.	2.8	18.36
156	Distribute cash benefits to all eligible farmer invariably of their farm size.	4.5	13.25
157	Distribute fertilizers and P.P.chemicals in a subsidized rate to rice growers through K.B.	4.28	14.94
**158	Assess the crop losses due to natural calamities and take action to pay compensation.	4.41	14.00
159	Collect the information about the availability of newly released varieties of crop.	2.89	15.5
*160	Arrange facility for repairing P.P. equipments in the K.B.	4.3	14.39
161	Participate in the important meeting of samithies	4.4	14.00
162	Supervise the visit of Agricultural Assistance	4.2	15.68
**163	Display specimens, samples, photographs in the office for transferring technology.	4.18	13.55
164	Prepare location specific projects.	2.88	18.00
165	Suggest suitable crops and crop management practices to farmers.	2.93	17.00
**166	Encourage farmers to work together to reduce cost of cultivation.	4.47	12.00
167	Implement more programmes which the help of political leaders at Panchayat level.	2.8	15.83
168	Provide technical advise to farmers related to their farming	4.3	13.74
**169	Arrange credit facility for farming through financial Institutions.	4.48	12.65
170	Collect informations regarding various farm programmes implemented by other agencies.	2.29	15.15

Sl.No.	Items	Mean score	Coefficient of variation
171	Organize Karshika samithies at ward level and form skilled labour forces.	4.36	15.18
**172	Give clear and specific information on framing of requested to farmers.	4.43	14.00
173	Implement programme with the approval of K.V.Samathy.	4.26	14.22
174	Use mass media such as radio, T.V, Newspaper to communicate general informations to farmers.	4.21	15.75
**175	Give training to Agrl.Asst's to improve their technical competency.	4.35	13.92
*176	Treat all farmers equally and encourage their office visit.	4.3	14.39
177	Ensure the quality of P.P. Chemicals, fertilizer and seeds.	2.73	16.31
**178	Ensure that office function from 10 a.m. to 5 p.m.	4.48	12.45
179	Organize Agricultural discussion classes for farmers.	2.73	17.65
**180	Maintain relationship with farmers.	4.45	12.00

\* - Activities selected based on average mean relevancy score and average coefficient of variation.

## APPENDIX - IV

### Items classified under eight job dimensions

#### I. Planning

1. Possess first hold information about his area.
2. Knowledge about the Agricultural resources in the area.
3. Prepare soil fertility map.
4. Prepare area map.
5. Prepare location specific farm programmes.
6. Prepare action plan for group management.
7. Assess critical inputs requirement for Agl. production.

#### II. Coordination

8. Contacts Agrl. input supply agencies to ensure the availability of required inputs.
9. Maintains working relationship with other Rev.Dept for implementing Report programmes.
10. Maintain working relationship with the financial institution.
11. Render help to other Dev. Dept. official to implement their programmes.
12. Ensure farmer's participation in the programme implementation.
13. Arrange the supply of critical inputs.
14. Arrange credit facility for farmers through financial institution.



### III. Human relation

15. Recognize subordinate for their good work and effort.
16. Listen to the views of subordinates.
17. Involves subordinates to create a sense of responsibility in work.
18. Acquaints with the representatives of all sections of clients in the area.
19. Maintains relationship with farmers.
20. Listen to the view of farmers.
21. Gives importance to the views of farmers.
22. Encourages farmer's office visit.
23. During field visit discuss with progressive farmers and leaders regarding their problems.
24. Disburse salary and other allowances to subordinates in time.

### IV. Office management

25. Ensures that the office functions from 10 A.M to 5 P.M.
26. Ensures that the subordinates are having equal work.
27. Maintains movement register.
28. Reviews the work dairy of Agrl. Assts.
29. Maintains office order book.
30. Insists the Agrl. to maintain daily work register.
31. Sending periodical reports.
32. Collects the samples of P.P. Chemicals and fertilizers for analysis to ensure quality.
33. Attend monthly meetings of Agrl. officers sub divisional level.

34. Formulates programmes to increase the production of major crops to enhance the farmer's income.
35. Ensures the quality of P.P. Chemicals and fertilizers distributed in the area.
36. Maintains the records of demonstration.

V. Upgrading professional competency

37. Possess knowledge of Agri. technology.
38. Takes action to improve knowledge on Agri.technology.
39. Makes use of mass media to uptake information.
40. Makes field visits to study the field problems.
41. Attends training organized for subordinates.
42. Imports trainings to improve the knowledge and skill of subordinates.

VI. Farmer Development

43. Takes action to pay compensation to farmers, due to natural calamities.
44. Encourages farmers to work together to reduce cost of cultivation.
45. Encourage farmers to practice group endeavour.
46. Gives specific information to farmers on farming whenever asked for.
47. Organizing demonstrations.
48. Organizes Agro-clinics.
49. Maintain notice board in the office information.
50. Collection and display samples, specimens, photographs etc., in the office to transfe technology.
51. Organizes Agri. discussion classes for farmers.

52. Gives farm news and important informations to farmers in mass media through Farm Information Bureau.
53. Implement location specific programmes.
54. Implement other special programmes of the Dept.
55. Conduct field visits to advice farmers.
56. Distribute subsidy and other benefit to farmers.
57. Ensure the availability of farm machinery in season.
58. Arranges facilities for separating P.P. equipments at Krishi Bhavans at cost.

VII. Direction and Supervision

59. Supervises the work of subordinates.
60. Makes field visit to train their subordinates.
61. Seeks the guidance and suggestions from superior.

VIII. Information Management.

62. Provides feed back information regarding the programmes implemented in the Krishi Bhavans.
63. Reports technical field problems to superior with could not be solved by himself.
64. Report natural calamities and other important events to higher ups.
65. Use mass media to give information to farmers.

APPENDIX - V

EXTENT OF PERFORMANCE OF ACTIVITIES BY THE AGRIL. OFFICER AT KRISHI BHAVAN LEVEL

- |                           |                                       |
|---------------------------|---------------------------------------|
| 1. Sub: Division :        | 3. Name of Agril. Officer             |
| 2. Asst. Director Circle: | 4. Postal Address of<br>Krishi Bhavan |

-----  
Please indicate the extent of performance of Agril. Officer in each activities by marking tick mark (✓) in the most appropriate alternatives given for each statement.  
-----

- 1) He/She possess outstanding/good/average/poor/very poor first hand information about his/her area. (Soil type, topography, population, institutions, major crops varieties grown etc.).
- 2) His/Her knowledge about basic resources in the Panchayat area is outstanding/good/average/poor/very poor.
- 3) He/She prepares soil fertility map with greater detail/with adequate information/ with minimum information/name sake/not at all.
- 4) He/She prepares area map with greater detail/with adequate information with minimum information/name sake/not at all.
- 5) He/She prepares relevant and feasible farm programmes with greater detail/with adequate information/with minimum information/name sake/not at all.
- 6) He/She prepares action plan for group management in major crops with greater detail/with adequate information/with minimum information/name sake/not at all.
- 7) He/She always/mostly/sometimes/rarely/never assesses the input requirement critical to Agril. production such as seeds, seedlings, fertilizer, p.p.chemicals, farm equipments etc.
- 8) He/She always/mostly/sometimes/rarely/never formulates programmes to increase the production of major crops to enhance the farmer's income.

- 9) He/She regularly/mostly/sometimes/rarely/never ensures the quality of p.p.chemicals and fertilizers distributed in the area.
- 10) He/She very regularly/regularly/mostly/sometimes/never contacts Agrl. input supply agencies to ensure the availability of required inputs.
- 11) He/She regularly/mostly/sometimes/rarely/never maintains working relationship with other development Department for implementing Departmental Programmes.
- 12) He/She always/mostly/sometimes/rarely/never maintains working relationship with the financial institution.
- 13) He/She always/mostly/sometimes/rarely/never renders a help to other Dev. Dept. officials to implement their programmes.
- 14) He/She always/mostly/sometimes/rarely/never implements programmes with the guidance and co-operation of Karshika Vikasana Samity.
- 15) He/She always/mostly/sometimes/rarely/never appreciates the sub-ordinates for good work and effort.
- 16) He/She always/mostly/sometimes/rarely/never listens to the views of subordinates.
- 17) He/She always/mostly/sometimes/rarely/never involves subordinates and create a sense of responsibility in work.
- 18) He/She always/mostly/sometimes/rarely/never takes action to draw and disburse the salary and other allowances to the subordinates intime.
- 19) He/She seeks the guidance and suggestions from superior as and when required/mostly sometimes/rarely/never.
- 20) He/She always/mostly/sometimes/rarely/never acquaints with the representatives of all sections of clients in the area.
- 21) He/She always/mostly/sometimes/rarely/never maintains cardial relationship with farmers.
- 22) He/She always/mostly/sometimes/rarely/never treats farmers equally.
- 23) He/She always/mostly/sometimes/rarely/never gives importance to the views of farmers.

- 24) He/She always/mostly/sometimes/rarely/never encourages farmers office visit.
- 25) He/She always/mostly/sometimes/rarely/never ensures that the office functions from 10 A.M to 5 P.M.
- 26) He/She always/most/sometimes/rarely/never ensures that the subordinates are having equal work.
- 27) He/She always/mostly/sometimes/rarely/never maintains movement register.
- 28) He/She regularly/mostly/sometimes/rarely/never reviews the work diary of Agricultural Assistants.
- 29) He/She always/mostly/sometimes/rarely/never maintains office order book
- 30) He/She always/mostly/sometimes/rarely/never insists the Agricultural Assistants to maintain daily work register
- 31) He/She regularly/mostly/sometimes/rarely/never sends periodical reports.
- 32) He/She supervisors Agricultural Assistants as and when required/mostly/sometimes/rarely/never.
- 33) He/She regularly/mostly/sometimes/rarely/never maintains the records of demonstration.
- 34) He/She regularly/mostly/sometimes/rarely/never provided feedback information and monthly periodicals regarding the programmes implemented in the Krishi Bhavan to the superior.
- 35) He/She always/mostly/sometimes/rarely/never reports technical field problems to superiors which could no be solved by himself.
- 36) He/She reports natural calamities and other important events very promptly/promptly/mostly/sometimes/never.
- 37) He/She collects samples of P.P.Chemicals and fertilizers for analysis to ensure quality. Very promptly/promptly/mostly /sometimes/never.
- 38) He/She attend monthly meetings of Agricultural Assistants at subdivision level. Very promptly/promptly/mostly/sometimes /never.

- 39) He/She takes action to pay compensation to farmers due to natural calamities Very promptly/promptly/mostly/sometimes/never.
- 40) He/She possesses outstanding/good/average/poor/very poor knowledge on Agril. technology.
- 41) He/She regularly/mostly/sometimes/rarely/never takes action to improve knowledge of Agril. technology.
- 42) He/She regularly/mostly/sometimes/rarely/never makes use of mass media to update information.
- 43) He/She regularly/mostly/sometimes/rarely/never makes field visit to study the field problems.
- 44) He/She regularly/mostly/sometimes/rarely/never makes field visits to train subordinate.
- 45) He/She regularly/mostly/sometimes/rarely/never attends trainings on Agricultural Assistants
- 46) He/She always/mostly/sometimes/rarely/never imparts trainings to improve the knowledge and skill of Agricultural Assistants.
- 47) He/She always/mostly/sometimes/rarely/never encourages farmers to work together to reduce cost cultivation.
- 48) He/She encourages farmers to practice group endeavor wherever possible/mostly/sometimes/rarely/never.
- 49) He/She always/mostly/sometimes/rarely/never gives specific information to farmers on farming whenever assessed for.
- 50) He/She always/mostly/sometimes/rarely/never conducts demonstration in an ideal manner.
- 51) He/She organises farm clinics as a model/more or less model/average/for name sake/never.
- 52) He/She always/mostly/sometimes/rarely/never display farm news and other relevant information for farmers in the office notice board.
- 53) He/She always/mostly/sometimes/rarely/never collects and display samples, specimens, photographs etc. in the office to transfer the technology
- 54) He/She organizes Agricultural discussion classes for farmers excellently/good/average/for name sake /never.

- 55) He/She whenever necessary/mostly/sometimes/rarely/never gives farm news and important information to farmers in mass media through Farm Information Bureau.
- 56) He/She whenever necessary/mostly/sometimes/rarely/never uses mass media to give information to farmers.
- 57) He/She implements location specific programmes excellently/good/average/for name sake/never.
- 58) He/She implements other special programmes Departments excellently/Good/average/for name sake/never.
- 59) He/She visit farmers field on scheduled dates to advice farmers very regularly/regularly/mostly/sometimes/never.
- 60) He/She distributes subsidy and other benefits to farmers Very promptly/promptly/mostly /sometimes/never.
- 61) During field visit He/She always/mostly/sometimes/rarely/never discuss with progressive farmers and group leaders regarding the farm problems.
- 62) He/She always/mostly/sometimes/rarely/never arrange the supply of critical inputs at cost for farmers.
- 63) He/She always/mostly/sometimes/rarely/never ensures the availability of farm machinery such a tractor, tiller, powersprayer and other in search.
- 64) He/She always/mostly/sometimes/rarely/never arranges the facility for repairing P.F.equipements at Krishi Bhavan at cost.
- 65) He/She always/mostly/sometimes/rarely/never arranges the credit facility for farming through financial Institutions.



APPENDIX - VI

Item analysis : Discrimination index and correlation of item score with total score of job activities

Sl. No.	Items (activities)	Rank	Discrimination Index 't' value	Total score
1	Possess first hand information about the crops grown in the area requested for planning.	16 ✓	10.48	0.8543**
2	Gain knowledge about the Agricultural resources in the area required for planning.	2 ✓	14.73	0.8596**
3	Prepare soil fertility map	63 ✓	3.29	0.5371**
4	Prepare area map	47 ✓	6.68	0.7350**
5	Prepare action plan for group approach in major crops.	41 ✓	7.85	0.8153**
6	Prepare location specific farm programmes.	10 ✓	11.27	0.8624**
7	Assess critical input requirement for Agrl production.	1 ✓	14.93	0.8653**
8	Prepare programmes to increase the income of farmers.	42 ✓	7.84	0.8170**
9	Ensure the quality of P.P.Chemicals distributed in the area.	36	8.50	0.8443**
10	Contact with input agencies to ensure the availability of critical inputs.	15	10.59	0.8136**
11	Maintain relation with other departments for implementing departmental programmes.	19	9.76	0.8094**
12	Maintain relation with financial institutions.	3	13.86	0.8140**

Sl. No.	Items (activities)	Rank	Discrimination Index 't' value	Total score 'r'
13	Render help to other Rev. dept to implement their programmes.	50	5.73	0.5625**
14	Ensure farmer's participation in the programme implemented	14	10.83	0.7768**
15	Recognize subordinates for their work.	17	9.93	0.8569**
16	Listening to the views of subordinates	20	9.76	0.7922**
17	Involve subordinate to create sense of responsibility in work.	39	8.19	0.8162**
18	Discribe salary and other allowances of subordinates.	22	9.56	0.8108**
19	Seek guidance and suggestions from superior.	46	6.81	0.7416**
20	Acquaint with the representatives of all section of clients in the area.	40	8.03	0.8218**
21	Maintain contact with farmers.	4	13.18	0.8841**
22	Ensure that office functions from 10 A.M to 5 P.M.	31	13.81	0.8841**
23	Listen to the views of farmers	23	8.82	0.7590**
24	Encourage farmers visit to office	44	7.56	0.6311**
25	Treat all section of farmers equally	29	9.04	0.8744**
26	Allotment of works to subordinates	29	9.04	0.8744**
27	Maintains movement register.	65	1.29	0.1195

Sl. No.	Items (activities)	Rank	Discrimination Index 't' value	Total score 'r'
28	Review the work dairy of subordinates.	59	4.48	0.4852**
29	Maintain office order book	21	9.71	0.4767**
30	Ensure that subordinates are maintaining daily work register.	34	8.56	0.7930**
31	Mintains notice board in the office	24	9.42	0.7672**
32	Supervise subordinates	58	4.45	0.8317**
33	Sending periodical reports.	7	11.77	0.6010**
34	Maintains records of demonstration.	45	7.43	0.8623**
35	Report technical field problems to superior.	62	3.31	0.7265**
36	Report nature calamities and other important events.	61	3.39	0.4230**
37	Maintain training register.	51	5.71	0.8253**
38	Attending the meeting of Agrl. officers at SDAO level.	6	11.91	0.6311**
39	Take action to pay compensation to farmers due to natural calamities.	37	8.42	0.8207**
40	Possess knowledge on Agricultural technology.	18	9.84	0.8744**
41	Distribute farm literature to farmers.	33	8.79	0.8115**
42	Attend Agrl. officers trainings	64	3.25	0.5247**
43	Conduct field visits to advice farmers	12	11.12	0.8843**

Sl. No.	Items (activities)	Rank	Discrimination Index 't' value	Total score 'r'
44	Improves knowledge on Agricultural technologies.	5	12.02	0.8920**
45	Conduct field visit to study field problems.	55	5.37	0.6139**
46	Organizes trainings for Agricultural Assistants to improve their knowledge on Agricultural technology.	25	9.37	0.7928**
47	Encourage farmers to practice group endeavors.	11	11.24	0.8603**
48	Organizes farmers groups	57	4.88	0.6395**
49	Gives specific information to farmers on farming whenever asked for.	27	9.21	0.7862**
50	Conduct demonstrations	56	5.32	0.6608**
51	Organize Agro clinics	9	11.54	0.8448**
52	Display farm news and other relevant information for farmers in the office notice board.	49	5.77	0.6773**
53	Organise Agricultural seminars	35	8.56	0.7897**
54	Organise Agricultural discussion classes	13	10.90	0.8578**
55	Use mass media to give information to farmers.	9	11.54	0.8448**
56	Implement other special programmes of the Department	54	5.38	0.6008**
57	Implement location specific programmes	32	8.80	0.7445**

Sl. No.	Items (activities)	Rank	Discrimination Index 't' value	Total score 'r'
58	Ensure the maintenance of office records and other register	60	3.94	0.4923**
59	Discuss the activities of Krishi Bhavan with samithy members.	52	5.55	0.7090**
60	Distribution of subsidy and other benefits to farmers.	8	11.60	0.8012**
61	Arrange the supply of critical inputs	26	9.25	0.8058**
62	Ensure the availability of farm machinery in season	43	7.57	0.7563**
63	Arrange facility for repairing p.p equipments.	38	8.41	0.7562**
64	Give information regarding various Agricultural programmes to farmers	48	6.20	0.6417**
65	Arrange credit facilities for farmers through financial institutions	28	9.13	0.8215**

\*\* - Significant at 0.01 per cent level

## APPENDIX - VII

Job dimensions and activities included in the Linkage analysis.

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Sl. Dimensions No.	Activities included in the analysis
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### 1. PLANNING ✓

1. Gain first hand information about the crops grown in the area required for planning.
2. Gain knowledge about the agricultural resources in the area required for planning.
3. Prepare location specific farm programmes
4. Assess critical input requirement for Agricultural production.

### 2. COORDINATION

5. Contact with input agencies to ensure the availability of critical inputs.
6. Maintain relation with other departments for implementing departmental programmes.
7. Maintain relation with other departments for implementing departmental programme.
8. Ensure farmers participation in the programme implementation

Sl. No.	Dimensions	Activities included in the analysis
		9. Arrange the supply of critical inputs.
		10. Arrange credit facilities for farmers through financial institutions.
<b>3. HUMAN RELATION</b>		11. Recognize subordinates for their work.
		12. Listening to the views of subordinates.
		13. Disburse salary and other allowances of subordinates.
		14. Encourage farmer's visit to office.
		15. Maintain contact with farmers.
		16. Listen to the views of farmers.
<b>4. OFFICE MANAGEMENT</b>		17. Maintain office order book.
		18. Sending periodical report
		19. Allotment of works to subordinates.
		20. Attending the meetings of Agricultural officers at sub division level.

-----  
Sl. Dimensions  
No.

Activities included in the analysis

-----  
5. INFORMATION MANAGEMENT ✓

21. Use of mass media to give information to farmers.

6. UPGRADING PROFESSIONAL COMPETENCY ✓

22. Posses knowledge on Agricultural technologies.

23. Improves knowledge on Agricultural technologies.

24. Organizes trainings for Agricultural Assistants to improve their knowledge on Agrl. technologies.

7. FARMER DEVELOPMENT ✓

25. Encourage farmers to practice group endeavor.

26. Maintains notice board in the office.

27. Organize Agro-clinics.

28. Organise Agricultural discussion classes

29. Conduct field visits to advice farmers.

30. Distribute subsidy and other benefits to farmers.  
-----



APPENDIX - VIII. Linkage analysis - inter correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	1.00	0.84	0.72	0.69	0.43	0.41	0.36	0.40	0.25	0.37	0.32	0.22	0.42	0.51	0.48	0.28	0.42	0.57	0.33	0.38	0.47	0.54	0.22	0.24	0.48	0.31	0.41	0.39	0.12	0.11		
2	0.84	1.00	0.82	0.29	0.43	0.39	0.32	0.28	0.22	0.43	0.31	0.24	0.39	0.32	0.12	0.16	0.32	0.47	0.52	0.19	0.28	0.39	0.18	0.49	0.21	0.19	0.25	0.24	0.11	0.36		
3	0.72	0.82	1.00	0.81	0.52	0.36	0.38	0.27	0.26	0.17	0.14	0.38	0.32	0.21	0.49	0.38	0.28	0.50	0.41	0.29	0.49	0.41	0.48	0.42	0.36	0.47	0.36	0.32	0.18	0.12		
4	0.69	0.29	0.81	1.00	0.24	0.21	0.32	0.43	0.47	0.18	0.44	0.41	0.40	0.30	0.32	0.32	0.33	0.44	0.39	0.35	0.32	0.38	0.40	0.39	0.28	0.28	0.44	0.40	0.16	0.38		
5	0.43	0.43	0.52	0.24	1.00	0.86	0.14	0.13	0.18	0.11	0.22	0.49	0.38	0.41	0.39	0.48	0.32	0.42	0.28	0.38	0.21	0.39	0.48	0.11	0.38	0.48	0.28	0.39	0.10	0.11	0.49	
6	0.41	0.39	0.36	0.21	0.86	1.00	0.79	0.81	0.11	0.17	0.31	0.48	0.48	0.52	0.41	0.38	0.42	0.28	0.38	0.21	0.39	0.48	0.11	0.38	0.48	0.28	0.39	0.10	0.11	0.49		
7	0.36	0.32	0.38	0.32	0.14	0.79	1.00	0.14	0.13	0.28	0.38	0.41	0.32	0.48	0.36	0.41	0.32	0.41	0.36	0.38	0.41	0.35	0.47	0.16	0.28	0.32	0.33	0.39	0.12	0.25	0.28	
8	0.40	0.28	0.27	0.43	0.13	0.81	0.14	1.00	0.14	0.11	0.12	0.26	0.32	0.41	0.39	0.47	0.41	0.38	0.38	0.19	0.49	0.81	0.11	0.58	0.52	0.62	0.30	0.58	0.88	0.33	0.22	
9	0.25	0.22	0.26	0.47	0.18	0.11	0.13	0.14	1.00	0.86	0.34	0.38	0.35	0.37	0.38	0.41	0.38	0.41	0.38	0.53	0.56	0.61	0.42	0.31	0.26	0.36	0.49	0.64	0.52	0.61	0.32	0.52
10	0.37	0.43	0.17	0.18	0.11	0.17	0.28	0.11	0.86	1.00	0.53	0.49	0.62	0.38	0.49	0.59	0.39	0.53	0.56	0.61	0.42	0.31	0.49	0.39	0.36	0.42	0.31	0.39	0.59	0.59	0.59	
11	0.32	0.31	0.14	0.44	0.52	0.31	0.38	0.12	0.34	0.53	1.00	0.81	0.67	0.79	0.61	0.58	0.51	0.42	0.38	0.31	0.49	0.52	0.41	0.38	0.36	0.48	0.51	0.49	0.56	0.61	0.58	
12	0.22	0.24	0.38	0.41	0.49	0.48	0.41	0.26	0.38	0.49	0.31	1.00	0.80	0.69	0.58	0.61	0.48	0.49	0.39	0.51	0.50	0.48	0.39	0.38	0.44	0.41	0.52	0.33	0.64	0.68		
13	0.42	0.39	0.32	0.40	0.38	0.48	0.32	0.32	0.35	0.62	0.67	0.80	1.00	0.62	0.54	0.51	0.48	0.49	0.39	0.41	0.40	0.28	0.39	0.43	0.28	0.54	0.58	0.51	0.48	0.38	0.41	
14	0.51	0.32	0.21	0.30	0.41	0.52	0.48	0.41	0.37	0.38	0.79	0.69	0.62	1.00	0.76	0.78	0.23	0.39	0.41	0.40	0.28	0.39	0.43	0.28	0.54	0.58	0.51	0.48	0.38	0.41		
15	0.48	0.12	0.49	0.32	0.39	0.41	0.36	0.39	0.38	0.49	0.61	0.58	0.54	0.76	1.00	0.56	0.23	0.28	0.31	0.49	0.33	0.36	0.47	0.36	0.59	0.55	0.48	0.31	0.39	0.48		
16	0.28	0.16	0.38	0.32	0.48	0.38	0.41	0.47	0.41	0.52	0.58	0.61	0.51	0.78	0.56	1.00	0.48	0.44	0.32	0.28	0.23	0.33	0.42	0.46	0.39	0.59	0.61	0.58	0.59	0.49		
17	0.42	0.32	0.28	0.33	0.32	0.42	0.32	0.41	0.38	0.39	0.51	0.42	0.48	0.23	0.23	0.48	1.00	0.83	0.66	0.68	0.52	0.48	0.32	0.23	0.21	0.19	0.36	0.41	0.32	0.46		
18	0.57	0.47	0.50	0.49	0.10	0.28	0.29	0.36	0.38	0.53	0.53	0.38	0.49	0.39	0.28	0.44	0.83	1.00	0.80	0.52	0.32	0.44	0.42	0.47	0.21	0.29	0.31	0.47	0.51	0.59		
19	0.33	0.52	0.41	0.39	0.19	0.38	0.41	0.38	0.19	0.56	0.54	0.31	0.39	0.41	0.31	0.32	0.66	0.80	1.00	0.78	0.63	0.48	0.44	0.52	0.53	0.48	0.41	0.31	0.49	0.57		
20	0.38	0.19	0.29	0.35	0.29	0.21	0.25	0.41	0.49	0.61	0.48	0.49	0.51	0.40	0.49	0.28	0.68	0.52	0.78	1.00	0.76	0.39	0.46	0.68	0.63	0.73	0.38	0.51	0.59	0.49		
21	0.47	0.28	0.49	0.32	0.38	0.39	0.38	0.35	0.61	0.42	0.48	0.52	0.50	0.28	0.33	0.23	0.52	0.32	0.63	0.76	1.00	0.33	0.48	0.36	0.62	0.51	0.55	0.49	0.34	0.41		
22	0.54	0.39	0.41	0.38	0.49	0.48	0.28	0.47	0.11	0.31	0.42	0.41	0.48	0.39	0.36	0.33	0.48	0.44	0.48	0.44	0.44	1.00	0.81	0.69	0.41	0.25	0.33	0.51	0.59	0.49		
23	0.22	0.18	0.48	0.40	0.49	0.11	0.26	0.16	0.58	0.26	0.31	0.38	0.39	0.43	0.47	0.42	0.32	0.42	0.44	0.52	0.68	0.36	0.69	0.79	1.00	0.36	0.31	0.41	0.56	0.19	0.45	
24	0.24	0.49	0.42	0.39	0.38	0.38	0.29	0.28	0.52	0.36	0.49	0.36	0.38	0.28	0.36	0.46	0.23	0.47	0.52	0.68	0.36	0.69	0.79	1.00	0.36	0.31	0.41	0.56	0.19	0.45		
25	0.48	0.21	0.36	0.28	0.27	0.48	0.31	0.32	0.68	0.49	0.39	0.48	0.44	0.54	0.59	0.39	0.21	0.21	0.53	0.63	0.62	0.41	0.28	0.36	1.00	0.35	0.41	0.68	0.21	0.76		
26	0.31	0.19	0.47	0.28	0.26	0.28	0.46	0.33	0.30	0.64	0.36	0.51	0.41	0.58	0.55	0.59	0.19	0.29	0.48	0.73	0.51	0.25	0.36	0.31	0.35	1.00	0.32	0.22	0.38	0.43		
27	0.41	0.25	0.36	0.44	0.33	0.39	0.38	0.39	0.58	0.52	0.42	0.49	0.52	0.51	0.48	0.61	0.36	0.31	0.41	0.38	0.55	0.33	0.44	0.41	0.41	0.32	1.00	0.39	0.31	0.96		
28	0.39	0.24	0.32	0.40	0.44	0.10	0.24	0.12	0.88	0.61	0.31	0.56	0.33	0.48	0.31	0.58	0.41	0.47	0.31	0.51	0.49	0.51	0.16	0.56	0.68	0.22	0.39	1.00	0.82	0.48		
29	0.12	0.11	0.18	0.16	0.39	11	0.28	0.25	0.33	0.32	0.39	0.61	0.64	0.38	0.39	0.59	0.32	0.51	0.49	0.59	0.34	0.59	0.34	0.19	0.21	0.38	0.31	0.82	1.00	0.80		
30	0.11	0.36	0.12	0.38	0.48	0.46	0.13	0.28	0.22	0.52	0.59	0.58	0.68	0.41	0.48	0.49	0.46	0.59	0.57	0.49	0.41	0.49	0.41	0.45	0.49	0.43	0.76	0.48	0.80	1.00		

P = 1,2,3,4      HR = 11,12,13,14,15,16      PC = 22,23,24      C = 5,6,7,8      DM = 17,18,19,20,26      FD = 9,10,21,25,27,28,29,30

## APPENDIX - IX

Job dimensions and items of the scale.

Sl. No.	Dimensions	Items included in the scale
1.	<b>PLANNING</b>	<ol style="list-style-type: none"><li>1. Possess first hand information about the crops grown in the area required for planning.</li><li>2. Gain knowledge about the agricultural resources in the area required for planning.</li><li>3. Prepare location specific farm programmes</li><li>4. Assess critical input requirement for Agricultural production.</li></ol>
2.	<b>COORDINATION</b>	<ol style="list-style-type: none"><li>5. Contact with input agencies to ensure the availability of critical inputs.</li><li>6. Maintain relation with other departments for implementing departmental programmes.</li><li>7. Maintain relation with the financial institution.</li><li>8. Ensure farmer's participation in the programme implementation</li></ol>
3.	<b>HUMAN RELATION</b>	<ol style="list-style-type: none"><li>9. Recognize subordinates for their work.</li><li>10. Listen to the views of subordinates.</li><li>11. Disburse salary and other allowances of subordinates.</li><li>12. Encourage farmer's visit to office.</li></ol>

13. Maintain contact with farmers.
14. Listen to the views of farmers.

#### 4. OFFICE MANAGEMENT

15. Maintain office order book.
16. Sending periodical reports.
17. Allotment of works to subordinates.
18. Attending the meeting of Agrl. Officer at SDAO level.
19. Maintain notice board in the office.

#### 5. UPGRADING PROFESSIONAL COMPETENCY

20. Possess knowledge on Agricultural Technologies.
21. Improves knowledge on Agricultural technologies.
22. Organizes training for Agrl. Assts. to improve their knowledge on Agrl. technology.

#### 6. FARMER DEVELOPMENT

23. Encourage farmers to practice group endeavour.
24. Organize Agro-clinics.
25. Organize Agricultural discussion classes.
26. Conduct field visits to advice farmers.
27. Distribute subsidy and other benefits to farmers.
28. Arrange the supply of critical inputs.
29. Arrange credit facilities for farmers through financial institutions.
30. Use mass media to give information to farmers.

APPENDIX - X

S. MOTHILAL NEHRU  
Ph.D. Scholar.

Department of Agrl. Extension,  
College of Agriculture,  
Vellayani - 695 522.  
18 - 12 - 1991.

Dear Sir/Madam,

As part of my doctoral research programme I am developing a scale to measure the JOB EFFICIENCY OF AGRICULTURAL OFFICERS of the Kerala State Department of Agriculture.

To this end, some critical behaviours related to the job of the Agricultural Officers have to be listed. I am sure, that with your vast experience and close association with the Agricultural Officers, you will be able to help me in the identification of some CRITICAL JOB BEHAVIOURS which indirectly reflect the ability of the officer in achieving his tasks, duties, responsibilities and assignments.

I wish to add that the information provided by you will be used only for research purposes. The Director of Agriculture, Kerala State Department of Agriculture has permitted me to collect relevant information from the officers of the Department as per Memo No. TE (2)-74814/90 dated 24-9-1990.

Kindly read the instructions carefully and record critical job behaviours relevant to each dimension. Please return the schedule in the self addressed stamped envelope enclosed.

Wish you a happy 'X'mas and a very prosperous New Year

Thanking you

Yours sincerely,

(S. MOTHILAL NEHRU)

## CRITICAL JOB BEHAVIOURS OF AGRICULTURAL OFFICERS AT KRISHI BHAVAN LEVEL

**Instructions:** *Given below are the important job activities of an Agricultural Officer at Krishi Bhavan level. List one illustrative behaviour each for excellent, average and poor behaviour groups. To make the point clear, I have given an example suggesting critical behaviours of farmers in excellent, average and poor behaviour groups.*

### (A) FARMER'S KNOWLEDGE ABOUT SCIENTIFIC AGRICULTURE

- |                        |   |
|------------------------|---|
| 1) Excellent behaviour | a) Knows latest aspects of scientific agriculture by referring scientific magazines, research articles etc. |
|                        | b) _____  |
|                        | c) _____  |
| 2) Average behaviour   | a) If he came to know that extension programmes are conducted, he will try to attend to them.               |
|                        | b) _____  |
|                        | c) _____  |
| 3) Poor behaviour      | a) Even if he has an opportunity to know scientific Agriculture, he avoids it.                              |
|                        | b) _____  |
|                        | c) _____  |

Job activity	Behaviours (manner/style by which the officer achieving this activity)
1. Possess first hand information about the crops grown in the area required for planning	Excellent: ----- Average: ----- Poor: -----
2. Gain knowledge about the agricultural resources in the area required for planning	Excellent: ----- Average: ----- Poor: -----
3. Prepare locations specific farm programmes	Excellent: ----- Average: ----- Poor: -----
4. Assess critical input requirements for Agricultural production	Excellent: ----- Average: ----- Poor: -----
5. Contact with input agencies to ensure the availability of critical inputs	Excellent: ----- Average: ----- Poor: -----
6. Maintain relation with other departments for implementing departmental programmes	Excellent: ----- Average: ----- Poor: -----

Job activity	Behaviours (manner/style by which the officer achieving this activity)
7. Maintain relation with the financial institution	Excellent: ..... Average: ..... Poor: .....
8. Ensure farmers participation in the programme implementation	Excellent: ..... Average: ..... Poor: .....
9. Recognize subordinates for their work	Excellent: ..... Average: ..... Poor: .....
10. Listen to the views of subordinates,	Excellent: ..... Average: ..... Poor: .....
11. Disburse salary and other allowances of subordinates	Excellent: ..... Average: ..... Poor: .....
12. Encourage farmer's visit to office	Excellent: ..... Average: ..... Poor: .....

Job activity	Behaviours (manner/style by which the officer achieving this activity)
13. Maintains contact with farmers	Excellent: ----- Average: ----- Poor: -----
14. Listen to the views of farmers	Excellent: ----- Average: ----- Poor: -----
15. Maintains office order book	Excellent: ----- Average: ----- Poor: -----
16. Sending periodical reports	Excellent: ----- Average: ----- Poor: -----
17. Allotment of works to subordinates	Excellent: ----- Average: ----- Poor: -----
18. Attending the meeting of Agricultural Officers at SDAO level	Excellent: ----- Average: ----- Poor: -----



Job activity	Behaviours (manner/style by which the officer achieving this activity)
19. Maintain notice board in the office	Excellent: ----- Average: ----- Poor: -----
20. Process knowledge on Agricultural technologies	Excellent: ----- Average: ----- Poor: -----
21. Improves knowledge on Agricultural technologies	Excellent: ----- Average: ----- Poor: -----
22. Organizes training for Agricultural Assistants to improve their knowledge on Agricultural technologies	Excellent: ----- Average: ----- Poor: -----
23. Encourage farmers to practice group endeavour	Excellent: ----- Average: ----- Poor: -----
24. Organize Agro-clinics	Excellent: ----- Average: ----- Poor: -----

Job activity	Behaviours (manner/style by which the officer achieving this activity)
25. Organizes Agricultural discussion classes	Excellent: ----- Average: ----- Poor: -----
26. Conduct field visits to advice farmers	Excellent: ----- Average: ----- Poor: -----
27. Distribute subsidy and other benefits to farmers	Excellent: ----- Average: ----- Poor: -----
28. Arrange the supply of critical inputs	Excellent: ----- Average: ----- Poor: -----
29. Arrange credit facilities for farmers through financial institutions	Excellent: ----- Average: ----- Poor: -----
30. Use mass media to give information to farmers	Excellent: ----- Average: ----- Poor: -----

APPENDIX - XI

Dr.G.T. Nair,  
Professor & Head

Department of Agrl. Extension,  
College of Agriculture,  
Vellayani 695 522,  
Date 12-1-1992.

Dear Sir/Madam,

Mr. S. MOTHILAL NEHRU, Ph.D. Scholar in Agricultural Extension is developing a scale to measure 'JOB EFFICIENCY OF AGRICULTURAL OFFICERS' of the state Department of Agriculture, as a part of his doctoral research programme.

We are enclosing the selected job activities of the Agricultural Officers at Krishi Bhavan level and the respective critical job behaviour which indicated the efficiency of the officer in achieving his takes, duties responsibilities and assignments. You have been selected as one of the judges for the final selection of critical behaviours.

Kindly go through there critical behaviour under various job activities and rate each of the behaviours, in terms of best to worst behaviour in a five point rating continuum viz., Excellent (score-5), good (score-4), moderate (score-3), bad (score-2), and worst (score-1) to represent the efficiency of the Agricultural Officers in performing the job activities. Please return the schedule in the self addressed stamped envelope.

Thanking you,

Yours sincerely,

(G.T. Nair)

**JOB ACTIVITIES AND CRITICAL JOB BEHAVIOURS OF  
AGRICULTURAL OFFICERS**

Sl. No.	Critical behaviour	Mean score	Standred deviation
1.	Possess first hand information about the crops grown in the area required for planning.		
1.	State correctly the variety wise area under major crops.	4.93	0.25
2.	State correctly the area under major crops.	3.93	0.25
3.	State more or less correctly the area under major crops.	2.84	0.28
4.	State correctly the area under major crops only with the help of subourdinates.	2.6	0.41
5.	Unable to state correctly the area under major crops.	1.97	0.48
5.	Take little effort in collecting information on major crops	2.00	0.26
7.	Never takes effort to collect information.	1.2	0.4
8.	Endorses the information on area of crops provided by subordinates without verification.	1.13	0.34
9.	Gives casual/wrong information on area of crops.	1.07	0.25
10.	Have no idea about the crops grown in the area.	1.03	0.18

Sl. No.	Critical behaviour	Mean score	Standard deviation
2.	<b>Knowledge about the Agriculture resources in the area required for planning.</b>		
1.	Tells accurately the potential of basic resources in the area	4.97	0.18
2.	Tells more or less correctly the potential of basic resources	4.00	0.26
3.	Tells the potential of basic resources with the help of subordinates/ progressive farmers.	3.07	0.25
4.	Depends always on subordinates for assessing the potential of basic resources.	2.00	0.26
5.	Unable to tell accurately the potential of basic resources.	1.93	0.44
6.	Have no idea about the potential of basic resources.	1.41	0.34
7.	Take very little effort in assessing the potential of basic resources.	1.20	0.40
8.	Never takes effort in assessing the potential of basic resources.	1.13	0.34
9.	Feels no necessity for having such a knowledge as majority of the programmes are imposed from above.	1.03	0.18
10.	Always express inability to execute programmes due to poor knowledge.	1.23	0.42
3.	<b>Prepare location specific farm programmes.</b>		
1.	Prepares realistic location specific farm programme with accurate estimates.	3.90	0.30
2.	Prepares programme with inflated estimates.	2.93	0.44

Sl. No.	Critical behaviour	Mean score	Standard deviation
3.	Prepares programmes on the basis of the felt needs of beneficiaries.	4.00	0.26
4.	Prepares programmes in consultation with subordinates/farm leaders.	4.93	0.25
5.	Prepares programmes considering the views of subordinates.	3.13	0.58
6.	Duplicates the programmes prepared in other Krishi Bhavan	2.07	0.25
7.	Feels no necessity for preparing such programmes as majority are imposed from above.	1.16	0.37
8.	Prepares programmes for the sake of preparing them.	2.93	0.25
9.	Takes little effort to prepare programmes.	1.17	0.39
10.	Redicules/makes fun of those who do this exercise sincerely.	1.03	0.18
4.	Assess critical inputs requirement for Agricultural production.		
1.	Assesses accurately the requirement of all critical inputs.	4.63	0.43
2.	Assesses correctly the requirement of critical inputs in consultation with subordinates/farm leaders.	4.96	0.17
3.	Assesses correctly the requirement of few critical inputs.	3.93	0.24
4.	Always depends on outside help to assess input requirement.	2.16	0.43
5.	Assesses critical input requirement only in certain periods.	3.00	0.26

Sl. No.	Critical behaviour	Mean score	Standred deviation
6.	Unable to assess the requirement of critical inputs.	1.3	0.53
7.	Unilaterally assess the requirement of critical inputs.	2.3	0.47
8.	Makes incorrect assessment of requirement of critical inputs.	1.93	0.25
9.	Takes little effort to assess the critical inputs required.	1.13	0.34
10.	Redicules/ makes fun of these who do this exercise sincerely.	1.16	0.33
5.	Contact with input agencies to ensure the availability of critical inputs		
1.	Contacts input agencies for timely availability and disposal of inputs.	4.93	0.25
2.	Contacts input agencies for timely availability of inputs.	4.06	0.25
3.	Contact input agencies with little persuasion for timely availability of inputs.	3.40	0.50
4.	Be content by informing input agencies about the requirement of inputs.	3.06	0.25
5.	Unable to convince the input agencies about the requirement of inputs.	1.6	0.66
6.	Provide incorrect information on input requirement to the input agencies.	1.33	0.60
7.	Expresses the inability to contact because not having control over input supply system.	2.05	0.26
8.	Feels no use of contact as all the agencies are profit motivated	1.2	0.40

Sl. No.	Critical behaviour	Mean score	Standred deviation
9.	Takes little effort to control input agencies to ensure the supply of inputs.	1.16	0.37
10.	Redicules/makes fun of those who do this exercise sincerely.	1.04	0.23
6.	<b>Maintain relationship with other Departments for implementing development programmes</b>		
1.	Gets the help of other organization with the concurrence of head of office in spite of additional burden to them.	4.93	0.25
2.	Gets the help of other organization with the concurrence of head of office only when it is free of additional burden to them.	4.03	0.31
3.	Contact the person directely for help without creating problem to them.	2.90	0.39
4.	Feels others will not extent their co-operation since not having control over them.	3.00	0.26
5.	Contact others for help without fully furnishing the purpose.	2.03	0.41
6.	Contact others but do not follow it up to ensure their help.	2.03	0.18
7.	Demand help from others in away, it provacates to say 'no'.	1.13	0.34
8.	Contact others for help but never reciprocates the same.	1.23	0.42
9.	Feel others will not extend their co-operation.	1.06	0.25
10.	Feel no need to contact others as he himself can manage it.	1.03	0.12



Sl. No.	Critical behaviour	Mean score	Standard deviation
<b>7. Maintain relation with financial Institution.</b>			
1.	Recommend genuine cases with authentic facts for financial help.	4.00	0.26
2.	Help financial institution in achieving their foregoes/loan recovery.	4.96	0.18
3.	Gives opportunity to financial Institution for their campaign.	3.1	0.40
4.	Ensure financial institution, the proper use of finance in the recommended cases.	3.6	0.55
5.	Express views/suggestion only when sought.	3.00	0.26
6.	Assure financial institution for recovery of loan from the beneficiaries recommended.	3.26	0.44
7.	Expect all his suggestions/recommendations should be accepted.	1.16	0.37
8.	Establish contact with financial institution for name sake.	1.23	0.42
9.	Feel the officials never hear his views as they are either biased or corrupt.	1.03	0.18
10.	Feel it is not necessary.	2	0.26
<b>8. Ensure farmers participation in the programme implementation</b>			
1.	Implementing programmes after thorough discussion with progressive farmers/leaders to ensure their participation.	5	0.02

Sl. No.	Critical behaviour	Mean score	Standred deviation
2.	Inform about the programmes being implemented to obtain their co-operation.	3.86	0.34
3.	Discuss mainly to get his views endorsed by the farmers.	4.07	0.25
4.	Discuss programmes just for name sake.	3.07	0.25
5.	Give little importance to the views of farmers.	2.9	0.40
6.	Discuss programmes only to satisfy a few influencials in the area.	2.06	0.44
7.	Discuss programmes mainly to transfer his responsibilities to them.	2.91	0.42
8.	Motivate the people to share the responsibilities to ensure the smooth implementation of the programmes.	2.33	0.47
9.	feels discussing with farmers regarding programmes reduces his images.	2.06	0.24
10.	Feels it is not possible to get the involvement of people in implementing programmes.	1.06	0.24
9.	Recognize subordinates for their work.		
1.	Appreciates subordinates and takes efforts to get sutiable reward for their work.	4.96	0.18
2.	Appreciates subordinates in time for their work.	4.03	0.31
3.	Appreciates subordinates in the presence of coworkers to motivate others.	3.76	0.49
4.	Even the good work of subordinates are not appreciated.	2.87	0.43

Sl. No.	Critical behaviour	Mean score	Standred deviation
5.	Appreciates subordinates only when circumstances warrent such action.	3.06	0.25
6.	Neither appreciates nor find fault the subordinates.	1.86	0.41
7.	Make claim that success of programme is only due to his effort.	2.23	0.42
8.	Never appreciates subordinates for their work.	2.05	0.24
9.	Pretend not to take notice of the work done by the subordinates.	1.13	0.34
10.	Even for minor snags find fault with the subordinates.	1.06	0.24
<b>10. Listen to the views of subordinates</b>			
1.	Analyze rationally the views of subordinates before taking final decision.	5	0
2.	Listen to the views of subordinates only in certain situations.	3.07	0.25
3.	Invites the views of subordinates for work accomplishment.	3.96	0.31
4.	Listen to the views of subordinates but never consider before taking decision.	2.73	0.51
5.	Listen to the views of subordinates only when things go wrong.	2.03	0.48
6.	Fully endorse the views of subordinates in taking decision.	1.96	0.44
7.	Take unilateral decision without consulting the subordinates.	2.03	0.41

Sl. No.	Critical behaviour	Mean score	Standred deviation
8.	Reject the views of subordinates outrightly.	2.03	0.81
9.	Be little the views of subordinates.	1	0
10.	Listen to the views of subordinates for transferring responsibility of work on their shoulder.	1.1	0.3
11.	<b>Disburse salary and other allowances of subordinates.</b>		
1.	Takes minor risks within his capacity to ensure timely disbursement of salary and other allowances to all.	4.93	0.25
2.	Ensures timely disbursement of salary and other allowances.	4.06	0.25
3.	Consider this exercise as a routine office work.	2.96	0.31
4.	Hesitate to persuade for timely distribution of salary and other allowances, in case of difficulty.	1.97	0.18
5.	Ensure timely distribution of salary to subordinates and leave other allowances to take its own course.	2.76	0.42
6.	Ensure timely distribution of salary and other allowances to himself and not to subordinates.	1.7	0.45
7.	Takes interest in the distribution of allowances only when pressurized by subordinates.	1.6	0.48
8.	Dose not take interest in ensuring timely distribution of salary and other allowances.	1.37	0.48

Sl. No.	Critical behaviour	Mean score	Standred deviation
9.	Feels disbursing salary and other allowances as an additional burden.	1.47	0.50
10.	Consider this as a weapon to trouble subordinates.	1	0
12.	Encourage farmer's visit to office.		
1.	Listens patiently to the farmers to satisfy the purpose of visit.	5	0
2.	Listens patiently but takes interest only in the selected purposes.	4.06	0.25
3.	Receive and hear only to certin affluent farmers.	3.33	0.47
4.	React in differently with the farmers.	2.23	0.42
5.	Consider office visit of farmer as a routine affair.	3.1	0.3
6.	Goes on talking without understanding the purpose of farmer's visit.	2.06	0.24
7.	Feel office visit as the hinderence in the functioning of the office.	1.23	0.50
8.	Discourage office visit as this may expose his absense in the office.	1.13	0.33
9.	Shows indifferent attitude to farmers who visit the office.	1.03	0.14
10.	Direct the visitors to his subordinates.	1.13	.34
13.	Maintain contact with farmers.		
1.	Maintain healthy relationship with all sections of farmers.	5	0

Sl. No.	Critical behaviour	Mean score	Standred deviation
2.	Maintain healthy relationship only with representatives of all sections of farmers.	4.4	0.49
3.	Maintain relationship only with selected leaders of farmers.	3.9	0.24
4.	Maintain relation with those who are influential in the area.	3.3	0.46
5.	Maintain contact only when occation demand.	2.9	0.3
6.	Maintain relationship with farmer only through subordinates.	2.8	0.4
7.	Maintain contact wirth farmers only in relation to the work.	2.33	0.54
8.	Maintain namesake relationship.	1.66	0.47
9.	Does not take interest to establish contact with farmers.	1.93	0.24
10.	Feels safe to have a distance with the farmers.	1	0
4.	Listen to the views of farmers.		
1.	Gives importance to the worthy views expressed by farmers.	4.96	0.17
2.	Gives importance to the views of inluencial farmers.	3.21	0.31
3.	Only in certain situation gives importance to the views of farmers.	3.96	0.17
4.	Listen to the views of farmers only when situation warrants.	3.03	0.18
5.	Feel listening farmers reduces his self image.	2.49	0.21

Sl. No.	Critical behaviour	Mean score	Standred deviation
6.	Feel no need of listen to the views of farmers as it is not directly connected with the office duties.	2.49	0.33
7	Listen to the views but never attach importance to it.	2.06	0.25
8.	Dose not listen to the viwes of farmers.	2.13	0.33
9.	Give undue importance to the views of farmers.	1.30	0.17
10.	Discourage those who give importance to the views of farmers.	1.16	0.37
15.	Maintaining office order book.		
1.	Maintains office order book as a model.	5	0
2.	Record only essential instructions in the book.	3.97	0.17
3.	Record all types of instructions.	3.83	0.37
4.	Maintain office order book just for name sake.	2.93	0.25
5.	Maintains only to satisfy the superior.	1.90	0.40
6.	Maintains to protect his interest in the execution of work.	1.43	0.50
7.	Does not care much in the maintanance of book.	2.17	0.37
8.	Does not maintain it.	1.93	0.25
9.	Discourage who maintains office order book.	1.83	0.25
10.	Uses the office order book more to trouble the subordinates than help them to excute their work.	1	0

Sl. No.	Critical behaviour	Mean score	Standard deviation
<b>16. Sending periodical reports.</b>			
1.	Prompt in sending all the necessary reliable reports to the higher ups.	4.97	0.17
2.	Prompt in sending of only very essential reports to the higher ups.	3.96	0.31
3.	Send report only on repeated reminders.	3.01	0.25
4.	Send report only when work load is less.	2.67	0.42
5.	Send incomplete reports to higher ups.	2.91	0.23
6.	Entrust the work to subordinates and send the reports without verification.	1.63	0.48
7.	Send reports which contains incorrect information.	1.03	0.23
8.	Send reports just for the sake sending reports.	1.23	0.18
9.	Send reports, but feel no use in sending as timely action is not going to be taken up.	1.13	0.42
10.	Send cooked up reports.	1.13	0.34
<b>17. Allotment of work to subordinates.</b>			
1.	Allot various works to the subordinates considering their ability and other related factor.	4.96	0.17
2.	Allot work as per rule and not attach any value to any other things.	3.01	0.12
3.	Show favouritism in allotting work.	2.23	0.45



Sl. No.	Critical behaviour	Mean score	Standred deviation
4.	Alter allotment frequently which creates confurion among the subordinates.	2.66	0.39
5.	Allots works to subordinates insuch away that some are overburdened.	2.01	0.22
6.	Allot works in a hapazard manner which inhibits the efficiency of subordinates.	2.09	0.39
7.	Allot the work so as to harm the subordinates.	1.39	0.28
8.	Allot work in such a way it affect the work performeace.	2.04	
9.	Uses allotment of work as a weapon to trouble subordinates.	1.09	0.12
10.	Consider the views of subordinates while allotting works to them.	3.98	0.22
18.	<b>Attending the meeting of Agricultural Offices</b>		
1.	Attends meetings with all required informations and participate effectively.	4.97	0.18
2.	Attends meetings with all required informations and participats only when situations warrents.	4.03	0.18
3.	Depute correct person with proper guidance to attend the meeting, in case of absence.	4.36	0.38
4.	Attends as a silent spectator in the proceedings.	3.02	0.19
5.	Avoid attending meeting by deputing subordinates at most of the time.	2.84	0.48

Sl. No.	Critical behaviour	Mean score	Standard deviation
6.	Depute any one of the subordinates without proper instructions to the meetings, in the case of absence.	3.19	0.49
7.	Attend meeting only to find fault superior.	2.64	0.29
8.	Attend meetings to present only problems and difficulties.	2.06	0.16
9.	Attend meetings with feeling that it will in no way help him in implementing the programmes.	1.03	0.12
10.	Discourage those who regularly attend and ensure effective participation.	1.02	0.29
19.	Maintain notice board in the office.		
1.	Maintain notice board as a model.	4.98	0.22
2.	Take personal interest to maintain board properly and neatly.	4.63	0.39
3.	Display only very important information in the board.	4.02	0.19
4.	Display materials but fails to maintain properly.	2.96	0.18
5.	Display materials in board only on selected situations.	2.68	0.34
6.	Maintain notice board just to satisfy his higher ups.	2.68	0.34
7.	Encourage subordinates to maintain notice board.	3.23	0.46
8.	Pay little attention in maintaining the board.	2.04	0.43
9.	Feels no use in maintaining notice board.	1.01	0.14

Sl. No.	Critical behaviour	Mean score	Standred deviation
10.	Doesnot maintain notice board at all.	1.99	0.12
20.	<b>Possess Knowledge on Agricultural technologies.</b>		
1.	Convince the farmers about the recommendation by logical presentation.		
2.	Tells correctly the management practices for crops grown in his area.	4.96	0.21
3.	Tells correctly the management practices for the selected major crops grown in his area.	4.02	0.22
4.	Suggest new crop management practices based on the recent development in Agriculture.	4.12	0.32
5.	Finds difficult to solve the field problems of major crops grown in the area.	2.93	0.34
6.	Refer/depend farm guide/manual to suggest crop management practices.	3.02	0.32
7.	Seek the assistance of subordinates to diagonize the field problems.	2.36	0.42
8.	Give blanket recommendation for crop management.	2.02	0.23
9.	Lacks idea about the management practices of major crops.	1.56	0.43
10.	Offers wrong recommendation because of poor level of comprehension.	1.03	0.21
21.	<b>Improves knowledge on Agricultural technology.</b>		
1.	Takes interest in improving his knowledge and maintains reference notes for further verification.	4.92	0.21

Sl. No.	Critical behaviour	Mean score	Standard deviation
2.	Takes interest in improving his knowledge by discussion with SMS/regular use of electronic and print media.	4.02	0.23
3.	Improves his knowledge on Agrl. technology only when he gets a chance to do so.	3.82	0.32
4.	Lacks patience to improve his knowlwdge on Agricultural technology.	3.62	0.47
5.	Takes interest in improving his knowledge with specific reference to the selected crops he works.	3.11	0.24
6.	Fails to utilize the chances which facilitate knowledge improvement.	1.98	0.21
7.	Take interest to improve his knowledge only on occassion demands.	2.39	0.54
8.	Avoids chances to improves his knowledge.	1.92	0.42
9.	Feels the present level of knowledge is sufficient to perform the duties though not having sufficient knowledge.	1.02	0.31
10.	Dosen't take any interest in improving his knowledge.	4.93	0.32
22.	Organizes trainings for Agricultural Assistants to improve their knowledge on Agricultural technology.		
1.	Organizes training classes in a systematic manner to improve the knowledge of participants.	4.93	0.32
2.	Organizes training classes without concerning its relevance/ knowledge improvement.	2.63	0.39

Sl. No.	Critical behaviour	Mean score	Standred deviation
3.	Organize training classes only when insisted from higher ups.	3.02	0.19
4.	Organizes training classes in selected seasons with proper record.	3.96	0.21
5.	Organizes training classes on request by the trainees.	2.69	0.42
6.	Believes only on the spot instructions on technical matters than organizing trainings.	2.84	0.32
7.	Organizes trainings without concerning its relevance/knowledge improvement.	2.03	0.18
8.	Express inability to organize classes as already overburdened with work.	2.29	0.39
9.	Maintains the record of training classes without conducting.	1.06	0.34
10.	Conduct training classes only to complete official formalities and not for improving their knowledge.	1.02	0.32
23.	Encourage farmers to practice group endeavour.		
1.	Convinces the farmers in practicing group approach inspite of their initial resistance.	4.94	0.21
2.	Takes efforts to educate farmers that they can practice group approach.	4.03	0.18
3.	Encourages farmers to practice group effort if they extent cooperation.	3.12	0.19
4.	Pays little efforts in educating farmer for group effort.	2.92	0.19
5.	Encourages farmers to practice group effort only if situation warrents.	3.04	0.28

Sl. No.	Critical behaviour	Mean score	Standred deviation
6.	Extends help only when farmers have taken initiative on group.	2.09	0.18
7.	Takes casual effort in encouraging group approach.	2.14	0.22
8.	Discourages group effort by highlighting only the difficulties.	1.02	0.19
9.	Feels no benefit in practicing group efforts.	1.34	0.22
10.	Says it is not worthy to practice group effort.	1.22	0.43
24.	Organizes Agro-clinics.		
1.	Organizes Agro-clinics as a model.	4.98	0.10
2.	Organizes effective Agro clinics without proper maintenance of records.	4.10	0.12
3.	Organizes clinics only in peak season.	3.02	0.04
4.	Entrust the conduct of clinics to subordinates.	3.62	0.16
5.	Organizes clinics only when farmer's have taken initiative.	2.72	0.23
6.	Organizes clinics when the subordinates have taken responsibility.	2.69	0.22
7.	Organizes clinics for name sake.	2.02	0.09
8.	Don't organize clinics systematically.	2.62	0.22
9.	Feels the clinics are not going to serve any purpose.	1.62	0.22
10.	Shows in record about the agro clinics without actual organizing.	1.06	0.15

Sl. No.	Critical behaviour	Mean score	Standred deviation
25.	<b>Organizes Agrl.discussion classes.</b>		
1.	Organizes discussion classes in a systamatic manner to ensure that the prticipating farmers are benefited.	4.92	0.12
2.	Organizes discussion classes on selected topic when insisted from higher ups.	4.01	0.11
3.	Organizes discussion classes when sufficent funds are allotted.	2.96	0.21
4.	Organizes classes for name sake.	2.62	0.32
5.	Organizes classes only when subordinates are ready to take responsibility.	2.74	0.28
6.	View casually and even fail to attend the classes organized in his area.	2.02	0.31
7.	Find flimry reasons for not organizing classes.	2.16	0.29
8.	Feels it is a watse of effort and money.	2.63	0.39
9.	Does not organize classes.	1.65	0.22
10.	Shows in record about classes without actual organizing.	1.0	0.12
26.	<b>Conduct field visit to advice farmers</b>		
1.	Conduct systematic, effective visits to solve the field problems of farmers.	4.97	0.18
2.	Visit field whenever problems related to crop managenent is brought to his knowledge.	4.02	0.12

Sl. No.	Critical behaviour	Mean score	Standard deviation
3.	Visit field when insisted by the farmers.	3.04	0.14
4.	Feels no time to visit field since already overburdened with office work.	3.62	0.22
5.	Avoids field visit to the maximum extent possible.	2.03	0.21
6.	Feels no use of advising farmers infield visit since the farmer is not going to practice.	2.32	0.42
7.	Feels field visit is a waste.	2.69	0.13
8.	Conduct field visit for name sake.	2.62	0.14
9.	Visit the fields of influential farmers only.	2.34	0.23
10.	Conduct field visits without comprehending the field problems.	1.02	0.12
27.	Distribution of subsidy and other benefits to farmers		
1.	Ensure the timely distribution of subsidy and other benefits to farmers.	4.02	0.12
2.	Takes minor risks on his own, to distribute subsidy and their benefits to farmers.	4.96	0.11
3.	consider this as an routine office work.	3.12	0.12
4.	Distribute benefits to farmers who make complaints.	2.91	0.24
5.	Feels this is an additional burden.	2.62	0.23
6.	Shows favouritism in subsidy distribution.	2.06	0.22



Sl. No.	Critical behaviour	Mean score	Standred deviation
7.	Dosen't take up timely distribution of subsidy when difficulty faced.	3.02	0.17
8.	Find flimsy reason to deny or to postpone the distribution of benefits to farmers.	2.32	0.16
9.	Never takes interest to distribute subsidy and other benefits to farmers.	1.86	0.32
10.	Expects undue co-operation from farmers for disbursing subsidy and other benefits to farmers.	1.02	0.14
28.	Arrange the supply of critical inputs.		
1.	Ensure the timely availability of critical inputs required for Agri.production.	4.49	0.12
2.	Takes initiative to arrange the supply of selected inputs not available in the Govt. outlet.	4.04	0.14
3.	Takes normal effort to ensure the availibility to critical inputs.	2.10	0.32
4.	Takes effort only when insisted by higher ups.	3.42	0.16
5.	Arranges the supply of selected inputs available in the Dept. outlet.	3.02	0.12
6.	Find flimsy seasons to avoid even when insised from higher ups.	2.62	0.23
7.	Arrange the critical inputs when farmers made strong demand.	1.82	0.22
8.	Feel it is not necessary to arrange the inputs.	1.42	0.32

Sl. No.	Critical behaviour	Mean score	Standred deviation
9.	Does not take any efforts to arrange the supply of inputs.	1.94	0.16
10.	Does not care to ascertain that the inputs are available.	1.06	0.22
29.	<b>Arrange credit facilities for farmers through financial institution.</b>		
1.	Takes sincere efforts to help the farmers to avail credit facility and also ensure the proper utilization.	4.93	0.13
2.	Contact agencies to make available the credit facility without further persuasion.	3.62	0.16
3.	Takes efforts to arrange the credit facility for farmers through financial institution.	4.03	0.14
4.	Feels satisfied by contacting appropriate agencies to arrange the credit facility.	3.06	0.12
5.	Avoid this type of activities to the maximum extent possible.	2.81	0.21
6.	Contact financial institution just for name sake.	2.62	0.21
7.	Feels that involvement in this type of activities will create problems.	1.04	0.32
8.	Does not take interest to arrange credit facility for farmer.	1.98	0.12
9.	Feels the agencies are profit motivated, so they never listen what he says.	2.06	0.32
10.	Expect undue co-operation from farmers for arranging financial assistance.	1.52	0.33

Sl. No.	Critical behaviour	Mean score	Standred deviation
30.	Use of mass media to give information to farmers.		
1.	Ensures that important information reach the farmers through all possible media.	4.92	0.18
2.	Gives information to mass media.	4.16	0.21
3.	Uses mass media to give very selected information.	3.96	0.19
4.	Uses mass media only when insisted from higher ups.	3.09	0.18
5.	Entrusts the work to subordinates for giving information to mass media.	2.93	0.21
6.	Use mass media on subordinates request.	3.12	0.12
7.	Takes minimum interest to use mass media.	2.64	0.32
8.	Fear about the consequences in using mass media.	2.04	0.14
9.	Fails to use mass media due to lack of understanding about the media.	1.06	0.12
10.	Be little the people who uses mass media.	1.32	0.32

APPENDIX - XII

Dr. G.T. Nair,  
Professor & Head.

Dept. of Agrl. Extension,  
College of Agriculture,  
Vellayani - 695 522.  
Dt: 2-5-1982.

Dear Sir/Madam,

Mr. S. Mothilal Nehru, Ph.D.Scholar in Agricultural Extension has developed a scale to measure job efficiency of Agricultural officers of the State Department of Agriculture, as a part of his doctoral research programme. You have been selected as one of the judges to rate the critical job behaviors of agricultural officers at panchayat level. This is purely an academic exercise and, therefore, no way affect you or your subordinate officers. The information given by you will be kept strictly confidential.

The Director of Agriculture, State Department of Agriculture has permitted him to collect relevant information from the officers of the Department as per order No.T.E.(2)-74814/90 dt: 24-9-1990.

I, therefore, request you to kindly give information as genuine as possible.

With kind regards,

Yours sincerely,

(G.T. Nair)

S. Mothilal Nehru,  
Ph.D. Scholar.

Dept. of Agrl.Extension,  
College of Agriculture,  
Vellayani-695 522  
Dt: 5-5-1992.

Respected Sir/Madam,

As you are aware, I have developed a scale to measure the job efficiency of Agricultural officers of the state Department of Agriculture, as a part of my doctoral research programme.

The scale consists of thirty selected job activities and their respective critical job behaviors. The critical job behaviors enlisted against each job activity reveal/indicate the efficiency of officer in fulfilling the job activities.

As an Assistant Director of A D A circle, you are requested to rate each Agricultural officer at Krishi Bhavan level under your control. I would like to know your perception about the behavior of the subordinates working under you with regard to their job activities. Kindly go through the behaviors under each activity and select one behavior exhibited by the Agrl. officer exactly /closes to it in fulfilling the job activity. Selection of behavior to be indicated by a tick mark in the box.

Please treat this exercise as a purely academic one and it will not be used for any official purpose. I assure further your assessment will be kept in strict confidence. So please be honest in your response.

With regards,

Yours faithfully  
(S. Mothilal Nehru)

# SCALE TO MEASURE THE JOB EFFICIENCY OF AGRICULTURAL OFFICER AT KRISHI BHAVAN LEVEL

## INSTRUCTIONS

1. Please rate the officer only when he/she has completed a minimum of one year service in the present post and in the present place.
2. Use separate schedule for each officer.
3. Please do not write your name anywhere.
4. Since each job behavior reflect the efficiency of the officer who perform this activity, answer each and every activity as thoughtfully and frankly as possible.
5. Please do not leave out any activity without giving any response.
6. Please rate all the officers under your control those who have satisfied the condition Ist stated.

## PART - I

### GENERAL INFORMATION

1. Name of District :
2. Name of Sub-Division :
3. Name of Asst. Director circle :
4. Name of Agrl. Officer :
5. Postal address of Krishi Bhavan :

## PART - II

### JOB DIMENSION: A - PLANNING

#### JOB ACTIVITY-1. GAIN FIRST HAND INFORMATION ABOUT THE CROPS GROWN IN THE AREA REQUIRED FOR PLANNING

- 
- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | State correctly the variety-wise area under major crops.     |
| <input type="checkbox"/> | State correctly the area under major crops.                  |
| <input type="checkbox"/> | State more or less correctly the area under major crops.     |
| <input type="checkbox"/> | Take little effort in collecting information on major crops. |
| <input type="checkbox"/> | Have no idea about the crops grown in the area.              |

#### JOB ACTIVITY : 2 : GAIN KNOWLEDGE ABOUT THE AGRICULTURAL RESOURCES IN THE AREA REQUIRED FOR PLANNING

- 
- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | Tells accurately the potential of basic resources in the area. |
|--------------------------|--|

- Tells more or less correctly the potential of basic resources.
- Tells the potential of basic resources with the help of subordinates/progressive farmers.
- Depends always on subordinates/progressive farmers for assessing the potential of basic resources.
- Feels no necessity for having such a knowledge as majority of the programs are imposed from above.

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**JOB ACTIVITY : 3 : PREPARE LOCATION SPECIFIC FARM PROGRAMMES**

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- Prepares realistic farm programmes in consultation with subordinates/farm leaders.
- Prepares programmes on the basis of felt needs of the beneficiaries.
- Prepares programmes for the sake of preparing them.
- Duplicates the programmes prepared in other Krishi Bhavans .
- Redicules/make fun of those who do this exercise sincerely.

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**JOB ACTIVITY : 4 : ASSESS CRITICAL INPUT REQUIREMENT FOR AGRICULTURAL PRODUCTION**

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- Assesses correctly the requirement of critical inputs in consultation with subordinates/farm leaders.
- Assesses correctly the requirement of few critical inputs.
- Assesses critical inputs requirement only in certain periods.
- Make incorrect assessment of critical inputs requirement.
- Takes little efforts to assess the critical inputs requirement.

**JOB DIMENSION: B: CO-ORDINATION**

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**JOB ACTIVITY : 5 : CONTACT WITH INPUT AGENCIES TO ENSURE THE AVAILABILITY OF CRITICAL INPUTS**

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- Contacts the input agencies for timely availability and disposal of inputs.
- Contacts the input agencies for timely availability of inputs.
- Feels satisfied by informing inputs agencies about the requirement of critical inputs.
- Expresses inability to contact, because not having control over inputs supply system.
- Redicules/makes fun of those who do this exercise sincerely.

**JOB ACTIVITY : 6 : MAINTAIN WORKING RELATIONSHIP WITH OTHER DEPARTMENTS FOR IMPLEMENTING DEPARTMENTAL PROGRAMMES**

- Gets the help of other organization with the concurrence of head of office inspite of additional burden to them.
- Gets the help of other organization with the concurrence of head of office only when it is not an additional burden to them.
- Feels other will not extend their co-operation since not having control over them.
- Contacts others but do not follow it up to ensure their help.
- Feels no need to contact other as he himself can manage it.

**JOB ACTIVITY : 7 : MAINTAIN WORKING RELATIONSHIP WITH FINANCIAL INSTITUTIONS**

---

- Helps financial institutions in achieving their targets/loan recovery.
- Recommends only genuine cases with authentic facts for financial help.
- Expresses views/suggestion only when sought.
- Feels it is not necessary.
- Feels the officials never hear his views as they are either biased or corrupt.

**JOB ACTIVITY : 8 : ENSURE FARMER'S PARTICIPATION IN THE PROGRAMME IMPLEMENTATION**

---

- Implements programmes after through discussion with progressive farmers/leaders to ensure their participation.
- Discusses mainly with others to get his views endorsed by them.
- Discusses programmes just for name sake.
- Feels discussing with farmers regarding programmes reduces his image.

**JOB DIMENSION : C : HUMAN RELATION**

**JOB ACTIVITY : 9 : RECOGNIZE SUBORDINATES FOR THEIR WORK AND EFFORT**

---

- Appreciates subordinates and take efforts to get suitable reward for their work.
- Appreciates subordinated in time for their work.
- Appreciates the work of subordinates only when circumstances warrant such action.
- Never appreciates subordinates for their work.
- Find fault with the subordinates even for minor sags.



### **JOB ACTIVITY : 10 : LISTENING TO THE SUBORDINATES**

---

- Analyzes rationally the views of subordinates before taking final decision.
- Invites the views of subordinates for work accomplishment.
- Listens to the views of subordinates in certain situation.
- Reject the views of subordinates outrightly.
- Be-little scoffs at the views of subordinates.

### **JOB ACTIVITY : 11 : DISBURSE SALARY AND OTHER ALLOWANCES OF SUBORDINATES**

---

- Take minor risks within his capacity to ensure timely disbursement of salary and other allowances to all.
- Ensures timely disbursement of salary and other allowances
- Considers this exercise as a routing office work.
- Hesitates to persuade for timely disbursement of salary and other allowance, in case of difficulty.
- Considers this as a weapon to trouble subordinates.

### **JOB ACTIVITY : 12 : ENCOURAGE FARMER'S VISIT TO OFFICE**

---

- Listens patiently to the farmers who visit the office to satisfy the purpose of visit.
- Listens patiently but takes interest in fulfilling only of their purposes of visit.
- Considers office visit of farmer as a routine affair.
- Goes on talking without understanding the purposes of farmer's visit.
- Shows indifferent attitude to farmers who visit the office.

### **JOB ACTIVITY : 13 : MAINTAIN CONTACT WITH FARMERS**

---

- Maintains healthy relationship with all sections of farmers.
- Maintains relationship only with selected leaders of farmers.
- Maintains relationship only when occasion demands.
- Takes no interest to establish relationship with farmers.
- Feels safe to have a distance with farmers.

#### **JOB ACTIVITY : 14 : LISTEN TO THE VIEW OF FARMERS**

---

- Give due importance to the constructive views expressed by farmers.
- Only in certain situation gives importance to the views expressed by farmers.
- Listen to the views of farmers only when situation demands
- Listen to the views of farmers but never attach importance to it.
- Give under importance to the views of farmers.

#### **JOB ACTIVITY : 15 : MAINTAINING OFFICE ORDER BOOK**

---

- Maintains office order book as a model.
- Records only very essential instructions in the book.
- Maintains office order book just for name sake.
- Does not maintain office order book.
- Uses the office order book more to trouble the subordinates than help them to execute their work.

#### **JOB ACTIVITY : 16 : SENDING PERIODICAL REPORTS**

---

- Prompt in sending of all the necessary reliable reports to the higher ups.
- Prompt in sending of only very essential reports to the higher ups.
- Sends reports to the higher ups only on repeated reminders.
- Sends incomplete reports to the higher ups.
- Sends reports to the higher ups which contain incorrect information.

#### **JOB : 17 : ALLOTMENT OF WORKS TO SUBORDINATES**

---

- Allots various works to the subordinates considering their interest and other related factors.
- Considers the view of subordinates while allotting works to them.
- Allots works to subordinates as per rule and not attach value to any other things.
- Allots works to subordinates in such a way that some are overburdened.
- Uses allotment of work as a weapon to trouble subordinates.

**JOB ACTIVITY : 18 : ATTENDING THE MEETINGS OF  
AGRL. OFFICERS AT SDAO LEVEL**

---

- Attends meetings with all required informations and participate effectively to help the superior in implementing the various programmes.
- Attends meetings with required informations and participate only when situation warrants.
- Attends and remain as a silent spectator in the proceedings.
- Attends meeting only to present problems and difficulties.
- Attends meetings with feeling that it will in no way help him in implementing the programme.

**JOB ACTIVITY : 19 : MAINTAIN NOTICE BOARD IN THE OFFICE**

---

- Maintains notice board as a model.
- Display only every important informations in the board.
- Display materials in notice board only on selected situations.
- Not maintains notice board at all.
- Feels no use in maintaining notice board.

**JOB DIMENSION : E : UPGRADING PROFESSIONAL COMPETENCY**

**JOB ACTIVITY : 20 : POSSESS KNOWLEDGE ON AGRICULTURAL TECHNOLOGIES**

---

- Tells correctly the management practices, for the crops grown in his area.
- Tells correctly the management practices for the selected crops grown in his area.
- Refers farm guide/manual to suggest correct management practices.
- Gives blanket recommendation for crop management.
- Offers wrong recommendation because of poor level of comprehension.

**JOB ACTIVITY : 21 : IMPROVES KNOWLEDGE ON AGRICULTURAL TECHNOLOGIES.**

---

- Takes interest in improving knowledge and maintain reference notes for further verification.
- Takes interest in improving knowledge by discussion with SMS/regular use of electronic and print media.
- Takes interest in improving knowledge with reference to the selected crops he works.

- Fails to utilise the chances which facilitate knowledge improvement.
- Feels the present level of knowledge is sufficient to perform the duties though not having sufficient knowledge.

**JOB ACTIVITY : 22 : ORGANIZES TRAINING FOR AGRL. ASSISTANTS  
TO IMPROVE THEIR KNOWLEDGE ON AGRL. TECHNOLOGY**

---

- Organizes training classes in a systematic manner to improve the knowledge of participants.
- Organizes training classes in selected seasons with proper record .
- Organizestraining classes only with insisted from higher ups.
- Organizes training classes without concerning its relevance/ knowledge improvement.
- Conducts training classes only to complete official formulation and not for improving the progress of work than improving their knowledge.

**JOB ACTIVITY : 23 : JOB DIMENSION : F - FARMER DEVELOPMENT  
ENCOURAGES FARMERS TO PRACTICE GROUP ENDEAVOUR**

---

- Convinces the farmers in practicing group approach inspite of their resistance.
- Takes efforts to educate farmers to ensure that they are practicing group approach.
- Encourages farmers to practice group effort only if situation warrants.
- Extends help only when farmers have taken initiative on group approach.
- Discourages group efforts highlighting only the difficulties.

**JOB ACTIVITY : 24 : ORGANIZE AGRO-CLINICS**

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- Organizes Agro-clinics as a model.
- Organizes effective clinics without proper maintenance a record.
- Organizes clinics only in peak season.
- Organizes clinics for name sake.
- Shows in record about the agro-clinics without actual organizing.

**JOB ACTIVITY : 25 : ORGANIZE AGRL. DISCUSSION CLASSES**

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- Organizes classes in a systematic manner to ensure that the participating farmers are benefited.

- Organizes classes on a selected topics when insisted from higher ups.
- Organizes classes only when sufficient funds are allotted.
- Views casually and even fail to attend the classes organized in his area.
- Shows in record about classes without actual organizing.

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**JOB ACTIVITY : 26 : CONDUCT FIELD VISITS TO ADVISE FARMERS**

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- Conducts systematic , effective visits to solved the field problems of farmers.
- Visits field whenever problems related to crop management is brought to his knowledge.
- Visits field when insisted by the farmers.
- Avoids field visit to the maximum extent possible.
- Conducts field visits without comprehending the field problems.

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**JOB ACTIVITY : 27 : DISTRIBUTION OF SUBSIDY AND OTHER BENEFITS TO FARMERS**

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- Takes minor risks on his own, distribute subsidy and other benefits to farmers.
- Ensures the timely distribution of subsidy and other benefits to farmers.
- Doesn't take up the timely distribution of subsidy when difficulty to faced.
- Shows favoritism in subsidy distribution.
- Expects undue co-operation from farmers for distributing subsidy and other benefits to them.

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**JOB ACTIVITY : 28 : ARRANGE THE SUPPLY OF CRITICAL INPUTS**

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- Ensures the timely availability of critical inputs required for Agrl. production.
- Takes initiative to arrange the supply of selected inputs not available in the Govt. outlet.
- Arranges the supply of selected inputs available in the Dept. outlet.
- Does not take any efforts to arrange the supply of inputs.
- Does not care to ascertain that the inputs are available.

**JOB ACTIVITY : 29 : ARRANGE CREDIT FACILITIES FOR FARMERS THROUGH  
FINANCIAL INSTITUTIONS**

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- Takes sincere efforts to help the farmers to avail credit facility and then ensures proper utilization.
- Takes efforts to arrange the credit facility for farmers through financial institutions.
- Feels satisfied by contacting appropriate agencies to arrange the credit facility.
- Does not take interest to arrange credit facility for farmer.
- Feels that involvement in this type of activities will create future problems.

**JOB ACTIVITY : 30 : USE MASS MEDIA TO GIVE INFORMATIONS TO FARMERS**

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- Ensures that important informations reach the farmers through all possible media.
- Uses mass media to give very selected information.
- Entrusts the work to subordinates for giving information to mass media.
- Fears about the consequences in using mass media.
- Fails to use mass media due to lack of understanding about the media.

APPENDIX - XIII

S. Mothilal Nehru,  
Ph.D. Scholar

Dept. of Agri. Extension,  
College of Agriculture,  
Vellayani, 695522,  
Dt. 12.11.1991.

Dear Sir,

As part of my research programme, I am developing a scale to measure the technical competency of agricultural officers at field level. I am enclosing a list of crop management practices followed by the farmers.

Kindly spare few minutes to state whether the practice followed by them are correct or not. The information requested here is purely for research purpose and not claimed at any particular individual. Therefore your frank and honest answers are of great value in developing this scale.

Yours Sincerely

S. Mothilal Nehru

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Note: The Director of Agriculture, State Department of Agriculture permitted to collect relevant information as per order No. TE (2) - 74814/90 dtd. 24-9-1990.

PLEASE DO NOT WRITE YOUR NAME

The following are some of the practices followed by the farmers. Please tick (✓) the practice which you think is correct

- 1) Farmer 'A' drains water for two days in the active tillering stage of paddy and farmer 'B' maintains the continuous submergence. Which farmer is correct, in your opinion?

(1) Farmer 'A'

(2) Farmer 'B'

- 2) As a prophylactic measure farmers 'A' Sprayed Ekalux 25Ec 20 days after transplanting of paddy against leaf roller, Dimecron 85EC after 40 days against stem borer, and BHC 10% against Rice bug after 60 days for Jaya, since he had severe pest attack in the last two seasons continuously whether his action is

(1) correct

(2) not correct

- 3) Farmer 'A' sprayed Quinolphos 25Ec 1.5ml/litre for paddy since, two to three leaves/ hill are found affected by leaf roller and farmer 'B' has not taken any action. In your opinion who is more efficient.

(1) Farmer 'A'

(2) Farmer 'B'

- 4) To control Rhinoceros crab farmer 'A' treated the soils of manure pit with Aldrin before storing manure in the pit. Farmer 'B' sprinkled B H C Dust on the surface of manure heap in your opinion, who is more efficient.

(1) Farmer 'A'

(2) Farmer 'B'

- 5) As an inter crop in coconut garden farmer 'A' raised tapioca, and farmer 'B' raised guinea grass. In your opinion which is most appropriate considering soil fertility aspects.

(1) Farmer 'A'

(2) Farmer 'B'

- 6) As an intercrop in coconut garden, farmer 'A' raised guinea grass and farmer 'B' raised congo signal to grass to avoid soil erosion. In your opinion who is efficient?

(1) Farmer 'A'

(2) Farmer 'B'



- 7) Farmer 'A' removed some of the wild rice plants seen in the plot just before harvest Farmer 'B' removed wild rice plants at the flowering stage. In your opinion who is more efficient.
- (1) Farmer 'A' (2) Farmer 'B'
- 8) Farmer 'A' sprayed Bavistin to control quick wilt of pepper and farmer 'B' sprayed with Bordeaux mixture. In your opinion which chemical is effective.
- (1) Bavistin (2) Bordeaux mixture
- 9) A Farmer got few yellow dwarf and few brown colored seedlings from 30 year old ideal Natural cross dwarf mother palm. The farmer rejected brown colored seedlings because of colour variation whether his decision is
- (1) Correct (2) Wrong
- 10) To control bud rot in coconut farmer 'A' applied Bavistin and farmer 'B' applied Bordeaux mixture. In your opinion which is most effective.
- (1) Bavistin (2) Bordeaux mixture
- 11) To control rice blast in the later stage farmer 'A' sprayed Hinosan @ 3ml/litre with the spray solution of 200 litre in one acre, farmer 'B' sprayed @ 6ml/litre with the spray solution of 100 litre. In your opinion who is correct.
- (1) Farmer 'A' (2) Farmer 'B'
- 12) A farmer of Palghat area has selected Onam (paddy variety) for 1st crop transplanted condition. In your opinion his selection is
- (1) appropriate (2) not appropriate
- 13) A farmer from Chittoor taluk has chosen Rohini in IIInd crop transplanted condition. In your opinion, his selection is
- (1) appropriate (2) not appropriate
- 14) A farmer says that he raised Reshmi in the 1st crop season and the performance was good. In your opinion his statement is
- (1) correct (2) not correct

- 15) A farmer says that he raised Lekshmi in the 1st crop season and the performance was good. In your opinion his statement is
- (1) correct (2) not correct
- 16) Farmer 'A' planted tapioca in the last week of september and applied 0.5 N, full P<sub>2</sub> O<sub>5</sub> and half K<sub>2</sub>O as basal, farmer 'B' applied 1/3 N, full P<sub>2</sub>O<sub>5</sub> and 1/3 K<sub>2</sub>O. In your opinion who is correct.
- (1) Farmer 'A' (2) Farmer 'B'
- 17) As a prophylatic measure, in a 20 year old coconut garden to control leaf blight farmer 'A' sprayed Bordeaux mixture @ 1 litre/ plant, farmer 'B' sprayed @ 1.5 litre/ plant and farmer 'C' sprayed @ 2 litre /plant. In your opinion who is correct.
- (1) A is correct (2) B is correct (3) C is correct
- 18) To control sheath blight in rice farmer 'A' applied Bavistin @ 1gm/litre and farmer 'B' says that the selection of chemical is wrong. In your, opinion who is correct.
- (1) Farmer 'A' (2) Farmer 'B'
- 19) When the cardamom crop is in the fruiting season (Sep-Oct) a farmer used springler irrigation in the forenoon. In your opinion his action is
- (1) Beneficial (2) Non beneficial
- 20) To obtain better quality black pepper farmer 'A' dipped the berries immediately after harvest in boiling for one minute, and farmer 'B' for 5 minutes. In your opinion which is ideal
- (1) A's action (2) B's action
- 21) In the second crop season, farmer 'A' transplanted[ Jays in the main field, @33 hill/sq. farmer 'B' transplanted @ 50 hills/ sq. meter, and farmer 'C' 67 hills/sq.meater. Under the same management condition who will get more yield
- (1) Farmer 'A' (2) Farmer 'B' (3) Farmer 'C'

- 22) When the fruit fly infection is severe in bitter gourd farmer 'A' applied BHC 10% in the basin and raked, farmer 'B' applied BHC10% in the basin as well as in the whole plot and raked. In your opinion whose action is most appropriate
- (1) Farmer 'A'                      (2) Farmer 'B'              (3) Both are wrong
- 23) To control case worm farmer 'A' drained the field thinking that the pest eliminated through drained water, farmer 'B' drained the field thinking that it affect the respiratory system of pest in your opinion who is correct
- (1) Farmer 'A'                      (2) Farmer 'B'
- 24) Farmer 'A' applied Benthocarb (EC)@ 2 kg a.i/ha on the 6th day after transplanting paddy, farmer 'b' applied pendimethalin (G) @ 15 kg ai/ ha on the 6th day after transplanting paddy. In your opinion
- (1) Farmer 'A' is correct                      (2) Farmer 'B' is correct  
(3) Both are wrong                      (4) Both are correct
- 25) To control broad leaved weeds in the paddy a farmer applied 2,4 - D @ 1kg/ha in 400 litres of water 25 days after transplanting His action is
- (1) Correct                      (2) not correct
- 26) A farmer collected seed nuts from 25 years old well maintained T&D coconut garden whether his action is appropriate
- (1) appropriate                      (2) not appropriate
- 27) Farmer 'A' observed heavy crinkling and malformation in the yielding chilli and he uprooted and destroyed the plants immediately. Farmer 'B' observed the symptoms and sprayed Roger 30EC. In your opinion who is more efficient
- (1) Farmer 'A'                      (2) Farmer 'B'

-----  
After marking your comments please return this to:

S. MOTHILAL  
Ph.D. Scholar,  
Dept. of Agrl. Extension,  
College of Agriculture, Vellavani - 695 522.

APPENDIX - XIV

S. Mothilal Nehru,  
Ph.D.Scholar.

Dept. of Agrl. Extention,  
College of Agriculture,  
Vellayani 695522,  
Dt:16-10-1991.

Dear Sir,

I have taken up a study related to Agricultural officers of the state Department of Agriculture as a part of my doctoral research programme.

The information requested here is purely for research purpose and not aimed at any particular individual. Therefore your objective, honest and frank answers are of great value in making this study meaningful.

Before answering the questions, please read the instructions carefully, given if any.

**A. BACKGROUND INFORMATION**

1. (a) Name :  
(b) Sex : Male/Female  
(c) Official address :  
(d) A.D.A. Circle :  
(e) Sub division :
  
2. Experience (service) :  
(a) Total number of years in Dept. of Agriculture .....  
(b) Total number of years in the other related dept.....
  
3. Educational status :  
(Please put (✓) mark in your highest academic qualification from the item given below :-  
(a) S.S.L.C/S.S.C :  
(b) Intermediate/PDC :  
(c) Diploma :  
(d) Bachelors degree :  
(e) Masters degree :  
(f) Doctors degree :  
(g) Others (any others specify)

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Note:- The Director of Agriculture, State Department of Agriculture permitted the Research Scholar to collect relevant information as per order No. TE (2)-74814 dt.24.9.1990.

4. The items given below are meant to elicit information on your rural-urban background. Please tick (✓) the one appropriate to you from among the alternatives (Reddy, 1986).

- (a) Father's occupation : Farming/Non-farming
- (b) Native place : Panchyat/Municipality/Corporation
- (c) Place of primary education : Panchyat/Municipality/Corporation
- (d) Place of secondary education: : Panchyat/Municipality/Corporation
- (e) Place of college education : Panchyat/Municipality/Corporation
- (f) Liking towards rural life : More/Moderate/Less
- (g) Interest to work in rural area : More interested/ Interested/ Less interested.
- (h) Cultivable land owned. (ha):

5. Training received if any (including per and in service training received by you)

Sl.No	Name of the course	Duration
1.		
2.		
3.		
4.		
5.		

## 6. ATTITUDE TOWARDS PROFESSION

Please indicate your degree of agreement/disagreement with the following statements by putting tick mark (✓) in the appropriate column against each statement. (SA=Strongly agree, A=Agree, UD=Undecided, DA=DisAgree, SDA=Strongly disagree)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	I hate my profession because it requires working in rural area.					
2.	Extension profession offers little opportunity to get acquainted with all kinds of people.					
3.	Agri. officers can act as an effective force in bringing about Agri. Development.					
4.	Extension personnels have very little to contribute towards National Development.					
5.	An Agri. officer can contribute a lot for Agri. Development.					
6.	Extension job offers sufficient opportunity for development of leadership ability.					
7.	Extension profession is satisfying for me.					
8.	Honestly I wish I had not become an Agri. Officer.					
9.	Professional standards of Extension work is Far inferior to their professions.					
10.	An Agri. officer has ample opportunity to display his initiatives.					

## 7. ATTITUDE OF EXTENSION FUNCTIONARIES TOWARDS FARMERS:

Please indicate your degree of agreement/disagreement with the following statements by putting tick mark (✓) in the appropriate column against each statement. (Response pattern as above)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	It is highly a rewarding experience TO SERVE WITH VILLAGE PEOPLE					
2.	It is the job of Agri. officers to ensure that village accept and co-operate with the programmes of the department.					
3.	Agri. officer's first responsibility is to the villagers, his work is in the village and not in the office.					
4.	To get satisfaction from the job, the Agri. officer must work on the problems the villagers think are important, even though these problems may not be recognized by the higher ups.					
5.	The best officials are those who give a lot of freedom to work on the things that villagers consider are important.					
6.	Less time spent on records and office meetings and more time spent in the villages would make extension programme more meaningful.					

### 8. SELF CONFIDENCE

Please indicate your extent of agreement/disagreement to the following statements by putting tick mark (✓) in the appropriate column (SA=Strongly agree, A=Agree, UD=Undecided, DA=Disagree, SDA=Strongly disagree)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	I feel no obstacle can stop me from achieving my final goal.					
2.	I am generally confident of my own ability.					
3.	I am bothered by inferiority feelings.					
4.	I do not have initiative.					
5.	I usually work out things for myself rather than get someone to show me.					
6.	I get discouraged easily.					
7.	Life is a strain for me in much of time.					
8.	I find myself working about something or other.					

### 9. SELF CONCEPT

Please indicate your extent of agreement/disagreement to the following statements by putting tick mark (✓) in the appropriate column (SA=Strongly agree, A=Agree, UD=Undecided, DA=Disagree, SDA=Strongly disagree)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	I am interested in people and things happening around me.					
2.	I am active in solving the cultivation problems of farmers.					
3.	I am systematic in all my activities so that I can finish the works allotted to me in time.					
4.	I am determined to achieve my goals as an Agricultural officer.					
5.	I am a person who believe that every experience bitter or sweet is good.					
6.	I am not courteous in my dealings with farmers.					
7.	I am eager to learn more on all subjects.					
8.	I am not capable of easily adjusting to new situations.					

**10. ACHIEVEMENT MOTIVATION:**

Please indicate your extent of agreement/disagreement to the following statements by putting tick mark (✓) in the appropriate column (SA=Strongly agree, A=Agree, UD=Undecided, DA=Disagree, SDA=Strongly disagree)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	One should enjoy work as much as play.					
2.	One should work like a slave at everything one undertakes until he is satisfied with the result.					
3.	One should succeed in his occupation even if one has been neglectful of his family.					
4.	One should have determination and driving ambition to achieve certain things in life even if these qualities make one unpopular.					
5.	Work should come first even if one cannot get rest.					
6.	Even when ones own interests are in danger he should concentrate on his job and forget his obligations to others.					
7.	One should set difficult goals for oneself and try to reach them.					

**11. INTRINSIC MOTIVATION:-**

Please indicate your extent of agreement/disagreement to the following statements by putting tick mark (✓) in the appropriate column (SA=Strongly agree, A=Agree, UD=Undecided, DA=Disagree, SDA=Strongly disagree)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	Doing my <u>JOB WELL</u> increase my feeling of self-esteem (think favourably of himself)					
2.	When I do <u>WORK WELL</u> it gives me a feeling of accomplishment.					
3.	I feel a great sense of personal satisfaction when I do my <u>JOB WELL</u> .					
4.	When I perform my <u>JOB WELL</u> it contributes to my personal growth and development.					



**12. PERCEPTION OF WORK LOAD:-**

The statement given below are reflecting work load related to YOUR JOB. Please indicate your extent of agreement/disagreement to the following statements by putting tick mark  in the appropriate column (SA=Strongly agree, A=Agree, UD=Undecided, DA=Disagree, SDA=Strongly disagree)

Sl. No.	STATEMENTS	Response pattern				
		SA	A	UD	DA	SDA
1.	I feel busy or rushed.					
2.	I feel pressurized					
3.	I feel that the amount of work I did interested with how well it got done.					
4.	I feel that the number of requests, complaints, or problems dealt with was more than expected.					

**13. JOB AUTONOMY:-**

Please indicate your response by putting a tick () in the appropriate column against each statement. (VT=Very true, SWT=Some what true, LT=A little true, NTA=Not at all).

Sl. No.	STATEMENTS	Response pattern			
		VT	SWT	LT	NTA
1.	I have a lot of say over what happens on my job.				
2.	I have enough authority to do my best.				
3.	My job allows me to make a lot of decisions on my own.				
4.	I have enough freedom as to how to do my owkr.				

**14. JOBSATISFACTION:-**

Please indicate your degree of satisfaction/dissatisfaction with regard to the following items related to your job by putting tick mark  in the appropriate column.

Sl. No.	STATEMENTS	Very much satisfied	satisfied	Dis satisfied
<b>HOW MUCH SATISFIED YOU ARE.</b>				
1.	With the flexibility given by superiors to do your job well.			
2.	With the working facilities that you have to do your job well.			
3.	With the opportunities provided in your job to utilize your personal abilities.			
4.	When you consider the expectations you had when you took up this.			
5.	With the work you are doing as Agricultural officer.			
6.	With the job authority delegated to you in order to do your job.			
7.	With the recognition given to your work by the people of your area.			
8.	With the recognition that you are getting from your colleagues.			
9.	With the promotional opportunities that you have in the present job.			
10.	With your present salary in commensurate with your work and position with the job.			
11.	About the rewards and incentives provided in your job.			
12.	With the recognition people are giving to your job when compared with other similar jobs.			
13.	With the security you have with your present job.			
14.	With the relations you have with your co-workers.			
15.	With the relations you have with your superior in your work.			
16.	With regards to technical supervision received from your superiors.			
17.	With the policies and practices of the department in relation to your work.			
18.	With regard to the challenges in your job and your capability.			

## 15. JOB INVOLVEMENT

Please indicate your response by putting a tick (✓) in the appropriate column against each statement.

Sl. No.	STATEMENTS	Strongly Agree	Agree	Dis Agree
1.	I shall stay overtime to finish a job even if I am not paid for it.			
2.	We can measure a person pretty well by how good a job he/she does.			
3.	The major satisfaction in my life comes from my job.			
4.	For me mornings at work really go off quickly.			
5.	I usually go for work a little early to get the things ready.			
6.	The most important things that happen to me involve my work.			
7.	Sometimes I keep myself awake at night, thinking ahead to the next day's work.			
8.	I am really a perfectionist about my work.			
9.	I felt depressed when I fail at something connected with my work.			
10.	I have other activities more important than my work.			
11.	The job is my breath.			
12.	I would keep working even if I do not get money.			
13.	Quite often, I felt like staying at home instead of going for work.			
14.	To me, my work is only a small part of my life.			
15.	I am very much involved personally in my work.			
16.	I avoid taking extra duties and responsibilities in my work.			
17.	I used to be more ambitious about my work than I am now.			
18.	Most things in life are more important than work.			
19.	I used to care more about my work but now other things are important to me.			
20.	Sometimes, I would like to kick myself for the mistakes I make in my life.			

16. Keeping you and your organization in mind Guidance & Supervision facilities and resources, communication prevailing in your organization are listed below. Please tick mark (✓) against each statement to indicate your degree of satisfaction.

(VMS=Very much satisfaction, S=satisfied, PS=Partly Satisfied, DS=Dissatisfied, VMDS=Very much dis satisfied).

Sl. No.	ITEMS	SA	A	UD	DA	SDA
16	<b>In respect of guidance and supervision</b> a. Technical matters b. Professional growth c. Job responsibility d. Field work e. Setting ideal examples.] f. Regular and timely advice g. Office work					
17.	<b>In respect of facilities and resources</b> a. Field supplies b. Repairs and maintenance c. Transportation d. Office supplies e. Supply procedure f. Storage facility g. Providing demonstration equipment					

**18. ORGANIZATIONAL CLIMATE:-**

Please indicate your response about the items given below by putting tick mark (✓) in the most appropriate alternative to each items: (A=Agree, SWA=Somewhat agree, DA=Dis agree).

Sl. No.	ITEMS	A	SWA	DA
	<u>Do you agree that?</u>			
1.	In the department, there are many rules, and practices to which you have to conform rather than being able to do your work as you see fit.			
2.	You can make decisions and solve problems without checking with supervisors at each step on the work.			
3.	The organization sets challenging goals for itself, communicates this goal commitment to its members and emphasises on quality performance and outstanding production.			
4.	The organization recognizes and rewards for good work of members rather than ignoring, criticizing or punishing when something goes wrong.			
5.	Things are well organized and goals are clearly defined in the dept rather than being disorderly or confused.			
6.	Friendliness, interpersonal trust and mutual support are very much prevalent in the organization.			
7.	As needs for leadership arise, members feels free to take leadership roles and are rewarded for successful leadership.			

## 19. ORGANIZATION INVOLVEMENT:-

Please indicate the extent to which you agree the following statements by putting tick mark (✓) in the appropriate column. (SD = Strongly disagree, D = disagree, MF = mixed feelings, A = agree, SA = strongly agree)

No.	STATEMENTS	SD	D	MF	A	SA
1.	Have you considered seeking employment elsewhere since you accepted employment in the Dept.of Agriculture.					
2.	If I could being working over again in the same occupation as I am in now, I would choose this Dept.					
3.	I feel a strong sense of loyalty toward this Dept.					
4.	I feel a sense of pride in working for this dept.					
5.	If another Dept. offered me more money for the same kind of work, I would accept.					
6.	On occasion I have been angered by attempts made by this Dept. to influd influence my attitudes and beliefs.					
7.	My closest friends have very favourable attitudes towards the Dept. for which I work.					
8.	There is a feeling here that employees would develop a personal commitment to this Dept.					
9.	I often encounter situations where my professional standards are in conflict with other agency programme.					
10.	In this Dept. people don'ts care whether employees are committed to the Dept.					
11.	If I had my life top live over again, I would still choose to work for this Dept.					

## 20. COMMUNICATION BEHAVIOR

### I. INFORMATION INPUT

Please indicate how often did you get the information about the high yielding varieties if rice from the following sources by making a tick mark (✓) in the appropriate column. (MO=Most often, O=Often, ST=Some Time, R=Rarely, N=Never)

Information sources	MO	O	ST	R	N
1. Farm radio broadcast					
2. News Papers					
3. Communication from superior officers					
4. Personal of Research station					
5. Agricultural Seminars					
6. Agricultural Workshops					
7. Agricultural Training					
8. Agricultural Exhibitions					
9. Agricultural Journals					
10. Discussions with Colleagues					
11. Monthly meeting of officers					
12. Agricultural Books					
13. Agricultural Guides / Diaries / Package of Practices					
14. Any others					

**II. INFORMATION PROCESSING : (A) INFORMATION DECODING**

Having you felt difficulty at any time in understanding the technical message on the following aspects? Please put a tick mark (✓) in the appropriate column.

(Response pattern as above)

Items	MO	O	ST	R	N
1. Information about the characteristics of high yielding varieties of rice.					
2. Information pertaining to the plant protection measures of high yielding varieties of rice.					
3. Information about the recommended doses of fertilizers and manures for high yielding varieties of rice.					
4. Information about the weed control measure of high yielding varieties of rice.					
5. Information pertaining to the irrigation practices of high yielding varieties of rice.					

**II. INFORMATION PROCESSING:- (B) INFORMATION ENCODING**

Have you ever experienced difficulty to process the following information about High Yielding Varieties of rice into a simple message which could be understood clearly by the farmers. Please put a tick mark (✓) in the appropriate column.

(MO=Most often, O=Often, ST=Some Time R=Rarely, N=Never)

ITEMS	MO	O	ST	R	N
1. Information about the characteristics of high yielding varieties of rice.					
2. Information pertaining to the plant protection measures of high yielding varieties of rice.					
3. Information related to the fertilizers and manurial doses of high yielding varieties of rice.					
4. Information about the weed control measures of high yielding varieties of rice.					
5. Information pertaining to the irrigation practices of high yielding varieties of rice.					

### III. INFORMATION OUTPUT: (A) TO DIFFERENT PERSONNEL

How often did you communicate the technical information pertaining to the High Yielding Varieties of rice to the following personnel? Please put a tick mark (✓) in the appropriate column.  
(Response pattern as above)

Category of communicates	MO	O	ST	R	N
1. Village level workers.					
2. Agricultural Assistants.					
3. School teachers.					
4. Representatives of Fertilizers and pesticide Firms.					
5. Farmers.					
6. Local Leaders.					
7. Other block personnel (like B.D.O.)					

### III. INFORMATION OUTPUT (B) DIFFERENT METHOD

How often did you use the following media and methods Yielding Varieties of rice to farmers. Please put a tick mark (✓) in the appropriate column.  
(Response pattern as above)

Communication Methods	MO	O	ST	R	N
A. <u>To Farmers</u>					
1. Farm visit.					
2. Result demonstration.					
3. Advisory letters to farmers.					
4. Posters and Charts.					
5. Folders and pamphlets.					
6. Wall paintings.					
7. Village Notice Boards.					
8. Agricultural exhibitions.					
9. Radio farm broadcast.					
10. Newspapers.					
11. Personal talks.					
B. <u>To Official &amp; Other Extension Workers.</u>					
12. Circular letters to the subordinates.					
13. Personal talks/discussions.					

**IV INFORMATION FEED BACK:- (A) FROM DIFFERENT PERSONNEL**

How often did you receive opinion, feelings, doubts, ideas, thoughts and comments about high yielding varieties of rice from farmers and subordinate officers. Please put a tick mark (✓) in the appropriate column.  
(Response pattern as above)

Methods of information feedback	MO	O	ST	R	N
A. <u>From Farmers</u>					
1. Through personal letters from farmers.					
2. Office call by farmers.					
3. During discussion with farmers.					
4. During farmers meetings.					
5. During farmers training.					
B. <u>From Subordinates</u>					
6. From your Subordinate officials.					

**IV. INFORMATION FEED BACK:- (B) TYPES OF INFORMATION**

What are the types of communication you receive from farmers?  
Please put a tick mark (✓) in the appropriate column.  
(Response pattern as above)

Type of information feedback	MO	O	ST	R	N
1. Communication on technical aspects.					
2. Communication on administration aspects.					
3. Communication on supply of inputs.					
4. Any others.					



JOB EFFICIENCY OF PANCHAYAT LEVEL  
AGRICULTURAL OFFICERS OF DEPARTMENT OF  
AGRICULTURE IN KERALA

By

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ABSTRACT OF THE THESIS

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DEPARTMENT OF AGRICULTURAL EXTENSION  
COLLEGE OF AGRICULTURE  
VELLAYANI : THIRUVANANTHAPURAM

In general, more than half of the Agricultural Officers had high job efficiency. Similarly, in the case of job dimensions majority of them fall under the category of high group except 'office management' dimension.

There was no significant difference between overall job efficiency of the Agricultural Officers among the three zones. At the same time, there was significant difference among the Agricultural Officers of the zones in the job dimensions namely, 'coordination', 'office management' and 'professional competency'.

The personal and situational related variables namely, attitude towards profession, self confidence, intrinsic motivation, job satisfaction, job involvement, technical competency, communication behaviour, organisational climate, guidance and supervision and facilities and resources put together contributed significantly to the efficiency of Agricultural Officers and explained 77 per cent of the variation in job efficiency. The best sub-set of variables for predicting the variation in job efficiency were communication behaviour, technical competency and self confidence.

The 'communication behaviour' and 'technical competency' were the two variables influencing all the job efficiency dimensions to a substantial extent. Next to these two variables, 'self confidence' was found to be influencing all the

dimensions except 'human relation'. The variables like 'organisational climate', 'attitude towards profession', 'intrinsic motivation' were also found to be important in this respect.

The major constraints perceived by the Agricultural Officers were 'more number of programmes', 'lack of sufficient knowledge about programmes of sister departments', 'lack of sufficient knowledge on personnel management', 'inadequate office facilities', 'lack of skill oriented trainings on viable technology' and 'administrative delay in disbursing subsidies and other benefits to farmers'.

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