

**LINKAGE BETWEEN THE DEPARTMENT OF AGRICULTURE
AND SOIL CONSERVATION UNIT IN THE IMPLEMENTATION OF
SOIL AND WATER CONSERVATION PROGRAMMES IN KERALA**

BY

SUNILKUMAR, R.

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for the degree

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DEPARTMENT OF AGRICULTURAL EXTENSION

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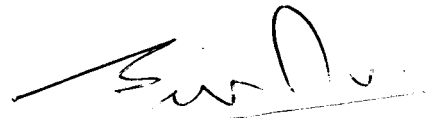
TO

MY PARENTS

DECLARATION

I hereby declare that this thesis entitled "Linkage between the Department of Agriculture and Soil Conservation Unit in the Implementation of Soil and Water Conservation Programmes in Kerala" is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or any other similar title of any other University or State.

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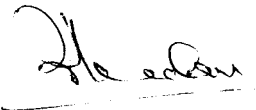


SUNIL KUMAR, R.

CERTIFICATE

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Vellayani



Dr. B. Babu
(Chairman, Advisory Committee)
Professor and Co-ordinator
Advanced Centre of Training in Plantation Crops
Kerala Agriculture University
Vellanikkara.

APPROVED BY

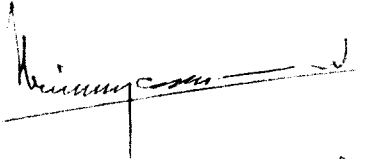
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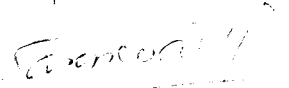


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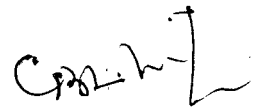
Dr. G.T. Nair



Dr. (Mrs.) P. Saraswathy



Dr. C. Bhaskaran



External Examiner



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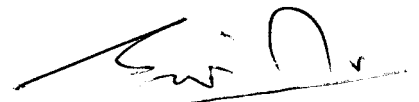
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GLOSSARY OF ABBREVIATIONS

AOs	-	Agricultural Officers
AP	-	Andra Pradesh
CADA	-	Command Area Development Authority
DSCOs	-	District Soil Conservation Officers
FAOs	-	Fresh Agricultural Officers
IAAP	-	Intensive Agricultural Area Programme
JSCOs	-	Junior Soil Conservation Officers
NARP	-	National Agricultural Research Project
NAEP	-	National Agricultural Extension Project
PAOs	-	Principal Agricultural Officers
RAEOs	-	Rural Agricultural Extension Officers
SMS	-	Subject Matter Specialist
SC Unit	-	Soil Conservation Unit
T & V System	-	Training and Visit System

INTRODUCTION

CHAPTER I

INTRODUCTION

Of all the gifts of nature, none is more indispensable to man than soil. Lying over the rocky core of the earth at different depths, soil is one of the requisites for life. Along with sunlight, air and water, soil nourishes all plantlife, most animal life and supports human life. This crucial importance of soil renders its conservation essential. Soil conservation is not merely making bunds or terraces, it is any practice to maintain the productivity of land. Soil conservation means applying all the necessary practices to maintain the capability of land for which it is suited and to improve the productivity of agricultural land.

Soil erosion problem in Kerala

The problem of soil conservation is of particular importance in Kerala where a high population density reduces the per capita availability of cultivable land to 30 per cent. On account of the unfavourable man-land ratio, the bulk of arable land has not been cover cropped, but grass land has been overgrassed and

trees in forest cut down beyond safe limits. The results of all these has been the unscientific cropping pattern, which also leads to impoverishment of the soil.

The soil erosion problem is severe in Kerala because a major portion of the cultivable area has undulating to steep terrain. Intensity of rainfall is high (average 3,000 mm) in Kerala, which also leads to soil erosion.

Soil erosion has affected adversely the agricultural production and consequently food deficits have become a regular feature. Erosion has also resulted in silting up of the reservoir of hydroelectric projects. To cite few instances, the original capacity of Mangalam reservoir has reduced by 8.8 per cent during the past 29 years and that of Peruvannamuzhi by 21.6 per cent during the past 13 years (James et al, 1990.) Excessive run off of the water during the rainy season also causes floods which destroy crops and other resources, inflicting heavy losses every year. Considering the high magnitude of soil erosion problem, effective soil conservation measures have to be given top priority in agriculture.

Out of the total area of nearly 38.59 lakh in

Kerala, 15 lakh hectares are highly vulnerable to soil erosion hazards. In spite of earnest effort by the Soil Conservation Unit, only one lakh hectares of land has been protected from the hazards of soil erosion so far whereas an area of nine lakh ha. of land requires most immediate attention. It is rather impossible to protect vulnerable land with effective soil and water conservation measures unless an effective strategy is developed and implemented.

Need for the Study

The Programme Evaluation Organisation (1964) stressed the need for co-ordinated approach to soil conservation problems and assessment of soil conservation needs since too many agencies are involved in the process. The National Commission on Agriculture (1976) in its report pointed out the necessity of co-ordination between Agricultural Universities and concerned state departments in order to develop useful technology. Allen (1977) stressed the need for linking systems to bridge the gap between research and client system. Singh (1982) pointed out that linkage is needed to avoid duplication, confusion and conflicts among any of the organisations and consequent waste of efforts. Schulman (1988) indicated that institutional linkage is

an important consideration in enhancing programme effectiveness.

The foregoing observations focus the need and highlight the importance of meaningful and effective linkages between different agencies involved in the same function.

In 1987-88, the Soil Conservation Unit in Kerala State was functionally integrated with the Department of Agriculture for the effective implementation of soil and water conservation programmes in Kerala. In such a process the need for linkage between the personnel of the Department of Agriculture and Soil Conservation Unit to work as a team is well conceived. Yet no systematic and objective study analysing the linkage between these two extension agencies in the implementation of soil and water conservation programme has been conducted so far. The present study is an attempt to fill this lacuna. The study was formulated in the light of much speculations in the Department of Agriculture and Soil Conservation Unit about the impact of functional integration order which was partly implemented. The Director of Agriculture in his letter No. Nil dated 9.1.90 and the Additional Director of Agriculture (S.C. Unit.) in his letter No. D.O. PG(2) 99/90 dt. 2.1.90 have also suggested the need for

taking up such research studies.

This study designed to analyse the linkage between the Department of Agriculture and Soil Conservation Unit in the implementation of soil and water conservation programmes in Kerala has the following specific objectives.

Objectives of the Study

1. to study the role perception of the officials of the Department of Agriculture and Soil Conservation Unit with respect to soil and water conservation programmes.
2. to study the role performance of the officials of the Department of Agriculture and Soil Conservation Unit with respect to soil and water conservation programmes.
3. to analyse the linkage between the officials of the Department of Agriculture and the Soil Conservation Unit with respect to soil and water conservation programmes, and the factors their in and,
4. to suggest a suitable administration strategy for the effective implementation of soil and water conservation programmes in Kerala.

Scope of the Study

Soil and water conservation programmes in Kerala State are planned and implemented mainly by the Soil Conservation Unit of the Department of Agriculture. Recently the Soil Conservation Unit was functionally integrated with the Department of Agriculture and the Joint Directors of Agriculture have become responsible for co-ordinating the soil conservation activities at the district level. As a result of the arrangements of functional integration there could be changes and anomalies in the role perception and role performance of officers in the Soil Conservation Unit and the Department of Agriculture.

Consequent to the formation of Krishi Bhavans in every Panchayat, the Agricultural Officers have become responsible for the development of agriculture at Panchayat level. Linkage between the Department of Agriculture and the Soil Conservation Unit among the Officers at higher levels and also at the execution level is important for efficient performance. As such no study has so far been conducted with an intention to analyse the linkage between these two extension agencies. Hence a study of this type would be of much use to take corrective measures while implementing soil

and water conservation programmes in future. The study will also help to understand the extent of role perception and role performance of different officials in the Soil Conservation Unit and in the Department of Agriculture. The reasons for the ineffective linkage if any, after the functional integration are worth studying to develop a better strategy for the effective implementation and follow up of soil and water conservation programmes in Kerala. Thus the study will be useful to the Department of Agriculture, the Soil Conservation Unit and also the planners at state level and ultimately the farmers who are the beneficiaries of these programmes.

Limitations of the Study

The study was carried out as a part of the requirement for the Post-graduate Degree Programme and hence it was not possible for the researcher to cover the area in greater depth and in more comprehensive manner.

However, with limited resources and time available to the researcher the study was mainly confined to five districts (One from each agroclimatic zone).

Inspite of all these, sincere and devoted efforts have been made to make this study more objective and systematic as possible.

Presentation of the Study

The remaining chapters of the thesis are presented as follows

Chapter 2 deals with theoretical orientation. Chapter 3 covers the methodology followed for the study which includes the locale of the study, sample size, selection of the variables and their measurement, procedure adopted for data collection and statistical tools used. Results are presented in Chapter 4 and discussion in Chapter 5. Chapter 6 deals with summary of the research work emphasising the salient findings. The references and appendices are furnished at the end.

THEORETICAL ORIENTATION

CHAPTER 2

THEORETICAL ORIENTATION

A review of past research work done in the particular field of study helps the researcher to acquaint himself with the problem and also provide basis for developing theoretical frame work for the study. A well developed theoretical framework is essential to form the hypotheses and also to draw the conclusions. Keeping this in view, an attempt was made to develop a theoretical frame work under following sub heads.

- 2.1 Concept of role perception
- 2.2 Studies on role perception
- 2.3 Concept of role performance
- 2.4 Studies on role performance
- 2.5 Personal and job related characteristics of Extension personnel and their relationship with role perception and role performance
- 2.6 Concept of linkage
- 2.7 Studies on linkage
- 2.8 Factors affecting linkage
- 2.9 Hypotheses formulated for the study

2.1 Concept of role perception

According to Advanced Learner's Dictionary

perception means act or power of perceiving.

Sarget (1951) defined role perception as a pattern or type of social behaviour which seems situationally appropriate to an actor in terms of demands or expectations of those in his group.

According to Crow and Crow (1956) perception is the meaningful sensation that assumes an important role in the life of an individual.

According to Pfiffner and Sherwood (1968) accuracy in role perception has a definite impact on effectiveness and efficiency in an organisation.

Bhatia (1969) stated that perception becomes fuller, more accurate and more serviceable as a result of our increasing experience. He further stated that perception is sensation plus meaning, sensation means quality and perception means an object suggested by that quality.

Mitchell (1973) stated that perception is the factor that shapes and produce what we actually experience.

According to Siddaramaiah and Gowda (1987) job perception related to the way in which the employee look at their job.

2.2 Studies on role perception

Dudhani (1980) found that none of the linking roles formulated according to the job chart of Assistant Directors of Agriculture with clients were perceived in a highly satisfactory way.

Srinivasan et al (1980) revealed that Deputy Agriculture Officers perceived planning as the most important role to be played by them.

Somasundaram (1983) reported that the role perception of the Agricultural Officers was better in the present extension system of Tamil Nadu than in the past.

Katteppa (1984) found that all the three SMS groups (crop production, plant production and information and training) perceived majority of their specific role items only at satisfactory level and very less proportion of role items perceived at high satisfactory level.

According to Puttaswamy (1986) only 49 per cent of the Agricultural Assistants were in high job perception category.

Dudhani and Jalihal (1987) reported that Deputy Directors of Agriculture in Karnataka State perceived all extension role functions as highly satisfactory or satisfactory.

Siddaramaiah and Gowda (1987) reported that 53.33 per cent of the Extension Guides in Karnataka belonged to high job perception category. The mean job perception scores were highest in the area of planning of extension programmes followed by maintenance of reports, educating clientele and co-ordination.

Ramprasad (1988) reported that majority (48%) of the Sericultural Extension Officers in Karnataka belonged to average job perception category.

Kalavathy (1989) indicated that about half of the Agricultural Graduates working in the Department of Agriculture, Kerala, perceived their duties on the job at a higher order. She also revealed that Agricultural Officers in Department of Agriculture perceived all the six areas viz; Planning, execution, training, administration and supervision, monitoring and evaluation and technical duties as equally important.

Gowda (1989) reported that majority (54.87%) of the Assistant Horticultural Officers belonged to high job perception category and the rest belonged to low job perception category.

Nataraj (1989) reported that 65 per cent of the Assistant Directors of Agriculture working under NAEP in Karnataka were in medium job perception category.

2.3 Concept of role performance

According to Webster's Dictionary, performance means act or process of carrying out something.

Davis (1949) defined role performance as how an individual actually performs a task in a given situation, as different from how he is supposed to perform.

Herman (1973) viewed job performance as the result of an individual's response to stimulus object.

According to Gibson (1980) an individual job performance on the job is a joint function of his or her individual personal characteristics and his or her motivation to do a good job.

According to Sharma (1986) employees performance refers to an act of fulfilment of the requirement of a job.

According to Islam et al (1987) job performance refers to the functions/roles and/activities associated with a job are done by the individual holding that job.

2.4 Studies on role performance

Kolte (1972) reported that about 56 per cent of the Agricultural Extension Officers of Udaipur obtained

job performance score below average and the rest above average.

Kanakasabai (1975) concluded from a study conducted in Tamil Nadu that 48 per cent of the Deputy Agricultural Officers were less efficient in their performance.

Perumal (1975) reported that above 15.75 per cent of the Agricultural Extension Officers of Tamil Nadu were above average and 14.17 per cent below average in their job performance.

Veerabhadraiah (1980) reported that 53 per cent of the Deputy Directors and 42 per cent of the Assistant Directors of Agriculture in Karnataka were in high job performance category.

Sobhana (1982) found that Junior Agricultural Officers working in the Coconut package units were having high level of role performance.

Gulothungan (1986) reported that majority of the Fresh Agricultural Officers (FAOs) in Tamil Nadu were found to have medium level of performance. He also reported that FAOs had highest job performance in the area of assessment and evaluation.

Khere et al (1987) found that majority of Subject Matter Specialists did not perform their role to the expected level.

Umesha (1987) reported that only 39 per cent of the Agricultural Assistants in NAEP belonged high job performance category.

Siddharamaiah and Gowda (1987) reported that 50 per cent of the Extension Guides in Karnataka belonged to high job performance category. The mean job performance scores were highest in the areas of maintenance of reports followed by Co-ordination, Planning and educating the clientele group.

Radhakrishnamoorthy (1987) found that most of the Agricultural Officers (61.90%) were low in their role performance. He also found that Agricultural Officers were uniformly low in their role performance of all the eight individual roles.

Poornakumar (1988) found that 70 per cent of the Assistant Professors belonged to medium job performance category.

Bharadwaj et al (1989) found that majority (52.17%) of the Rural Agricultural Extension Officers (RAEOs) were at medium level of job performance. They also found that majority of RAEOs show greater performance only in six out of 14 activities prescribed in their job chart.

Gowda (1989) reported that majority (52.22%) of the Assistant Horticultural Officers in Karnataka

belonged to high job performance category and rest belonged to low performance category.

Kalavathy (1989) reported that about half of the Agricultural Graduates working in the Department of Agriculture, Kerala performed their duties on the job at a higher order.

Nataraj (1989) reported that 70 per cent of the Assistant Directors of Agriculture under NAEP in Karnataka were in medium job performance category.

Reddy (1990) reported that majority of the Agricultural Officers in T and V system of A.P. possessed medium job performance.

2.5 Personal and job related characteristics of Extension personnel and their relationship with role perception and role performance

2.5.1 Age

Sarang (1970) reported that there was no significant relationship between job performance and age of Agricultural Extension Officers in Gujarat state. Similiar findings have also been reported by Kolte (1972) and Prasad (1982).

Kanakasabai (1975) reported that more efficient Deputy Agricultural Officers in Tamil Nadu were in aged category.

of Rural Agricultural Extension Officers in M.P. was significantly related with their age.

Kalavathy (1989) reported that age had no significant relationship with job perception and job performance of Agricultural Graduates working in the Department of Agriculture, Kerala.

2.5.2 Educational level

Rajagopal (1977) reported that education was not associated with role performance of Agricultural Extension Officers in Bangalore.

Thiagarajan (1979) reported that education of Agricultural Officers in Tamil Nadu had no significant influence on their efficiency of work.

veerabhadraiah (1980) found that there was no significant association between education and their job performance.

Dodson (1982) reported that role performance was higher with extension agents possessing masters' degree than those with bachelors' degree.

Sobhana (1982) found a negative relationship of education with role perception and role performance of Junior Agricultural Officers.

Perumal (1975) reported that there was no significant relationship between age and job performance of Agricultural Extension Officers in Tamil Nadu.

Veerabhadraiah (1980) reported that there was no significant association between age and job performance of Extension Supervisors in Karnataka.

Nanjayan (1981) reported that young age was associated with high efficiency level of Agricultural Officers in Tamil Nadu.

Sobhana (1982) found that age of Junior Agricultural Officers was not related to their role perception and role performance.

Somasundaram (1983) reported that older the age, more was the perception of roles by Agricultural Officers in Tamil Nadu.

Rajababu (1984) found that age of Assistant Directors and Junior Agricultural Officers had influence on their perception and performance.

Susilkumar (1984) reported that age of directly recruited Assistant Agricultural Officers in Tamil Nadu was positively and significantly related to their overall job performance.

Sharma et al (1988) found that role performance

Reddy (1982) reported a non-relationship between education and job perception and job performance of village Level Extension Workers.

Susilkumar (1984) reported that the educational status of the directly recruited Assistant Agricultural Officers in Tamil Nadu was positively and significantly associated with their overall performance.

Sharma et al (1988) reported that role performance of Rural Agricultural Extension Officers was found to increase with the increase in their educational qualifications.

Kalavathy (1989) reported that educational level had no significant association with job perception and job performance of Agricultural Graduates working in the Department of Agriculture, Kerala.

2.5.3 Rural Urban Background

Saijonkar and Patel (1970) reported that job effectiveness of VLWs in Kaira District of Gujarat State was influenced by their rural background.

Perumal (1975) found that job performance of Agricultural Extension Officers from rural background did not differ significantly than those from urban background.

Thiagarajan (1979) stated that working efficiency of Agricultural Officers in Tamil Nadu was significantly influenced by their rural background.

Bhimjiani (1980) reported that there was significant relationship between the total job performance and rural urban background of Agricultural Extension Officers in Gujarat.

Reddy (1982) found a non relationship between rural-urban background and job perception.

Siddaramaiah and Gowda (1987) reported that rural-urban background of Extension Guides in Karnataka had a highly significant relationship with their job performance.

Kalavathy (1989) reported that rural-urban background had no significant association with job perception and job performance of the Agricultural Graduates working in the Department of Agriculture, Kerala.

Reddy (1990) reported that rural urban background had a significant influence on job performance of the Agricultural Officers in A.P.

2.5.4 Experience

Singh (1970) reported that greater the experience of Agricultural Extension Officers working in the IAAP Block of Bihar, the better was their performance.

Perumal (1975) reported that there was no significant relationship between experience and job performance of the Agricultural Extension Officers in Tamil Nadu.

Kanakasabai (1975) revealed that experience is one of the factors which decide the effectiveness of Extension Worker.

Veerabhadraiah (1980) found that there was no significant association between experience of the Extension Supervisors and their job performance.

Sobhana (1982) found a non-relationship between experience and role perception and role performance of the Junior Agricultural Officers in Kerala.

Reddy (1982) reported that there was no relationship between experience and job performance of the Agricultural Assistants in Karnataka.

Somasundaram (1983) reported that greater the experience increases the perception about the roles of Agricultural Officers.

Rajababu (1984) found that experience of Assistant Directors had influence on their job perception and job performance.

Susilkumar (1984) reported that experience of directly recruited Assistant Agricultural Officers in Tamil Nadu was positively and significantly associated with their overall job performance.

Sharma et al (1988) found that the Rural Agricultural Extension officers with more years of service had higher role performance.

Gowda (1989) reported that there was a significant relationship between experience and job performance.

Kalavathy (1989) reported that there was no significant relationship between experience and job perception and job performance of the Agricultural Graduates working in the Department of Agriculture, Kerala.

Reddy (1990) reported that experience had no influence on the job performance of the Agricultural Officers of A.P.

2.5.5 Trainings undergone

Kanakasabai (1975) reported that the Deputy Agricultural Officers in Tamil Nadu who had undergone more number of trainings had exhibited relatively higher efficiency than those with one or two trainings.

Perumal (1975) found a non significant association between the job performance and increased trainings undergone by the Agricultural Extension Officers in Tamil Nadu.

Thiagarajan (1979) reported that number of trainings attended by the Agricultural Officers in Tamil Nadu increased their working efficiency.

Veerabhadraiah (1980) found that there was no significant association between training in administration and management and job performance of the Extension Supervisors.

Dodson (1982) reported that role performance of the Agricultural Extension Agents increased as the number of trainings had increased.

Reddy (1982) reported that trainings undergone had influence on job perception and job performance of the Agricultural Assistants in Karnataka.

Sobhana (1982) found that training was not related to the role perception and role performance of the Junior Agricultural Officers in Kerala.

Somasundaram (1983) reported that more number of trainings attended, increased the perception of roles of the Agricultural Officers.

Rajababu (1984) found that the trainings acquired by the Assistant Directors had influence on their perception and performance.

Gulothungan (1986) reported that inservice trainings undergone had a negative and significant relationship with job performance of Fresh Agricultural Officers in Tamil Nadu.

Gowda (1989) found that there was a significant relationship between trainings received and job performance.

Kalavathy (1989) revealed that trainings undergone had no significant relationship with job perception and job performance of the Agricultural Graduates working in Department of Agriculture, Kerala.

Reddy (1990) reported that trainings undergone had significant influence on job performance of

the Agricultural Officers in A.P.

2.5.6 Achievement motivation

Durand (1975) reported that people with a need to achieve do perform better.

Janardhana (1979) reported that achievement motivation among the Agricultural Extension Officers was not related with their job performance.

Luthans (1981) reported that high achievers performed best when they perceived that they have a 50 : 50 chance of success.

Gowda (1985) observed a non association between achievement motivation and job performance.

Radhakrishnamoorthy (1987) reported that achievement motivation of the Agricultural Officers in A.P. were positively and significantly associated with their performance of job duties.

Siddaramaiah and Gowda (1987) reported that achievement motivation of Extension Guides in Karnataka was found to have significant relationship with job perception and job performance.

Sundaraswamy (1987) found that there was a positive and significant relationship between n-ach (achievement motivation) and job performance of the Assistant Agricultural Officers in Karnataka.

Gowda (1989) reported that achievement motivation was positively associated with job perception.

Kalavathy (1989) reported that achievement motivation was not having any significant relationship with job perception and job performance of the Agricultural Graduates working in the Department of Agriculture, Kerala

2.5.7 ✓ Job Involvement

Veerabhadraiah (1980) reported a significant association between the job involvement and job performance of the Deputy Directors of Agriculture and Assistant Directors of Agriculture.

Faerman (1987) reported a weak relationship between job involvement and supervisory performance.

Radhakrishnamoorthy (1987) reported that job involvement of the Agricultural Officers was positively and significantly associated with their performance of job duties.

Singh and Patiraj (1987) reported that job involvement does not have any effect on performance.

Kalavathy (1989) reported that job involvement was not significantly related to job perception and job performance of the Agricultural Graduates working with Department of Agriculture.

2.5.8 Job Environment

Since the number of direct studies in this regard are very less a few closely related studies are furnished as follows.

Suryanarayanamoorthy (1965) reported that inadequate and untimely supply of inputs, delayed and inadequate allocation of funds, lack of trainings in office management and extension methods and late communication of research findings were some of the problems faced by the Agricultural officers in A.P.

Shrestha et al (1980) suggested some improvements in working condition of Agriculture Graduates under Ministry of Food, Agricultural and Irrigation (Nepal) such as higher salaries and allowances, an improved transfer policy and improved facilities such as communication and availability of vehicles.

Somasundaram (1983) stressed the importance of providing quarters facilities and office building facilities to the Agricultural Officers in Tamil Nadu.

Kalavathy (1989) found that job environment had no significant relationship with job perception and job performance of the Agricultural Graduates in the Department of Agriculture.

2.5.9 Job Satisfaction

Kolte (1972) reported that there was no significant relationship between job satisfaction and job performance of the Agricultural Extension Officers.

Perumal (1975) reported that there was no significant relationship between job satisfaction and job performance of the Agricultural Extension officers of Tamil Nadu.

Petty et al (1984) reported that when satisfaction was high, performance was also high.

Rajababu (1984) found that the job satisfaction of the Junior Agricultural Officers influenced their job perception.

Gulothungan (1986) found that job satisfaction was having a positive and highly significant association with job performance of the Fresh

Agricultural Officers of Tamil Nadu.

Sharma et al (1988) found that the Rural Agricultural Extension officers with higher job satisfaction had higher role performance.

Reddy (1990) reported that job satisfaction had significant influence on the job performance of the Agricultural Officers of T & V system in A.P.

2.6 Concept of Linkage

According to Webster's Third New International Dictionary, linkage means the manner or style of being fitted together or united.

Axinn and Thorat (1972) described linkage as clusters of channels which connect one major component with other major components.

According to Litterer (1973) Co-ordination is a process by which linkage is maintained.

Sharma (1982) reported that linkage has an element of co-ordination and linkage means to chain in one way or other and the chain have two functions.

1. to keep a check, to control or to limit the movement up to a certain point and

2. to facilitate co-ordinated/controlled movement for the fulfilment of some desired purpose.

Kunju (1989) Stated that linkage is the working relationship between any two sub systems.

2.7 Studies on linkage

Since there are limited number of direct studies, some related studies are also reviewed here.

Reddy (1966) stated that there was lack of proper co-ordination in the working of Agriculture and co-operative Department at State, regional and block level whereas Singh and Prasad (1970) reported that there was poor co-ordination between Agriculture and Co-operative Department in IADP areas of Delhi.

Regarding the linkage with other organisations, Mosher (1975) expressed that fostering linkage with complementary organisation is a strategic task. It can be done by taking a genuine interest in the work of other organisations acknowledging the mutual dependence that exists and getting personally acquainted with the administrator of other programmes.

Jaiswal and Arya (1981) found that there was no effective link between the research and extension system.

Surendran (1982) found that there was lack of co-ordination between the Agricultural University and State Department of Agriculture.

Sen (1984) stated that strong inter organisational linkage is necessary for effective transfer of technology since several organisations are involved in the process.

Singh (1984) reported that linkage between extension and research systems are weak and of ad hoc type.

Bhatnagar et al (1986) in study on Management of Agricultural Extension under T & V system in India found that majority of States in India show satisfaction regarding research-extension linkage.

Venkitaraman (1988) had also the same opinion of Bhatnagar et al and stated that after the introduction of T & V system there was a well knit extension-research linkage.

Kunju (1989) reported that the extent of linkage of research sub-system was best with extension sub-system followed by extent of linkage with credit sub-system and input sub-system in descending order.

Pushpa et al (1993) reported a satisfactory level of linkage in respect of research, extension-client system as perceived by all the three sub-systems.

2.8 Factors affecting linkage

Since very few direct studies regarding factors affecting linkage were available, some related studies are also reviewed here.

Litwak and Hylton (1962) observed three conditions for bringing about co-ordination among formal organisations viz;

1. Organisational interdependency
2. Level of organisational awareness about interdependence and
3. Standardisation of organisational activities.

Pelz (1966) found following conditions for good co-ordination viz; adequate funds or supplies, good communication or instruction, unity of command, proper delegation of authority, able officials and non-officials and progressive attitude of public.

Reid (1966) suggested several determinants of co-ordination viz;

1. Shared goals
2. Complementary resources
3. Mechanism for controlling exchange involved
4. Domain consensus

Singh (1966) observed that factors considered important from the point of co-ordination were common agreement on objectives, procedures and responsibilities, willingness to work together, faith in the programme, personal attributes, social relation, communication, planned procedure, knowledge of duties, status of co-ordinator, concept of the programme, job satisfaction, training, periodic appraisal, social forces and rules and regulations.

According to Singh and Prasad (1970), factors affecting co-ordination in agricultural administration are:

1. Team work
2. Aptitude and initiative
3. Methodical and timely action
4. Funds and supplies
5. Capable and co-operative personnel
6. Authority for decision making close to operational level

7. Communication
8. Co-ordination committee
9. Supervision
10. Reduction in multiplicity of agencies doing same type of job
11. Workable and non-conflicting policy
12. Peoples co-operation
13. Simplified procedure
14. Single line of command
15. Desirable load of work
16. single unified organisation

Marx (1968) suggested some means to achieve inter-departmental co-ordination at various levels viz;

1. Staff establishment
2. Special co-ordination agencies
3. Use of inter-departmental committee

Sandhu and Gupta (1974) in their study on inter and intra-departmental co-ordination in Agricultural University identified following factors affecting co-ordination viz; Organisation, team work, funds and supplies, authority, methodological approach, integration, hierarchial levels, aptitude and initiative, supervision and communication.

Shenoi (1975) suggested three means for achieving co-ordination viz;

1. Larger delegation of power to the field agencies
2. Minimising the number of agencies involved and
3. Fostering a sense of common purpose and inspiring leadership.

According to Areneja and Gill (1979), the four most important problems in securing co-ordination were

1. Dependence of agency entirely on field staff of other departments
2. Lack of control of project administration over field expansion staff
3. Inadequate association and involvement of other departments and
4. Lack of interest among field staff.

According to Traverty (1985), lack of co-ordination leads to

1. Lack of team work
2. Passive participation
3. Communication become more complex

Satpathy et al (1988) that lack of co-ordination leads to

1. Non co-operation,
2. Lack of team work,
3. Difficult to make correct decision.

Satpathy and Das (1988) reported that efficient well trained, active field staff, common agreement on objectives, trained active field staff, teamspirit, effective supervision and effective communication appear to be important factors of co-ordination.

Pickering (1989) concluded that the linkage mechanism largely depends upon four key enabling factors viz; macropolicy climate, government commitment to agriculture, target group identification and recognition of physical production potential and constraints.

2.9 Hypotheses formulated for the study.

- 2.9.1 There exists relationship between the role perception of the Agricultural Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement

INDEPENDENT VARIABLES

1. AGE

2. EDUCATION

3. RURAL-URBAN BACKGROUND

4. EXPERIENCE

5. TRAININGS UNDERGONE

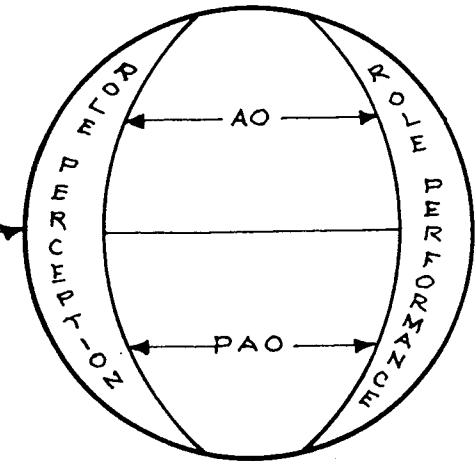
6. ACHIEVEMENT MOTIVATION

7. JOB INVOLVEMENT

8. JOB ENVIRONMENT

9. JOB SATISFACTION

DEPENDENT VARIABLES



PERFORMANCE OF LINKING ROLLES BY PAO AND DSCO

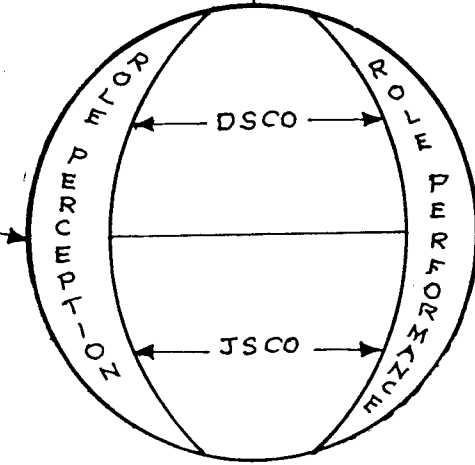


FIG.1. CONCEPTUAL MODEL OF THE STUDY

motivation, job involvement, job environment and job satisfaction.

2.9.2 There exists relationship between the role performance of the Agricultural Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement motivation, job involvement, job environment and job satisfaction.

2.9.3 There exists relationship between the role perception of the Principal Agricultural Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement motivation, job involvement, job environment and job satisfaction.

2.9.4 There exists relationship between the role performance of the Principal Agricultural Officers and their personal and job related characteristics like age, education, rural urban background, trainings undergone, experience, achievement motivation, job involvement, job environment and job

satisfaction.

- 2.9.5 There exists relationship between the role perception of the Junior Soil Conservation Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement motivation, job involvement, job environment and job satisfaction.
- 2.9.6 There exists relationship between the role performance of the Junior Soil Conservation Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement motivation job involvement, job environment and job satisfaction.
- 2.9.7 There exists relationship between the role perception of the District Soil Conservation Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement motivation, job involvement, job environment and job satisfaction.

- 2.9.8 There exists relationship between the role performance of the District Soil Conservation Officers and their personal and job related characteristics like age, education, rural-urban background, trainings undergone, experience, achievement motivation, job involvement, job environment and job satisfaction.
- 2.9.9 There exists difference between the mean linkage score of the Principal Agricultural Officers and District Soil Conservation Officers.

METHODOLOGY

CHAPTER 3

METHODOLOGY

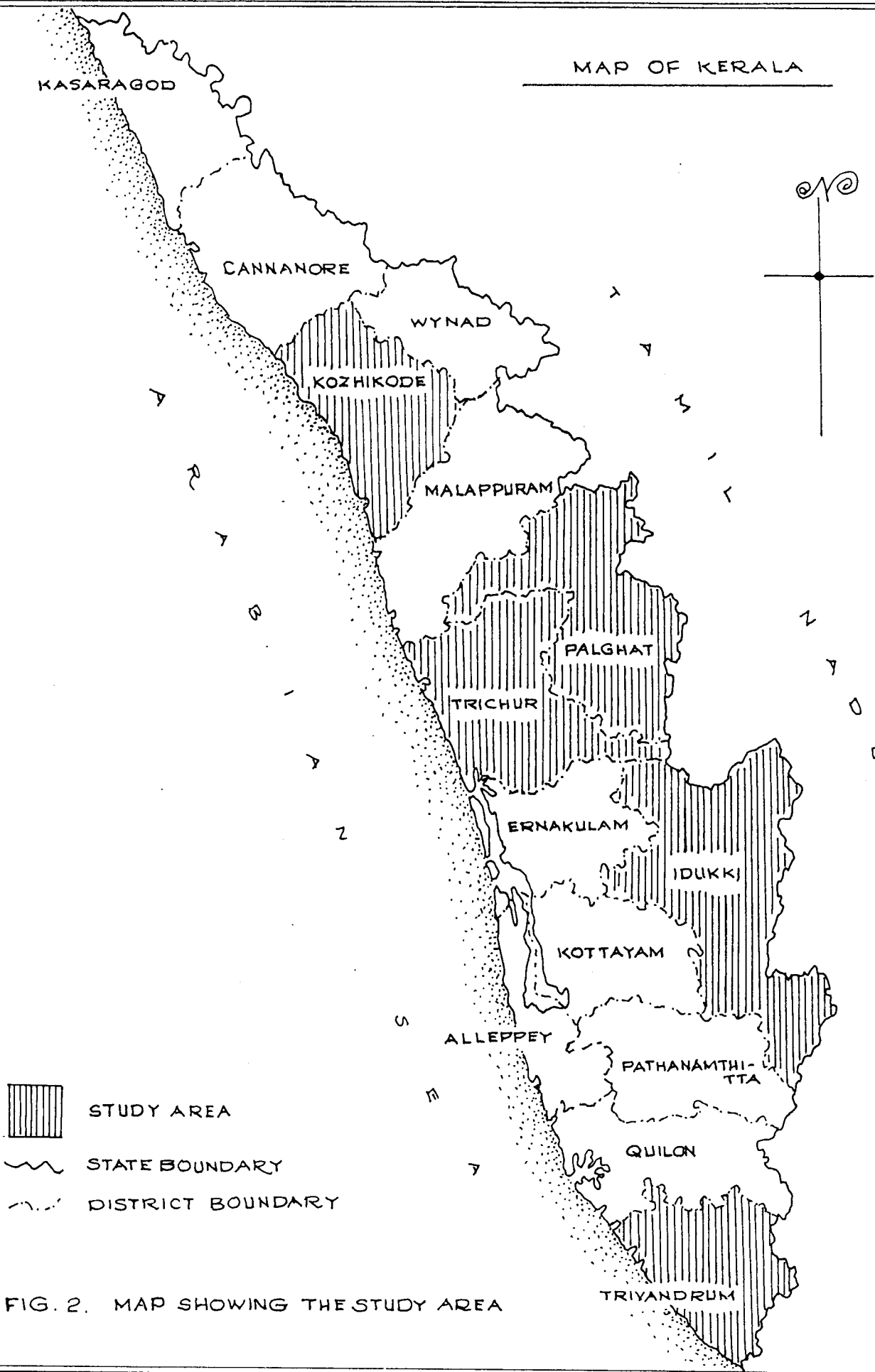
This chapter deals with the methods and materials used for carrying out the research work under the following headings.

- 3.1 Locale of the study
- 3.2 Selection of respondents
- 3.3 Selection of variables
- 3.4 Measurement of variables
- 3.5 Procedure adopted for data collection
- 3.6 Statistical tools used in the study

3.1 Locale of the study

The study was undertaken in the five agroclimatic zones of Kerala State. Five districts were selected randomly representing each agroclimatic zone. The districts thus selected were Kozhikode from North Zone, Idukki from High Altitude Zone, Palakkad from Central Zone, Thrissur from Problem Zone and Thiruvananthapuram from South Zone (Fig. 2).

MAP OF KERALA



- ▨ STUDY AREA
- ~ STATE BOUNDARY
- - - DISTRICT BOUNDARY

FIG. 2. MAP SHOWING THE STUDY AREA

3.2 The Selection of respondents

The Agricultural Officers and Principal Agricultural Offices from the Department of Agriculture, the Junior Soil Conservation Officers and District Soil Conservation Officers from the Soil Conservation Unit were the respondents of the study.

Stratified multistage random sampling procedure was adopted for the selection of respondents. The five N.A.R.P. zones based on agroclimate conditions were treated as strata. From each stratum one district was selected randomly. The total population of the Junior Soil Conservation Officers and Agricultural Officers in the five selected districts were 22 and 438 respectively. All the Junior Soil Conservation Officers besides 15 per cent of the total Agricultural Officers in the five districts were selected for the study. Considering the Principal Agricultural Officers and District Soil Conservation Officers (12+12), the total sample size was raised to 110 as depicted in Table 1.

Table 1 Distribution of respondents selected for the study.

Agroclimatic Zone	District	District selected	Number of Officers			
			Total		Selected	
			JSCO	AO	JSCO	AO
North Zone	1. Kasaragod	Kozhikode	2	79	2	12
	2. Kannur					
	3. Wynad					
	4. Kozhikode					
	5. Malappuram.					
High Altitude Zone	1. Wynad	Idukki	3	57	3	8
	2. Palakkad					
	3. Ernakulam					
	4. Idukki					
Central Zone	1. Malappuram	Palakkad	10	96	10	14
	2. Palakkad					
	3. Ernakulam					
	4. Idukki					
South Zone	1. Idukki	Thiruvananthapuram	5	96	5	14
	2. Kottayam					
	3. Alappuzha					
	4. Kollam					
	5. Pathanamthitta					
	6. Thiruvananthapuram					
Problem Zone	1. Alappuzha	Thrissur	2	110	2	16
	2. Ernakulam					
	3. Thrissur					

Principal Agricultural Officers = 12

District Soil Conservation Officers = 12

Total sample size

Dept. of Agriculture = 64 + 12 = 76

Soil Conservation Unit = 22 + 12 = 34

Total

22

438

22

64

} 110

3.4 Selection of Variables

Considering the objectives of the study, three dependent variables viz; role perception, role performance and linkage were selected. Detailed review of literature, a pilot study in the non-sampling area and discussion with experts in the field were made use of in selecting the independent variables. The independent variables selected were age, education, rural-urban background, trainings undergone, experience, achievement motivation, job involvement job environment and job satisfaction.

3.4 Measurement of Variables

3.4.1 Dependent Variables

3.4.1.1 Role perception of officials in the Department of Agriculture and Soil Conservation Unit

Role perception is operationalised as the extent of importance attached by an official in the Department of Agriculture or Soil Conservation Unit to his/her role in the implementation of soil and water conservation programmes.

The procedure followed by Kunwar and Williams (1990) was used with some modifications.

At first, the nature of work of different officials viz; Agricultural Officers, Principal Agricultural Officers, Junior Soil Conservation Officers and District Soil Conservation Officers with respect to soil and water Conservation Programmes was analysed through a pilot study. The roles of different officials with respect to soil and water conservation programmes were collected by interviewing them and also referring their respective job chart and functional integration order of Government of Kerala. The roles thus collected were verified by their Senior Officers and experts in the field of Agricultural Extension. The roles of the different officials finally selected for the study are presented in the appendix.

The roles of different officials were presented with a five point continuum viz; very important, undecided, unimportant, and very unimportant and the respondents were asked to indicate the importance of each role. The scoring procedure was as follows:

<u>Continuum</u>	<u>Score</u>
Very important	5
Important	4
Undecided	3
Unimportant	2
Very Unimportant	1

The total role perception score for each respondent under different categories viz; Agricultural Officer, Principal Agricultural Officer, Junior Soil Conservation Officer and District Soil Conservation Officer were obtained by summing up all the individual scores on the role items.

The group to which the officers belonged were decided on the basis of mean score. The mean score and scores above the mean score were taken as high perception group and the respondents with scores below mean score were considered as the low perception group.

3.4.1.2 Role performance of officials in the Department of Agriculture and Soil Conservation Unit

For the present study, role performane is

operationally defined as the extent of performance of the roles by an official in the Department of Agriculture or Soil Conservation Unit in the implementation of soil and water conservation programmes.

The procedure followed by Kunwar and Williams (1990) was used for measuring the role performance.

The roles of different officials viz; Agricultural Officers, Principal Agricultural Officers, Junior Soil Conservation Officers and District Soil Conservation Officers identified and selected for studying the role perception were also used for studying the role performance. For this the different roles were presented on a five point continuum viz; performed very well, performed well, undecided, performed poorly and performed very poorly with scores of 5,4,3,2 and 1 respectively. The respondents were asked to indicate how well the role was performed.

The total role performance score for each respondent under different categories were obtained by summing up all the individual scores on the role items.

The group to which the officers belonged were decided on the basis of mean score. The mean score and scores above mean score were taken as high perception group and the respondents with scores below mean score considered as low perception group.

3.4.1.3 Linkage between the officials in the Department of Agriculture and the Soil Conservation Unit

In the present study, the procedure followed by Kunju (1990) was used for measuring the linkage.

Based on the review of functional integration order by Government of Kerala and discussion with experts in the Department of Agriculture and Soil Conservation Unit, a list of all the linking roles of the Principal Agricultural Officers in the Department of Agriculture and the District Soil Conservation Officers in the Soil Conservation Unit (who have assigned linking roles with one another) were collected. The linking roles thus collected were verified by their senior officers and experts in the respective fields.

There were 12 linking roles for the District Soil Conservation Officers with Principal Agricultural Officers and 14 linking roles for the Principal Agricultural Officers with District Soil Conservation Officers. The linking roles of Principal Agricultural Officers and District Soil Conservation Officers selected for the study are shown in appendix.

Since the study was mainly aimed to analyse the existing linkage between the Department of Agriculture and Soil Conservation Unit in the implementation of soil and water conservation programmes in Kerala, the respondents of the Department of Agriculture and Soil Conservation Unit viz; Principal Agricultural Officers and District Soil Conservations Officers were asked to indicate their response to the extent of performance of each linking role on a five point continuum viz; always, most frequently, frequently, some times and never. The scoring procedure used for the purpose was as follows:

<u>Continnum</u>	<u>Score</u>
Always	4
Most frequently	3
Frequently	2
Sometimes	1
Never	0

The total scores obtained by the respondents in the Department of Agriculture and Soil Conservation Unit for their linking roles with one another were worked out. The mean linkage scores and mean percentage scores of the Principal Agricultural Officers and District Soil Conservation Officers were computed from their total scores. Mann - Whitney 'u' test was applied to determine whether these two groups differ significantly or not.

Adequately performed linking roles of the Principal Agricultural Officers and District Soil Conservation Officers were identified based on high mean scores (above the average mean score) with low coefficient of variations (below average coefficient of variation).

3.4.1.4 Factors affecting linkage between the officials in the Department of Agriculture and the Soil Conservation Unit

After reviewing the literature and discussion with experts in the Department of Agriculture and in the Soil Conservation Unit, some factors which affect linkage were listed out. The respondents in the Department of Agriculture and Soil Conservation Unit were asked to indicate their perception of importance of each factor on a three point continuum viz; most important, important and least important with respective points 3,2 and 1. Then overall mean score for each factor was worked out separately for the respondents in Department of Agriculture and the soil conservation unit and ranking was done.

3.4.2 Independent variables

3.4.2.1 Age

Age is measured in terms of the number of completed years by the respondent at the time of interview.

3.4.2.2 Educational Level

The educational level of the respondents was as such noted and the scoring was carried out as follows.

<u>Qualification</u>	<u>Score</u>
Diploma	1
B.Sc. (Ag.)/B.Sc (Eng.)	2
M.Sc. (Ag.)	3

3.4.2.3 Rural Urban background

Whether the officer belongs to rural area or an urban area.

Procedure used by Susilkumar (1984) and Kalavathy (1989) was used. The scoring procedure is given below.

Rural background	2
Urban background	1

Those living in rural areas comparatively for more years than urban areas was considered as rural and vice versa.

3.4.2.4 Experience

In the present study, the experience is measured in terms of the number of completed years of service in the Department of Agriculture or Soil Conservation Unit.

3.4.2.5 Trainings undergone

This variable is measured in terms of the total number of preservice or inservice training an official in the Department of Agriculture and soil conservation unit had undergone and one score was assigned to each training.

3.4.2.6 Achievement motivation

For the present study achievement motivation is operationalised as the desire for excellence for an official in the Department of Agriculture or Soil Conservation Unit to attain a sense of personal accomplishment.

The scale developed by signh (1969) and used by Manohari (1988) and Kalavathy (1989) was used for measuring the achievement motivation. In the scale, there was six statements presented on a five point continuum viz; strongly agree, agree, undecided, disagree and strongly disagree. The respondents were asked to indicate their responses on this continuum.

The scoring procedure is as follows.

<u>Continuum</u>	<u>Score</u>
Strongly agree	5
Agree	4
Undecided	3
Disagree	2
Strongly disagree	1

The total score of each respondent was worked out of by summing up the scores obtained for all items. The sum of scores of all the items formed the achievement motivation score of the respondent. The individuals achievement motivation score was grouped as high (\geq mean) or low ($<$ mean).

3.4.2.7 Job Involvement

Job involvement is operationally defined as the extent to which an official identified himself or herself with his or her job in the Department of Agriculture or Soil Conservation Unit.

In the present study job involvement was measured by the job involvement scale developed by Lodahl and Kejner (1965) and used by Veerabhadraiah and Jalihal (1983), Sundaraswamy (1987) and Kalavathy

(1989)

The scale consisted of 20 statements presented on a five point continuum viz; strongly agree, agree, undecided, disagree and strongly disagree with score of 5,4,3,2 and 1 respectively. The scoring system was reversed for the negative statements.

The total score for each respondent was the sum of scores obtained for all items. The sum of scores for all items formed the score of job involvement of the respondent. The individual job involvement score was categorised as high (\geq mean) or low ($<$ mean).

3.4.2.8 Job environment

Job environment is operationally defined as the atmosphere for an official to work in the Department of Agriculture or Soil Conservation Unit.

In the present study, the procedure developed and used by Kalavathy (1989) was used for measuring the job environment.

There were a total number of seven items presented on a five point continuum viz; strongly agree, agree, undecided, disagree and strongly disagree. The scoring procedure is given below.

<u>Continuum</u>	<u>Score</u>
Strongly agree	5
Agree	4
Undecided	3
Disagree	2
Strongly disagree	1

The scoring system was reversed for negative statements. The respondents were asked to indicate their response on this continuum. The total score for each respondents was the sum of scores obtained for all items. The sum of scores for all items formed the score of job environment of the respondent. The individual job environment score was grouped as satisfactory (\geq mean) or unsatisfactory ($<$ mean).

Job Satisfaction ✓

For the present study, job satisfaction is operationally defined as the total mental expression of an official in the Department of Agriculture or Soil Conservation Unit resulting from the interaction between their job content, personal and job related factors.

For measuring job satisfaction, the scale developed by Rathore (1974) and used by Joseph (1983) was used. There were a total number of 10 items or statements. These statements were presented on a five point continuum viz; very much satisfied, satisfied, undecided, dissatisfied and very much dissatisfied. The respondents were asked to indicate their response on this continuum. The scoring procedure is given below.

<u>Continuum</u>	<u>Score</u>
Very much satisfied	5
Satisfied	4
Unsatisfied	3
Dis satisfied	2
Very much dissatisfied	1

The total score for each respondent was the sum of scores obtained for all the 10 items. The sum of scores for all items formed the job satisfaction score of the respondent. The individual job satisfaction score was grouped as high (\geq mean) or low ($<$ mean).

3.5 Procedure adopted for data collection

Data were collected with the help of pre-tested structured mailed questionnaires in English (Appendix)

The researcher himself visited the respondents in person and collected the questionnaires so as to get cent percent responses for the study. The data were coded, tabulated and analysed with the help of VERSA - IWS computer.

3.6 Statistical tools used in the study

Percentage analysis, correlation analysis, path analysis and test of significance (Mann-Whitney 'u' test) were the statistical tools employed to meet the objectives of the study.

RESULTS

CHAPTER 4

RESULTS

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

- 4.1 Role perception of officials working in the Department of Agriculture.
- 4.2 Role perception of officials working in the Soil Conservation Unit.
- 4.3 Role performance of officials working in the Department of Agriculture.
- 4.4 Role performance of Officials working in the Soil Conservation Unit.
- 4.5 Personal and job related characteristics of officials working in the Department of Agriculture and the Soil Conservatin Unit.
- 4.6 Relationship of personal and job related characteristics with role perception and role performance of officials working in the Department of Agriculture and Soil Conservation Unit.
- 4.7 Direct and indirect effects of selected characteristics on role perception of Agricultural Officers.

4.8 Analysis of linkage between the Department of Agriculture and Soil Conservation Unit.

4.9 Factors effecting linkage between the officials in the Department of Agriculture and Soil Conservation Unit.

4.1 Role Perception of officials working in the Department of Agriculture

The mean scores of role perception of the Agricultural Officers and Principal Agricultural Officers were 49.47 and 57.5 respectively. These Officers were categorised as those having role perception low and high depending on whether their score is below or above the mean score. The distribution of respondents based on their role perception is furnished in Table 2.

Table 2 Distribution of respondents in the Department of Agriculture based on their role perception.

Category of respondent	Role perception			
	Low		High	
	Frequency	%	Frequency	%
AO (n=64)	36	56.25	28	43.75
PAO (n=12)	6	50	6	50

Table 2 reveals that more than half of the sampled Agricultural Officers (56.25%) were in the low perception group whereas the Principal Agricultural Officers were distributed equally in both the categories.

Hence, it is inferred that majority of the Agricultural Officers and half of the Principal Agricultural Officers had low level of perception about their roles with respect to soil and water conservation programmes.

4.2 Role Perception of Officials working in Soil Conservation Unit

The mean scores of role perception of the Junior Soil Conservation Officers and District Soil Conservation Officers in the Soil Conservation Unit were 106.23 and 88.83 respectively. The distribution of respondents based on their role perception is furnished in Table 3.

Table 3 Distribution of respondents in Soil Conservation Unit based on their role perception.

Category of respondent	Role perception			
	Low		High	
	Frequency	%	Frequency	%
JSCO (n=22)	9	40.9	13	59.1
DSCO (n=12)	5	41.67	7	58.33

Table 3 depicts that more than half of the sampled respondents in both the categories of Junior Soil Conservation Officers and District Soil Conservation Officers (respectively 59.1% and 58.33) had high level of perception about their roles and rest of them (40.9% and 41.67% respectively) had low level of role perception.

It is evident that majority of the officials in the Soil Conservation Unit had high level of perception about their roles.

4.3 Role performance of officials working in the Department of Agriculture

The mean values of role performance of the Agricultural Officers and Principal Agricultural Officers in the Department Agriculture were found to be

43.44 and 41.3 respectively. The distribution of respondents based on their role performance is furnished in Table 4.

Table 4 Distribution of respondents in the Department of Agriculture based on their role performance.

Category of respondent	Role performance			
	Low		High	
	Frequency	%	Frequency	%
AO (n=64)	21	45.31	35	54.69
PAO (n=12)	6	50	6	50

Regarding the role performance, data in Table 4 reveal that 54.69 per cent of the Agricultural Officers had high level of performance whereas equal number of the Principal Agricultural Officers had their performance on either level.

Hence, it is inferred that the Agricultural Officers and Principal Agricultural Officers had high level of performance on their roles assigned with regard to soil and water conservation programmes.

4.4 Role performance of Officials working in Soil Conservation Unit

The mean scores of role performance of the Junior Soil Conservation Officers and the District Soil

Conservation Officers were found to be 94.63 and 78.33 respectively. The distribution of respondents based on their role performance is furnished in Table 5

Table 5 Distribution of respondents in the Soil Conservation unit based on their role performance.

Category of respondent	Role performance			
	Low		High	
	Frequency	%	Frequency	%
JSCO (n=22)	9	40.9	13	59.1
DSCO (n=12)	4	33.33	8	66.67

Regarding the role performance of officials of Soil Conservation Unit, it is interesting to note that majority of the Junior Soil Conservation Officers and District Soil Conservation Officers (59.1% and 66.67) had high level of performance of their roles.

Hence, it is inferred that two third of the officials in both the categories had high level of performance on their roles assigned for soil and water conservation activities.

4.5 Personal and job related characteristics of officials in the Department of Agriculture and Soil Conservation Unit

4.5.1 Age

The distribution of respondents based on age is furnished in Table 6.

Table 6 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their age.

Category of repondent	Age					
	35 years		35-45 years		above 45 years	
	Freq-ency	%	Freq-ency	%	Freq-ency	%
AO (n=64)	62	96.88	2	3.12	0	--
PAO (n=12)	0	--	1	8.33	11	91.67
JSCO (n=22)	16	72.72	3	13.64	3	13.64
DSCO (n=12)	0	--	6	50	6	50

Table 6 reveals that in the Department of Agriculture, majority (96.88%) of the Agricultural Officers were below 35 years whereas majority (91.67%) of the Principal Agricultural Officers were above 45 years. Table 6 also reveals that majority (72.72%) of the Junior Soil Conservation Officers were below 35 years.

4.5.2 Educational level

The distribution of respondents based on their educational level is furnished in Table 7.

Table 7 Distribution of respondents in the department of Agriculture and Soil Conservation Unit based on their educational level.

Category of repondent	Educational level					
	Diploma		Graduation		Post graduation	
	Freq-ency	%	Freq-ency	%	Freq-ency	%
AO (n=64)	0	--	44	68.75	20	31.25
PAO (n=12)	0	--	9	75	3	25
JSCO (n=22)	4	18.19	18	81.81	0	--
DSCO (n=12)	0	--	22	100	0	--

With respect to educational level, Table 7 reveals that two third of the Agricultural Officers and three fourth of the Principal Agricultural Officers in the Department of Agriculture were graduates whereas in the Soil Conservation Unit, all the District Soil Conservation Officers and 81.81 per cent of the Junior Soil Conservation Officers were graduates. Table 7 also shows that out of 22 sampled Junior Soil

Conservation Officers, four were diploma holders.

4.5.3 Rural - Urban Background

The distribution of respondents based on their rural-urban background is furnished in Table 8.

Table 8 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their rural-urban background.

Category of respondent	Rural - urban background			
	Rural		Urban	
	Frequency	%	Frequency	%
AO (n=64)	49	76.56	15	23.44
PAO (n=12)	10	83.33	2	16.67
JSCO (n=22)	15	59.01	9	40.91
DSCO (n=12)	7	58.33	6	41.67

Table 8 reveals that more than three fourth of the Agricultural Officers and Principal Agricultural Officers (76.56% and 83.33% respectively) were from rural background whereas more than half of the Junior Soil Conservation Officers and District Soil Conservation Officers (59.09% and 58.33% respectively) were from rural background.

4.5.4 Experience

The distribution of respondents based on their experience is furnished in the Table 9

Table 9 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their experience.

Category of respondent	Experience			
	Less than 10 years		10 years & above	
	Frequency	%	Frequency	%
AO (n=64)	51	79.69	13	20.31
PAO (n=12)	0	--	12	100
JSCO (n=22)	11	50	11	50
DSCO (n=12)	0	--	12	100

Table 9 reveals that more than three fourth of the Agricultural Officers (79.69%) had experience less than 10 years whereas the Junior Soil Conservation Officers distributed equally in both groups. Regarding the higher officials, all the Principal Agricultural Officers and District Soil Conservation Officers had more than 10 years of experience in their respective department.

4.5.5 Trainings undergone

The distribution of respondents based on trainings undergone is furnished in the Table 10.

Table 10 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on trainings undergone.

Category of repondent	Trainings undergone					
	< 5 Trainings		5 to 10 trainings		> 10 trainings	
	Freq- ency	%	Freq- ency	%	Freq- ency	%
AO (n=64)	24	37.5	30	46.87	10	15.63
PAO (n=12)	0	--	2	16.67	10	83.33
JSCO (n=22)	22	100	0	--	0	--
DSCO (n=12)	12	100	0	--	0	--

From Table 10, it could be seen that majority (83.33%) of the Principal Agricultural Officers and 15.63 per cent of the Agricultural Officers had undergone more than 10 trainings during their tenure of service. It could also be seen that all the District Soil Conservation Officers and Junior Soil Conservation Officers have got less than five trainings.

Hence it is inferred that all the officials in the Department of Agriculture and Soil Conservation Unit were trained.

4.5.6 Achievement Motivation

The mean scores of achievement motivation for the AOs, PAOs, DSCOs and JSCOs were found to be 21.64, 24.17, 25.33 and 23.68.

Table 11 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their achievement motivation.

Category of respondent	Achievement motivation			
	Low		High	
	Frequency	%	Frequency	%
AO (n=64)	25	39.06	39	60.94
PAO (n=12)	3	25	9	75
JSCO (n=22)	8	36.36	14	63.64
DSCO (n=12)	4	33.33	8	66.67

Considering the achievement motivation of the officials in the Soil Conservation Unit and Department of Agriculture, Table 11 depicts that almost two third of the Agricultural Officers and Junior Soil Conservation Officers (60.94% and 63.64% respectively) had high level of achievement motivation.

Similarly the Principal Agricultural Officers and District Soil Conservation Officers (75% and 66.67% respectively) also had high level of achievement motivation.

4.5.7 Job involvement

The mean scores of job involvement for the Agricultural Officers, Principal Agricultural Officers, District Soil Conservation Officers and Junior Soil Conservation Officers were found to be 66.58, 74.58 and 72.59 respectively. The distribution of respondents based on their job involvement is furnished in Table 12.

Table 12 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their job involvement.

Category of respondent	Job involvement			
	Low		High	
	Frequency	%	Frequency	%
AO (n=64)	34	53.12	30	46.88
PAO (n=12)	5	41.67	7	58.33
JSCO (n=22)	12	54.55	10	45.45
DSCO (n=12)	4	33.33	8	66.67

Regarding the job involvement of the officials, Table 12 shows that majority (53.12%) of the Agricultural Officers and 54.55 per cent of the Junior Soil Conservation Officers were in low job involvement category whereas the majority of the Principal Agricultural Officers, District Soil Conservation Officers and Junior Conservation Officers had high level of job involvement with the percentage of 58.33 and 66.67 respectively. Hence it is inferred that the job involvement of the higher level officials is high whereas in lower level it is just opposite.

4.5.8 Job environment

The distribution of respondents based on job environment is furnished in Table 13.

The mean scores of job environment for the Agricultural Officers, Principal Agricultural Officers, Junior Soil Conservation Officers and District Soil Conservation Officers were found to be 21.44, 22.58, 20.01 and 20.92 respectively.

Table 13 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their job environment

Category of respondent	Job environment			
	Less satisfactory		High satisfactory	
	Frequency	%	Frequency	%
AO (n=64)	38	59.38	26	40.62
PAO (n=12)	5	41.67	7	58.33
JSCO (n=22)	12	54.55	10	45.45
DSCO (n=12)	6	50	6	50

Table 13 reveals that more than half of the Agricultural Officers and Junior Soil Conservation Officers (59.38% and 54.55% respectively) had low perception of satisfaction regarding their job environment whereas 58.33 per cent of the PAOs and 50 per cent of the DSCOs had high level of satisfaction regarding their job environment.

Hence, it is inferred that in lower level the job environment is perceived as less satisfactory whereas in top level job environment is perceived as high satisfactory.

4.5.9 Job Satisfaction

The mean scores of job satisfaction for the Agricultural Officers, Principal Agricultural Officers, District Soil Conservation Officers and Junior Soil

Conservation Officers were found to be 34.88, 33.25, 31 and 33.83, respectively.

Table 14 Distribution of respondents in the Department of Agriculture and Soil Conservation Unit based on their job satisfaction.

Category of respondent	Job satisfaction			
	Low		High	
	Frequency	%	Frequency	%
AO (n=64)	30	46.88	34	53.12
PAO (n=12)	6	50	6	50
JSCO (n=22)	10	45.45	12	54.55
DSCO (n=12)	5	41.67	7	58.33

Regarding the job satisfaction, Table 14 reveals that majority of the AOs, PAOs, JSCOs, and DSCOs, (53.12%, 50, 54.55 and 58.33 respectively) had high level of job satisfaction. Hence it is inferred that lower and higher level officials in the Department of Agriculture and Soil Conservation Unit had high job satisfaction.

4.6 Relationship of personal and job related characteristics with role perception and role performance of officials working in the Department of Agriculture and Soil Conservation Unit.

The data on the relationship of role perception and role performance of the Agricultural Officers with their personal and job related characteristics are presented in Table 15.

Table 15 Correlation of role perception and role performance of the Agricultural Officers with their personal and job related characteristics.

(n=64)

Sl.No.	Characteristic	Role perception	Role Performance
		'r' value	r' value
1.	Age	0.0628 ^{NS}	0.0518 ^{NS}
2.	Education	0.0385 ^{NS}	0.1548 ^{NS}
3.	Rural-urban background	0.1460 ^{NS}	0.1673 ^{NS}
4.	Experience	0.0414 ^{NS}	0.1313 ^{NS}
5.	Trainings undergone	0.2690 [*]	0.1552 ^{NS}
6.	Achievement motivation	0.0206 ^{NS}	0.0704 ^{NS}
7.	Job involvement	0.2770 [*]	0.1259 ^{NS}
8.	Job environment	0.2873 [*]	0.1732 ^{NS}
9.	Job satisfaction	0.2416 [*]	0.3547 ^{**}

* Significant at 5% level of probability

** Significant at 1% level of probability

NS Not significant

Table 15 depicts that out of nine characteristics, four characteristics viz; trainings undergone, job involvement, job environment and job satisfaction were positively and significantly correlated with role perception of the Agricultural Officers. Hence, the hypothesis that there exists relationship between role perception of the Agricultural Officers and their personal and job related characteristics is accepted in the case of trainings undergone, job involvement, job environment and job satisfaction and rejected in the case of all the remaining characteristics.

With regard to role performance, except job satisfaction all other characteristics had no significant correlation with role performance of the Agricultural Officers. Thus the hypothesis that there exists relationship between role performance of the Agricultural Officers and their personal and job related characteristics is accepted in the case of job satisfaction and rejected in case of all the remaining characteristics.

Table 16 Correlation of role perception and role performance of the Principal Agricultural Officers with their personal and job related characteristics.

(n=12)

Sl.No.	Characteristic	Role perception	Role Performance
		'r' value	r' value
1.	Age	0.1792 ^{NS}	0.1943 ^{NS}
2.	Education	0.4347 ^{NS}	0.0611 ^{NS}
3.	Rural-urban background	0.1025 ^{NS}	0.0692 ^{NS}
4.	Experience	0.1087 ^{NS}	0.0336 ^{NS}
5.	Trainings undergone	0.3344 ^{NS}	0.0243 ^{NS}
6.	Achievement motivation	0.0895 ^{NS}	0.0593 ^{NS}
7.	Job involvement	0.1373 ^{NS}	0.3005 ^{NS}
8.	Job environment	0.4529 ^{NS}	0.4662 ^{NS}
9.	Job satisfaction	0.0688 ^{NS}	0.2492 ^{NS}

NS Not significant

Table 17 Correlation of role perception and role performance of the Junior Soil Conservation Officers with their personal and job related characteristics.

(n=22)

Sl.No.	Characteristic	Role perception	Role Performance
		'r' value	'r' value
1.	Age	0.0887 ^{NS}	0.1609 ^{NS}
2.	Education	0.0601 ^{NS}	0.0305 ^{NS}
3.	Rural-urban background	0.3154 ^{NS}	0.0327 ^{NS}
4.	Experience	0.0367 ^{NS}	0.1802 ^{NS}
5.	Trainings undergone	0.3072 ^{NS}	0.2895 ^{NS}
6.	Achievement motivation	0.0877 ^{NS}	0.0151 ^{NS}
7.	Job involvement	0.0136 ^{NS}	0.2318 ^{NS}
8.	Job environment	0.1142 ^{NS}	0.0772 ^{NS}
9.	Job satisfaction	0.0260 ^{NS}	0.2775 ^{NS}

NS Not significant

Table 18 Correlation of role perception and role performance of the District Soil Conservation Officers with their personal and job related characteristics.

(n=12)

Sl.No.	Characteristic	Role perception	Role Performance
		'r' value	'r' value
1.	Age	0.4163 ^{NS}	0.2636 ^{NS}
2.	Education	0.0125 ^{NS}	0.0429 ^{NS}
3.	Rural-urban background	0.4197 ^{NS}	0.1206 ^{NS}
4.	Experience	0.3431 ^{NS}	0.2763 ^{NS}
5.	Trainings undergone	0.1170 ^{NS}	0.0501 ^{NS}
6.	Achievement motivation	0.2881 ^{NS}	0.2026 ^{NS}
7.	Job involvement	0.3758 ^{NS}	0.1623 ^{NS}
8.	Job environment	0.1017 ^{NS}	0.3252 ^{NS}
9.	Job satisfaction	0.4030 ^{NS}	0.2266 ^{NS}

NS Not significant

4.7 Direct and indirect effects of selected characteristics on the role perception of Agricultural Officers.

Path analysis was done to find out the direct and indirect effects of characteristics contributing to role perception of the Agricultural Officers. The results of path analysis are presented in Table 19 and illustrated in Fig.3.

Table 19 Direct and indirect effects of characteristics contributing to role perception (X_{10}) of Agricultural Officers.

X_5	X_7	X_8	X_9	r
0.27974	-0.01039	0.01321	-0.01356	0.2690
-0.01125	0.25834	0.01208	0.01783	0.2770
0.02095	0.01770	0.17635	0.07230	0.2873
-0.02481	0.03012	0.08339	0.15290	0.2416
Residue				0.8750
X_5	Trainings undergone			
X_7	Job involvement			
X_8	Job environment			
X_9	Job satisfaction			

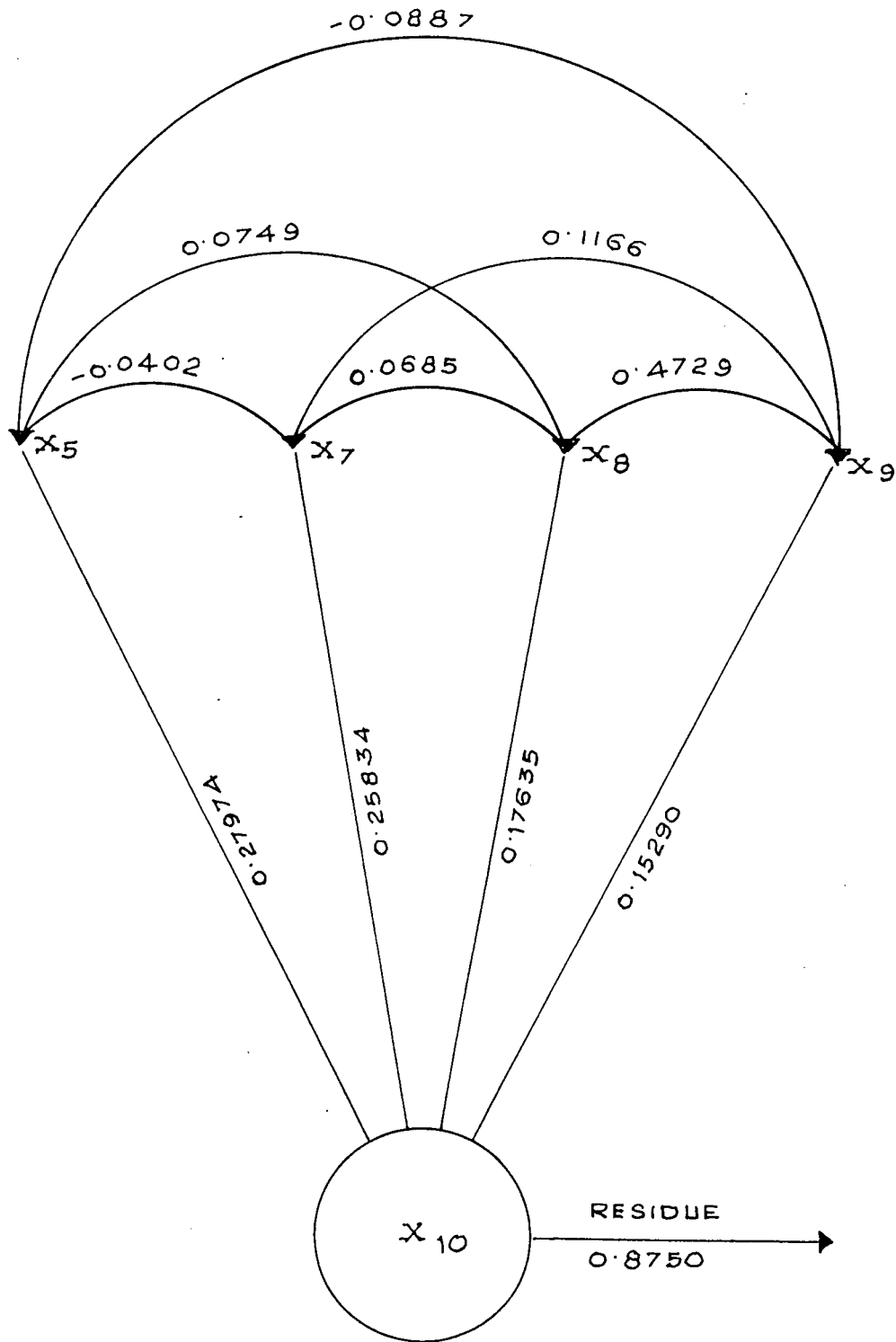


FIG. 3. PATH DIAGRAM SHOWING THE DIRECT AND INDIRECT EFFECTS OF JOB RELATED CHARACTERISTICS ON ROLE PERCEPTION OF AGRICULTURAL AFFAIRS.

From Table 19, it could be seen that the correlation between X_5 and X_{10} was 0.2690. But the direct effect of X_5 was slightly higher than their correlation co-efficient. This reduction in correlation is due to the negative indirect influence of X_5 via X_7 and X_9 .

The correlation between X_7 and X_{10} was 0.2770 while its direct effect was 0.25834 which contributes about 93 per cent of this correlation co-efficient. The positive indirect effect of X_7 via X_8 and X_9 enhanced this correlation.

The correlation between X_8 and X_{10} was 0.2873, while its direct effect was 0.17635 which contributes about 61 per cent of the correlation. The remaining 39 per cent of correlation was attributed to the positive indirect effect of X_8 via X_5 , X_7 and X_9 .

63 per cent correlation between X_9 and X_{10} was attributed to its direct effect (0.1529). The increase in correlation was mainly attributed to the positive indirect effect of X_9 via X_9 .

However, all these factors contribute only 12.5 per cent of the variation in X_{10} as established by the residue factor 0.875.

4.8 Analysis of linkage between officials in the Department of Agriculture and Soil Conservation Unit.

Table 20 Linkage between the officials in the Department of Agriculture and Soil Conservation Unit - results of Mann-Whitney 'U' test.

Category of respondents	Mean linkage Score	Mean percentage Score	'Z' Value
DSCO (n=12)	2.13	53.25	0.415 ^{NS}
PAO (n=12)	2.08	52.00	

NS Not significant

As it could be seen from Table 20, the results of Mann - Whitney 'U' test revealed that the 'Z' value was not significant indicating mean linkage score of the Principal Agricultural Officers and District Soil Conservation Officers did not differ significantly.

Thus, the hypothesis that there exists difference between the mean linkage score of the Principal Agricultural Officers and District Soil Conservation Officers was rejected.

The mean percentage scores of the District Soil Conservation Officers and Principal Agricultural Officers were 53.25 and 52.00, respectively whereas it should be cent per cent when complete linkage exists. It could therefore be surmised that the DSCOs and PAOs failed to raise to expectations with regard to their performance of linking roles.

Table 21 makes it clear that out of the 12 linking roles, seven numbers viz; P2, P10, P1, P5, P11, P12, and P3 were adequately performed by the PAOs whereas Table 22 reveals that the linking roles viz; D1, D4, D5, D10, D9, D8, and D2 were adequately performed by the DSCOs.

Table 21 Mean scores and Coefficient of variations on the performance of linking roles by Principal Agricultural Officers.

Code			Coefficient
No	Linking role	Mean Score	of variation
P1	Controlling and supervision of all the soil conservation works in the district.	2.50	10.43
P2	Identification of watersheds in consultating with officials in Soil Conservation Unit.	2.75	11.57
P3	Delineation of watersheds in consultation with officials in Soil Conservation Unit.	2.08	14.08
P4	Codification of watersheds in consultation with officials in Soil Conservation Unit.	1.50	18.98
P5	Drafting watershed management plan with due participation of Soil Conservation Unit.	2.33	13.81
P6	Identification of thrust areas requiring effective extension strategy in Soil and water conservation	1.91	19.43
P7	Scheduling the soil conservation programme with integration between the Soil Conservation Unit and the department of Agriculture.	1.83	16.49

P8	Identification of budgetary resource available for soil and water conservation programme.	1.66	15.19
P9	Allocation of funds for each soil conservation programme at District level	1.83	18.11
P10	Implementation of soil conservation programme in the district.	2.66	11.92
P11	Submitting monthly progress reports of soil conservation programmes to Addl. Director (S.C Unit.)	2.25	12.06
P12	Supervising District Soil Conservation Officer and Junior Soil Conservations Officers	2.16	13.23
P13	Seeking Direction and guidance from Addl Director (S.C Unit.) in all matter relating to soil and water conservation	2.00	19.75
P14	Keeping the records of soil conservation activities in the district.	1.66	16.02
	Average	2.08	15.07

Table 22 Mean scores and coefficient of variation on the performance of linking roles by District Soil Conservation Officers.

Code No	Linking role	Mean Score	coefficient of variation
D1	Assisting the Joint Director of Agriculture in Water shed identification.	2.66	11.08
D2	Assisting the Joint Director of Agriculture in delineation of watersheds	2.16	11.69
D3	Assisting the Joint Director of Agriculture in codification of watersheds.	1.33	18.51
D4	Assisting Joint Director of Agriculture in drafting of watershed plans	2.58	12.98
D5	Attending the monthly conference of watershed committee Convenors and Technical Officers.	2.5	10.65
D6	Functioning as the Subject matter specialist of Joint Director of Agriculture.	1.75	19.04
D7	Sending copies of monthly expenditure statement of soil conservation programmes to Joint Director of Agriculture.	2.08	15.32
D8	Serving as resource personnel for monthly workshops, fortnightly trainings, etc.	2.25	13.13

D9	Submitting monthly progress reports of Soil Conservation work programmes to Joint Director of Agriculture.	2.33	10.47
D10	Assisting Joint Director of Agriculture in all matters relating to execution of soil conservation works in the identified watersheds.	2.42	11.18
D11	Preparation of detailed watershed map indicating individual plots.	1.66	17.07
D12	Helping the Joint Director of Agriculture in the identification of thrust areas requiring effective extension strategy in soil and water conservation.	1.83	13.24
	Average	<u>2.13</u>	<u>13.7</u>

4.9 Factors affecting the linkage between the officials in the Department of Agriculture and Soil Conservation Unit.

The important factors perceived by the officials in the Department of Agriculture which affect the linkage between Soil Conservation Unit and the Department of Agriculture are presented in Table 23. These factors are ranked on the importance on which they were felt.

Table 23 Factors affecting linkage between officials in the Department of Agriculture and Soil Conservation Unit as perceived by the officials in the Department of Agriculture.

Sl. No.	Factor	Mean	Rank
1.	Inadequate contact between officials in the Department of Agriculture and Soil Conservation Unit in implementing schemes.	2.50	1
2.	Negative attitude towards functional integration of the Soil Conservation Unit with Department of Agriculture.	2.41	2
3.	Lack of team work between the officials in the Department of Agriculture and Soil Conservation Unit.	2.32	3
4.	Possible areas of joint activity left undefined.	2.22	4
5.	Lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit	2.00	5
6.	Absence of separate department for soil and water conservation.	1.97	6
7.	Overlapping of soil conservation works managed by officials in the Department of Agriculture and Soil Conservation Unit.	1.84	7

From Table 23, it was found that most important factor experienced by the officials in the Department of Agriculture was inadequate contact between the officials in the Department of Agriculture and Soil Conservation Unit in implementing the schemes.

The factor next in importance was negative attitude towards functional integration of the Soil Conservation Unit with the Department of Agriculture. The other factors in the order of importance were lack of teamwork between officials in the Department of Agriculture and Soil Conservation Unit, possible areas of joint activities left undefined, lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit, absence of separate department for soil and water conservation and overlapping of soil conservation works managed by the officials in the Department of Agriculture and Soil Conservation Unit.

The major factors perceived by the officials in the Soil Conservation Unit which affect linkage between the Department of Agriculture and Soil Conservation Unit are presented in Table 24.

Table 24 Factors affecting linkage between officials in the Department of Agriculture and Soil Conservation Unit as perceived by the officials in the Soil Conservation Unit

Sl. No.	Factor	Mean	Rank
1.	Absence of separate department for soil and water conservation.	2.85	1
2.	Inadequate contact between officials in the Department of Agriculture and Soil Conservation Unit in implementing schemes.	2.73	2
3.	Lack of team work between the officials in the Department of Agriculture and Soil Conservation Unit.	2.65	3
4.	Negative attitude towards functional integration of the Soil Conservation Unit with Department of Agriculture.	2.53	4
5.	Lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit	2.50	5
6.	Overlapping of soil conservation works managed by officials in the Department of Agriculture and Soil Conservation Unit.	2.21	6
7.	Possible areas of joint activity left undefined.	2.03	7

The most important factor as perceived by the officials in Soil Conservation Unit was absence of separate Department for soil and water conservation. The factors next in importance were inadequate contact between officials in the Department of Agriculture and

Soil Conservation Unit, lack of team work among officers in Agriculture Department and Soil Conservation Unit, negative attitude towards functional integration of the Soil Conservation Unit with the Department of Agriculture, lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit, overlapping of soil conservation works by the officials in the Department of Agriculture and Soil Conservation Unit and possible areas of joint activity left undefined.

DISCUSSION

CHAPTER 5

DISCUSSION

The results of the study are interpreted and discussed in this chapter under the following subheads.

5.1 Role perception of officials working in the Department of Agriculture

5.2 Role perception of officials working in the Soil Conservation Unit

5.3 Role performance of officials working in the Department of Agriculture.

5.4 Role performance of officials working in the Soil Conservation Unit.

5.5 Personal and job related characteristics of officials working in the Department of Agriculture and Soil Conservation Unit.

5.6 Relationship of personal and job related characteristics with role perception and role performance of officials working in the Department of Agriculture and Soil Conservation Unit.

5.7 Linkage between the officials in the Department of Agriculture and Soil Conservation Units.

5.8 Factors affecting the linkage between officials in the Department of Agriculture and the Soil Conservation Unit.

5.9 Administration Strategy for the effective implementation of soil and water conservation programmes in Kerala.

5.1 Role perception of officials working in the Department of Agriculture.

The response of the Agricultural Officers revealed that majority of the officers perceived their roles with respect to soil and water conservation programmes at a lower order (Table 2). Regarding the role preception of Principal Agricultural Officers, Table also reveals that 50 per cent of the Principal Agricultural Officers were having high perception about their roles.

This could be explained that the time utilization of the Agricultural Officers for soil and water conservationworks in very little when compared to other activities pertaining to agricultural programmes. So it is natural that the Agricultural Officers have in

general a low level of perception about their roles with respect to soil and water conservation programmes.

The comparatively higher perception of the Principal Agricultural Officers with respect to their roles on soil and water conservation could be due to the fact that they have administrative control over the District Soil Conservation Officers as a result of the Government Order of functional integration. Besides that the Additional Director of Soil conservation should have technical control over the Principal Agricultural Officers with respect to soil and water conservation programmes in the concerned district. This might have put the Principal Agricultural Officers in touch with Additional Director of Soil conservation frequently with respect to Soil and water conservation programmes. That would have facilitated the Principal Agricultural Officers to have slightly high role perception with respect to soil and water conservation programmes.

5.2 Role Perception of Officials working in Soil Conservation Unit

Majority of Junior soil Conservation Officers (59.1%) and District Soil conservation

officers (58.33%) had high level of perception about their roles with respect to soil and water conservation programmes (Table 3).

The only role of officers in the cadre of Junior Soil conservation Officers and District Soil Conservation Officers is implementation of soil and water conservation activities and such land development programmes. Most of the Officials in the Soil Conservation Unit have received specialised trainings in soil and water conservation activities from the training centres in Ootacamund, Bellari and Dehradun. Since soil and water conservation is the only role vested with them and since they attended special trainings in particular subject, it is quite obvious that they would have developed a high role perception with respect to soil and water conservation.

5.3 Role performance of officials working in the Department of Agriculture

From Table 4 it could be seen that 54.69 per cent of the Agricultural Officers and 50 per cent of the Principal Agricultural Officers performed their roles with respect to Soil and Water Conservation Programmes at a higher order.

Only a few soil and water conservation programmes are given to the responsibility of the Agricultural officers whereas they have innumerable schemes on agriculture to be implemented. In addition to the innumerable schemes on agriculture to be implemented by the Agricultural Officers, a few Soil and water conservation works are also vested with them. The procedure followed by the Agricultural Officers is totally different when compared to procedure followed by Officials in Soil Conservation Unit. The cumbersome procedure followed by the Soil Conservation Unit such as issuance of 10(3) notice etc. and the rigorous scrutiny are not followed by the Agricultural Officers. So it is rather easy to implement the limited number of soil and water programmes by Agricultural Officers following their existing norms. This could be the possible reason for the appreciable role performance of these officials with respect to soil and water conservation programmes.

5.4 Role performance of officials working in the Soil Conservation Unit

In Soil Conservation Unit, majority of the Junior Soil Conservation Officers and District Soil Conservation Officers (59.1% and 66.67%, respectively) had high level of role performance with respect to

soil and water conservation programmes (Table 5).

When the officials are given multipurpose activities spread over large area, they may find difficulties in performing their roles efficiently. The only work to be implemented by the Junior Soil Conservation Officers and District Soil Conservation Officers in soil and water conservation and they are accountable for any lag in the programmes. The special trainings they have undergone make them competent to take up soil and water conservation activities more efficiently. The existing arrangements for monitoring the soil and water conservation programmes, supervision of activities at different levels within the Soil Conservation Unit and their rapport with the beneficiaries in the scheme areas were the major factors which foster their role performance.

5.5 Personal and job related characteristics of officials working in the Department of Agriculture and Soil Conservation Unit

It is inferred from Table 6 that majority of the Agricultural Officers and Junior Soil Conservation Officers were youngsters and the Principal Agricultural Officers were above 45 years. It is obvious that the Principal Agricultural Officers and District Soil Conservation Officers attained their position mostly

by the seniority whereas the other categories viz; the Agricultural Officers and Juniou Soil Conservation Officers the entry cadre in the department.

Most of officials in the study were graduates (Table 7). This may be the main reason that the minimum prescribed qualification for the post of AO, PAO, JSCO and DSCO. In Agricultural Officers category about one third had post-graduate qualifications. Heavy competition for the job, need for high competency as well as financial assistance by ICAR and Kerala Agricultural University might have influenced them to have post graduate qualification.

Most of the officials in the Department of Agriculture and the Soil Conservation Unit selected for the study were from rural background (Table 8). This is in conformity with the result of Kalavathy (1989). She reported that most of the Agricultural Graduates working in Kerala were from rural background.

It was clear from Table 9 that Principal Agricultural Officers, and District Soil Conservation Officers had more than 10 years experience and the

Agricultural Officers and Junior Soil Conservation Officers had less than 10 years. This may be due to the reason that the department is following ladder system in promoting officials. Kalavathy (1989) also reported that majority of the Agricultural Officers in the Department of Agriculture were having less than 10 years experience in their cadre.

Regarding the trainings undergone, it is observed that the senior officials underwent a number of trainings by virtue of their service in the department. whereas the junior officials attended comparatively less trainings because of their lesser experience (Table 10).

As far as achievement motivation is concerned, all officials in the Department of Agriculture and the Soil Conservation Unit irrespective of their cadre had higher level of achievement motivation (Table 11). The uniformly appreciable level of achievement motivation of the officials in the Department of Agriculture and Soil Conservation Unit in Kerala, augurs well with the general tendency among the keralites and particularly among educated employed who seek to set standard of excellence which is a typical

feature of an achieving society like that in Kerala. Kalavathy (1989) found that majority (66.67%) of the Agricultural Officers had high achievement motivation.

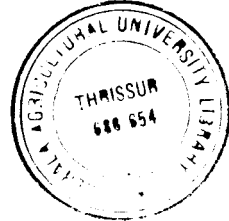
From Table 12, it was clear that the job involvement was higher in the case of senior officials viz; the Principal Agricultural Officers and District Soil Conservation Officers whereas majority of Agricultural Officers and Junior Soil Conservation Officers had low job involvement. It could be explained that the senior officials by holding executive position might have involved more based on the management principle "authority vested with responsibility."

Regarding the job environment, the senior officials felt more congenial job environment whereas it was just opposite in the case of junior officials due to the reasons such as the unavailability of infrastructural facilities, heavy work load, limited supporting staffs, etc. These may be the reasons the perception of less favourable environment. Kalavathy (1989) found that 66-67 per cent of the Agricultural Officers from the Department of Agriculture felt their job environment as unsatisfactory.

Regarding the job satisfaction, majority of the officials in the study had high level of job satisfaction due to the reasons, such as freedom for work, independence in executing things, higher salary, recognition from the superiors, etc.

5.6 Relationship of personal and job related characteristics with role perception and role performance of officials working in the Department of Agriculture and Soil Conservation Unit

The characteristic age was not significantly related with role perception and role performance of any of the officers in the Department of Agriculture and the Soil Conservation Unit (Table 15, 16, 17 and 18). This may be due to the reason that the particular characteristic may acting as a constant as the officials viz; AOs, PAOs, JSCOs and DSCOs in the Department of Agriculture and the Soil Conservation Unit acquiring the post by their service/experience. Sobhana (1982) and Kalavathy (1989) have reported a non-significant relationship between age and role perception and role performance of the Agricultural Officers.



The educational level of the AOs, PAOs, JSCOs and DSCOs was also not significantly correlated with their role perception and role performance (Table 15, 16, 17 and 18). This could be explained that the officials are having minimum educational level of B.Sc. (Ag.) as prescribed by the government. So this characteristics also acting as a constant rather than a variable. Reddy (1982) and Kalavathy (1989) reported the same results.

From Table 15, 16, 17 and 18, it could also be seen that rural - urban background was also not significantly related with role perception and role performance of the AOs, PAOs, JSCOs, and DSCOs in the Department of Agriculture and Soil Conservation Unit as majority of the officials representing the rural background. This proves a true representation of population as keralites a rural oriented settings. Reddy (1982) and Kalavathy (1989) also reported a non significant relationship between role perception and role performance of the Agricultural Officers.

The characteristic trainings undergone was significantly correlated with role perception of the

Agricultural officers whereas it was not significantly correlated with role performance of Agricultural Officers (Table 15). But in case of PAOs, JSCOs and DSCOs, trainings undergone was not related with neither role perception nor role performance (Table 16, 17 and 18). This may be explained that the Agricultural Officers in the Department of Agriculture would have attended a number of trainings in various fields/schemes/projects introduced whereas JSCO were having fixed trainings. The top officers like PAOs, and DSCOs were attending trainings very rarely. Moreover the trainings undergone by the Agricultural Officers are oriented with general awareness or increasing their knowledge level. That was why they have proper perception about their roles and not influencing their role performance. Somasundaram (1983) reported that more number of trainings attended, increased the perception of the Agricultural Officers whereas Sobhana (1982) and Kalavathy (1989) reported a non significant relationship of trainings undergone with role perception and role performance.

The experience of the personnel was also not significantly related with role perception and role

performance of the Agricultural Officers, Principal Agricultural Officers, District Soil Conservation Officers and Junior Soil Conservation Officers (Table 15, 16, 17 and 18). This could also be explained that the experience may act as a constant as the officials in the Department of Agriculture and Soil Conservation Unit acquiring the post mostly by their service/experience. This finding is in confirmity with that of Perumal (1975) Sobhana (1982) and Kalavathy (1989). Reddy (1990) reported that experience had no influence on job performance of the Agricultural Officers in Andrapradesh.

Achievement motivation was not related with role perception and role performance of the Agricultural Officers, Principal Agricultural Officers, District Soil conservation Officers and Junior Soil Conservation Officers (Table 15, 16, 17 and 18). This is due to the reason that any normal human being would have high achievement motivation in their personal life as well as his official carrer. That may be the reason for the high level of achievement motivation to all officials irrespective of their cadre. Janardhana (1979) and Gowda (1985) observed a non association between

achievement motivation and job performance. Kalavathy (1989) reported that achievement motivation had no significant relationship with role perception and role performance of the Agricultural Graduates working in the Department of Agriculture, Kerala.

Table 15 revealed that job involvement was correlated with role perception of the Agricultural Officers as in the case of trainings undergone. The Agricultural Officers were having a multivarious activities other than their prescribed roles. That was why job involvement is not influenced their role performance but due to their trainings and exposure to different schemes it is significantly related to their role perception. Radhakrishnamoorthy (1987) reported that job involvement of the Agricultural Officers were positively and significantly associated with their performance of job duties.

Table 16, 17 and 18 showed a non significant relationship of job involvement with role perception and role performance of the Principal Agricultural Officers, Junior SoilConservation Officers and District Soil Conservation Officers. Singh and Patiraj (1987) reported that job involvement doesnot have any effect on performance.

Job environment was not significantly related with role perception and role performance of any of the

officials except the Agricultural Officers (Table 15, 16,17 and 18) whereas role perception of the Agricultural Officers and their job environment were significantly correlated. This may be due the reason that the Agricultural Officers with less job environment may not be performing their job well but by virtue of their experience and eixposure through various trainings might have resulted significant relationship. Kalavathy (1989) found that job environment had no significant relationship with job perception and job performance of the Agricultural Graduates in the Department of Agriculture.

Job satisfaction was positively and significantly correlated with role perception and role performance of the Agricultural Officers (Table 15) whereas it was not so with the Principal Agricultural officers, Junior Soil Conservation Officers and District Soil Conservation Officers (Table 16, 17 and 18). It is natural that job satisfaction of the Agricultural Officers would defenitely create an interest and commitment towards job which in turn help the Agricultural Officers to perceive and perform their roles in a higher order. Rajababu (1984) found that the job satisfaction of the Junior Agricultural Officers influenced their job perception. Gulothungan (1986), Sharma et al (1988) and Reddy (1990) reported that job satisfaction had significant influence on job performance of the Agricultural Officers.

5.7 Linkage between the officials in the Department of the Agriculture and Soil Conservation Unit

From Table 20, it could be concluded that there was no significant difference between the Principal Agricultural officers and the District Soil Conservation Officers in the performance of their linking roles.

From the mean percentage scores, it could also be inferred that linkage between the Principal Agricultural Officers and District Soil Conservation Officers was only modicum. This trend could be attributed to the fact that the PAOs and DSCOs could come closer and work together only to a limited extent.

Perusal of data in Table 21 showed that the linking roles viz; identification of watersheds in consultation with the officials in Soil Conservation Unit, implementation of the soil conservation programmes in the district, controlling and supervising all the soil conservation work in the district, drafting of watershed management plan with due participation of officials in the Soil Conservation Unit, submitting monthly progress report of soil

conservation programmes to Additional Director (S.C.), supervising District Soil Conservation Officers and Junior Soil Conservation Officers and delineation of watersheds in consultation with the officials in the Soil Conservation Unit were performed adequately by the Principal Agricultural Officers and the other linking roles viz;codification of watersheds in consultation with the officials in Soil Conservation Unit, identification of budgetory resource avaiable for soil conservation programmes, keeping the records of soil conservation activities in the district, scheduling the soil conservation programmes with integration between Soil Conservation Unit and the Department of Agriculture and allocation of funds for each soil conservation programmes at district level, etc. were performed only to a limited extent.

It could also be seen from Table 22 that the linking roles such as assisting the Joint Director of Agriculture in watershed identification, assisting the Joint Director of Agriculture in drafting of watershed plans, attending monthly conference of watershed committee convenors and technical officers, assisting the Joint Director of Agriculture in all matters relating to execution of soil conservation

works, submitting monthly progress report of soil conservation programmes to the Joint Director of Agriculture, serving as resource personnel for monthly workshop, fortnightly training and assisting the Joint Director of Agriculture in watershed delineation were adequately performed by the Principal Agricultural officers and all the remaining linking roles were performed by them to a limited extent.

The data succinctly revealed the general lethargic tendency among the officials in the Department of Agriculture and Soil Conservation Unit with regard to the performance of linking roles related to the implementation of soil and water conservation programmes. It could be concluded from the above that the Government proclamation of functional integration with respect to Soil and Water Conservation has not reached to the functional level.

5.8 Factors effecting linkage between officials in the Department of Agriculture and Soil Conservation Unit

The important factor which affect linkage as perceived by the officials in the Department of Agriculture was inadequate contact between officials in

the Department of Agriculture and Soil Conservation Unit in implementing Schemes followed by negative attitude towards functional integration of the Soil Conservation Unit with Department of Agriculture, lack of teamwork between officials in the Department of Agriculture and Soil Conservation Unit, possible areas of joint activity left undefined, lack of formal and informal communication between officials in the Department of Agriculture, and Soil Conservation Unit, absence of separate Department for soil and water conservation and overlapping of soil conservation works managed by officials in the Department of Agriculture and Soil Conservation Unit in descending order.

Absence of separate department for soil and water conservation, inadequate contact between the Officials in the Department of Agriculture and Soil Conservation Unit in implementing schemes, lack of team work between officials in the Department of Agriculture and Soil Conservation Unit, negative attitude towards functional integration of Soil Conservation Unit with the Department of Agriculture, lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit, overlapping of soil conservation

works and possible area of joint activity left undefined were the important factors affecting linkage as perceived by the officials in the soil Conservation Unit.

5.9 Administration strategy for the effective implementation of Soil and Water Conservation Programme in Kerala

In Kerala, the importance of soil and water conservation had been conceived by the State Government as early as the First Plan period and activities were being managed as a part of developmental function of Department of Agriculture. During 1963, an independent Department by name Department of Soil Conservation was constituted and this department was considered responsible to discharge the functions relating to Kerala Land Development Act 17 of 1964. During March 1969, the Soil Conservation Department was merged with the Department of Agriculture and allowed to continue as a separate an independent wing under the Director of Agriculture.

In 1987-88, the State Government ordered functional integration between the Soil Conservation Unit and the Department of Agriculture. At present, a large number of organisations such as Developmental Blocks, Krishi Bhavans of Agriculture Department,

Forest Department, Agriculture Development Banks, Kerala Land Development Corporation, Command Area Development Authority (CADA) etc. are undertaking soil and water conservation works observing different procedures in implementation.

Considering the high magnitude of soil erosion problems in Kerala, an effective soil conservation measures have to be given top priority in Agriculture. Out of the total area of nearly 38.59 lakh hectares in Kerala, 14 lakh hectares of land is highly vulnerable to soil erosion hazards. In spite of earnest effort by the Soil Conservation Unit, only one lakh hectare of land has been protected from the hazards of soil erosion so far, whereas an area of nine lakh hectares of land requires most immediate attention. It is rather impossible to protect the vulnerable land with soil and water conservation measures unless an effective strategy is developed and implemented.

Having reviewed all these facts, discussion with officers of the Department of Agriculture and Soil Conservation Unit and the observation made by the researcher besides the results of investigation, the

following recommendations are given for the effective implementation of soil and water conservation programmes in Kerala.

1. Land Development including soil and water conservation must be given top priority among the developmental sectors. Policy makers must be made aware of the importance of soil and water conservation in the state for preservation and development of natural resources, for ecological restoration and for improving productivity and sustainability in Agriculture.
2. The present system of implementation of soil and water conservation works observing different procedures by several agencies must be stopped. Recognising Soil and Water Conservation as a thrust area in the state, a separate department for soil and water conservation may be formed. All works connected with the conservation of soil and water now carried out through other Government agencies may be entrusted with the Department of Soil Conservation to be formed.
3. For effective co-ordination of the soil and water conservation works and crop production techniques, one committee (inter departmental committee) each at District level, Block level and Krishi Bhavan (Panchayat) level may be constituted with the concerned

Agricultural Officers and Junior Soil Conservation Officers who has jurisdiction over the area. This to a great extent this will overcome the inadequate linkage at different levels.

4. There is a necessity of man power development in the state for undertaking soil and water conservation.

5. Existing syllabi of the agricultural courses have to be reformulated with adequate thrust on soil and water conservation, watershed management, etc. It is high time to start P.G. level programme for watershed management in Kerala Agricultural University.

6. Strong technical backstopping from research institutions is a sinequanon for integrated soil and water conservation activities. The research capability in this direction has to be strengthened at once. The only Soil and Water Conservation Research Centre at Konni is to be revitalised and strengthened.

7. Long term perspective plans for enhancing land capability at the operational level has to be formulated and implemented in phased manner.

8. The concept of integrated approach blending vegetative, agronomic and mechanical measures of Soil

and Water Conservation has so far not been recognised by the planners and officials involved in soil and water conservation. Similarly an option is being popularised that mechanical measures can be avoided in favour of vegetative measures. The mechanical measures and vegetative measures are not alternatives, but complementary to each other with specific function to perform. So emphasis must be given for integrated approach in soil and water conservation.

9. The schemes for soil and water conservation must be need based, appropriate and low cost. This requires more educational efforts among field level functionaries.

10. The technical man power of Soil Conservation Unit may be persuaded to assist the farmers in marking contour lines even in the areas outside notified scheme.

11. The Transfer of Technology Centres may be moved to takeup crash programmes to impart training to farmers in using A - frame, contour cultivation, biological terracing and other low cost technologies in Soil and water conservation.

12. The Kerala Agricultural University may be moved to conduct on farm research on low cost technologies in soil and water conservation.

13. To ensure peoples' participation in projectisation and implementation of Soil and Water Conservation Schemes, users association/beneficiary committee with a managing council comprising of 11 - 13 members may be formed.

14. Considering the inter disciplinary nature, and lack of sufficient staff in Soil Conservation Unit, the possible areas where the officials in Soil Conservation Unit may work together with officials in the Department of Agriculture and the specific roles to be performed by these officials may also be delineated.

Experiences elsewhere have shown conclusively that agriculture development will be a myth without watershed planning approach. The future of agriculture economy of the state hinges on the delineation, integration and execution of agriculture development activities on a watershed basis. Hence a long term strategy should focus on the culmination of the efforts in this direction with the establishment of integrated agency for agriculture development on a watershed basis.

SUMMARY

CHAPTER 6

SUMMARY

In 1987-88 the Soil Conservation Unit was functionally integrated with the Department of Agriculture for the effective implementation of soil and water conservation programmes in Kerala. Yet no systematic and objective study analysing the linkage between these two in the implementation of soil and water conservation programmes after functional integration has been conducted so far. The present study was an attempt to fill this lacuna. The investigation also aimed to study the role perception and role performance of officials in the Department of Agriculture and Soil Conservation Unit and to develop a new administration strategy for the effective implementation of soil and water conservation programmes in Kerala. The specific objectives of the study were given below.

1. to study the role perception of the officials of the Department of Agriculture and Soil Conservation Unit with respect to soil and water conservation programmes.
2. to study the role performance of the officials of the Department of Agriculture and Soil Conservation

Unit with respect to soil and water conservation programmes.

4. to analyse the linkage between the officials of the Department of Agriculture and Soil Conservation Unit with respect to soil and water conservation programmes, and the factors their in and,
5. to suggest a suitable administration strategy for the effective implementation of soil and water conservation programmes in Kerala.

The study was undertaken in the five agroclimatic zones of Kerala State. Five districts were selected randomly representing each agroclimatic zone. The Districts thus selected were Kozhikode, Idukki, Palakkad, Thrissur and Thiruvananthapuram. The Agricultural Officers, Principal Agricultural Officers, District Soil Conservation Officers and Junior Soil Conservation Officers were the respondents. Stratified multistage random sampling procedure was adopted for the selection of respondents. All the 22 Junior Soil Conservation Officers besides 15 per cent of the total Agricultural officers in the five districts were selected. Considering the Principal Agricultural Officers and District Soil Conservation Officers

(12 + 12), the total sample was 110.

Role perception, role performance and linkage were the dependent variables and age, education, rural-urban background, experience, trainings undergone achievement motivation, job involvement, job environment and job satisfaction were the independent variables.

Regarding the measurement of dependent variables, the role perception and role performance were measured by using the scale developed by Kunwar and Williams (1990) and the linkage was analysed by using the procedure developed by Kunju (1989). Independent variables like achievement motivation, job involvement, job environment and job satisfaction were measured by using the scales developed by Singh (1969), Lodahl and Kejner (1965), Kalavathy (1989) and Rathore (1974) respectively.

Data were collected with the help of pre-tested structured questionnaires in English. The different statistical tools used were percentage analysis, simple correlation analysis, path analysis and test of significance (Mann whitney 'U' test).

The salient findings of study are summarised as follows:

1. Majority of the Agricultural Officers and 50 per cent of the Principal Agricultural Officers had low level of perception about their roles with respect to Soil and water conservation programmes.

2. Majority of officials in the Soil Conservation Unit viz; District Soil Conservation Officers and Junior Soil Conservation Officers had high level of perception about their roles with respect to soil and water conservation programmes.

3. More than half of the Agricultural Officers and 50 per cent of the Principal Agricultural Officers had high level of perception about their roles with respect to soil and water conservation programmes.

4. About two third of the District Soil Conservation Officers and Junior Soil Conservation Officers had high level of performance in fulfilling their roles prescribed for soil and water conservation activities.

5. Majority of the Agricultural Officers in the Department of Agriculture and Junior Soil Conservation Officers in the Soil Conservation Unit were youngsters.

6. Majority of the Junior Soil Conservation Officers and all the District Soil Conservation Officers were graduates.

7. Most of the officials in the Department of Agriculture and Soil Conservation Unit were having rural background.
8. Majority of the officials in the Department of Agriculture and Soil Conservation unit had high level of achievement motivation.
9. Majority of the Principal Agricultural Officers and District Soil Conservation Officers had high level of job involvement.
10. In the cadre of Agricultural Officers and Junior Soil Conservation Officers, job environment was less satisfactory whereas in Principal Agricultural Officers and District Soil Conservation Officers cadre job environment was high satisfactory.
11. Majority of the Officials in the Department of Agriculture and Soil Conservation Unit had high level of job satisfaction.
12. There was no significant difference in the role perception among the Agricultural Officers in terms of their age, education, rural-urban background,

experience and achievement motivation.

13. The characteristics viz; trainings undergone, job involvement, job environment and job satisfaction were having a significant and positive relationship with role perception of the Agricultural Officers.

14. The most important characteristic which contributed much to role perception of the Agricultural Officers both directly and indirectly was job involvement.

15. Age, experience, rural-urban background, trainings undergone, achievement motivation, job involvement and job environment had no significant relationship with role performance of Agricultural Officers in the Department of Agriculture.

16. There was a positive and highly significant relationship between job satisfaction and role performance of Agricultural Officers.

17. Non significant relationship was evident between role perception and role performance with regard to age, education, rural-urban background, experience,

trainings undergone, achievement motivation, job involvement, job environment and job satisfaction of the Principal Agricultural Officers, District Soil Conservation Officers and Junior Soil Conservation Officers.

18. There was linkage between officials in the Soil Conservation Unit and the Department of Agriculture in the implementation of soil and water conservation programmes, but their linkage was only modicum.

19. There was no difference in the performance of linking roles by the officials in the Department of Agriculture and Soil Conservation Unit.

20. The factors affecting linkage as perceived by the officials in Soil Conservation Unit were absence of separate department for soil and water conservation, inadequate contact between the officials in the Department of Agriculture and Soil Conservation Unit, lack of team work between officers in the Department of Agriculture and Soil Conservation Unit, negative attitude towards functional integration of Soil Conservation Unit, with the Department of Agriculture, and lack of formal and informal communication between the officials in the Department of Agriculture and Soil Conservation Unit, overlapping of social conservation

works by the officials in the Soil Conservation Unit and Department of Agriculture and possible areas of joint activity left undefined.

Implications of the study:

The study would suggest a suitable administration strategy for the effective implementation of soil and water conservation programmes in Kerala.

The role perception and role performance of officials the Department of Agriculture and Soil Conservation Unit could help to identify the deficiencies so that we can improve their perception and performance and thereby the standard of works.

The common area of activities between officials in the Department of Agriculture and Soil Conservation Unit may be strengthened by prescribing clear cut and specific linking roles.

The study of personal and job related characteristics would help to identify the crucial characteristics of the officials to improve their role performance.

Suggestions for future research

1. An action research study may be initiated for

effectively introducing integrated watershed Development approach.

2. A study to assess the evaluative perception of the functionaries of soil and water conservation programmes in the State may be conducted.

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APPENDICES

APPENDIX

QUESTIONNAIRE

LINKAGE BETWEEN THE DEPARTMENT OF AGRICULTURE AND SOIL
CONSERVATION UNIT IN THE IMPLEMENTATION OF SOIL AND
WATER CONSERVATION PROGRAMMES IN KERALA.

Name :

Official Address :

PART I

Following are some of the variables which measure job perception and job performance. Please give the details and make tick (✓) mark in the appropriate places.

1. Age (in completed years) : _____ years
2. Educational level : B.Sc.(Ag.)/M.Sc.(Ag.)
and above
3. Rural Urban background : Rural/urban
4. Experience (in completed years) : _____ years
5. Trainings undergone
 - (a) Pre-service training (total numbers) :
 - (b) Inservice training (total numbers) :
6. Achievement motivation

Please indicate the degree of agreement by making tick (✓) mark against each statement in the appropriate column.

SA - strongly agree DA - Disagree
A - Agree
UN - Undecided SDA - Strongly disagree

No.	Statement	SA	A	UN	DA	SDA
1.	One should enjoy work as much as play					
2.	One should work like a slave at everything, one undertakes unless he is satisfied with a 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 one's interest are in danger he should concentrate on his job and forget his obligation to others.					
7.	One should set difficult goals for one self and try to reach them.					
7.	<u>Job involvement</u>					

Please indicate your response by putting a tick (✓) marks in the appropriate column against each statement.

SA - Strongly Agree DA - Disagree
A - Agree SDA - Strongly disagree
UN - Undecided

No.	Statement	SA	A	UN	DA	SDA
1.	I shall stay overtime to finish a job even it 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 one morning 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.					

No.	Statement	SA	A	UN	DA	SDA
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.					

8. Job environment

Please indicate your response by putting a tick (✓) mark in the appropriate column against each statement.

SA - Strongly Agree
 A - Agree
 UN - Undecided

DA - Disagree
 SDA - Strongly disagree

No.	Statement	SA	A	UN	DA	SDA
1.	Physical and material requisites for work are satisfactory.					
2.	The work load is so heavy.					
3.	I am not satisfied with the supply and service facilities.					

No.	Statements	SA	A	UN	DA	SDA
4.	I don't like my work place					
5.	With the conveyance and other facilities available here, I cannot perform my duty well.					
6.	The external agencies near to my working place are not co-operative.					
7.	The relationship in my organisation is friendly and healthy.					

9. Job satisfaction

Please indicate your response for the following statements by putting tick (✓) mark in the appropriate column.

VS - Very much satisfied DS - Dissatisfied
 S - Satisfied VDS - Very much dissatisfied.
 UN - Undecided

No.	Statements	VS	S	UN	DS	VDS
1.	Are you satisfied that you are given enough authority to do a job?					
2.	Are you satisfied with the progress you are making towards the goals which you had set for yourself in your present position?					
3.	How satisfied are you with you present position when you compare it with similar position elsewhere?					

No.	Statement	VS	S	UN	DS	VDS
4.	Are you satisfied that the people in the area give you proper recognition to your work as a specialist in your subject?					
5.	How satisfied are you with your superiors?					
6.	How satisfied are you with your salary?					
7.	How satisfied are you with your professional and clerical staff in your department or in your area?					
8.	How satisfied are you with your present position in the light of your career expectations?					
9.	How satisfied are you with your present position when you consider expectation at the time of you took the position?					
10.	How satisfied are you with the amount of time and energy you are devoting to your present position and the satisfaction you derive from your position?					

PART II

(For Agricultural Officers)

Abbreviations used are

VI - Very Important
 I - Important
 UN - Undecided
 UI - Unimportant
 VUI- Very unimportant

PVW - performed very well
 PW - Performed well
 UN - Undecided
 PP - performed poorly
 PVP - performed very poorly.

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	UI	VUI		PVW	PW	UN	PP	PVP
					1. Inviting proposals from farmers for various land development/Soil conservation measures.					
					2. Assessing the feasibility of proposals.					
					3. Identification of areas requiring soil conservation practices/land development activities.					
					4. Planning development activities for efficient utilisation of land and water available in the area.					
					5. Preparing Land development scheme for a particular area.					

PART - II

The following are various roles of Agricultural Officers/Principal Agricultural Officers/Junior Soil Conservation Officers/and District Soil Conservation Officers with respect to Soil and water conservation programmes. Kindly go through these roles and check your response about the extent of perception and performance by putting tick (✓) mark in the appropriate column.

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	UI	VUI		PVW	PW	UN	PP	PVP
					6. Implementing the land development scheme prepared.					
					7. Monitoring the land development activities/soil conservation practices.					
					8. Sending the reports of land development/ Soil Conservation activities to Assistant Director of Agriculture.					
					9. Maintaining registers of land development Soil Conservation activities.					
					10. Giving subsidies to the beneficiaries.					
					11. Formulation of suitable cropping pattern in the completed scheme area.					
					12. Implementation of suitable cropping pattern in the completed scheme area.					

(For Principal Agricultural Officers)

Abbreviations used are

VI - Very important
 I - Important
 Un - Undecided
 UI - Unimportant
 VUI - Very unimportant

PVW - Performed very well
 PW - performed well
 Un - Undecided
 PP - Performed poorly
 PVP - performed very poorly

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	UI	VUI		PVW	PW	UN	PP	PVP

1. Identification of watersheds in consultating with officials in Soil Conservation Unit.
2. Delineation of watersheds in consultation with officials in Soil Conservation Unit.
3. Codification of watersheds in consultation with officials in soil conservation unit.
4. Drafting watershed management plan with due participation of soil conservation unit.
5. Controlling and supervising all the soil consrvation works in the district
6. Seeking Direction and guidance from Addl. Director (S.C) in all matter relating to soil and water conservation.

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	UI	VUI		PVW	PW	UN	PP	PVP
					7. Keeping the records of soil conservation activities in the District.					
					8. Identification of thrust areas requiring effective extension strategy in soil and water conservation.					
					9. Scheduling the soil conservation programme with integration between the soil conservation unit and the Department of Agriculture.					
					10. Identification of budgetary resource available for soil and water conservation programmes.					
					11. Allocation of funds for each soil conservation programmes at District level.					
					12. Supervising District Soil Conservation Officer and Junior Soil Conservation Officers.					
					13. Implementation of soil conservation programmes in the District.					
					14. Submitting monthly progress reports of soil conservation programmes to Addl. Director (S.C)					

(For Junior Soil Conservation Officers)

Abbreviations used are

VI - Very Important
I - Important
UN - Undecided
UI - Unimportant
VUI - Very unimportant

PVW - Performed very well
PW - Performed well
UN - Undecided
PP - Performed poorly
PVP - Performed very poorly.

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	UI	VUI		PVW	PW	UN	PP	PVP

1. Identification of area requiring S.C. activities.
2. Assessing the feasibility of S.C. work in the area.
3. Conducting physiographic survey.
4. Conducting hydrological survey.
5. Conducting socio economic survey.
6. Conducting crop survey.
7. Determining the type of S.C measures required.
8. Preparing an estimate of S.C work in the area.
9. Estimating the input requirement for S.C programme.
10. Arranging the collection of various inputs.

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	UI	VUI		PVW	PW	UN	PP	PVP
					11. Preparation of an integrated S.C work plans in the area.					
					12. Implementing the integrated S.C work plans.					
					13. Conducting regular monitoring and evaluation of S.C works.					
					14. Assigning definite target to field staff.					
					15. Reviewing the progress of work in monthly staff meeting.					
					16. Sending monthly progress report to DSCOs.					
					17. Attending the monthly conferences by DSCOs.					
					18. Check measurement of completed S.C work.					
					19. Making awareness among farmers about the importance of S.C practices.					
					20. Encouraging group involvement in S.C programme.					
					21. Creating optimum employment opportunity to rural population.					

(For District Soil Conservation Officers)

Abbreviations used are

VI - Very Important
 I - Important
 UN - Undecided
 UI - Unimportant
 VUI - Very unimportant

PVW - Performed very well
 PW - Performed well
 UN - Undecided
 PP - Performed poorly
 PVP - Performed very poorly

PERCEPTION					Roles	PERFORMANCE				
VI	I	UN	VI	VUI		PVW	PW	UN	PP	PVP
					1. Investigation of integrated soil conservation work plans in a district.					
					2. Assisting the Addl. Director (S.C) in all matters relating to Soil Conservation programme.					
					3. Maintenance of various records & registers.					
					4. Conducting tours in connection with O & M inspection.					
					5. Preparation of integrated soil conservation work plans.					
					6. Execution of soil conservation work plans.					
					7. Inspecting the soil conservation scheme areas.					
					8. Holding monthly conferences of subordinate staffs.					

PERCEPTION					PERFORMANCE					
VI	I	UN	VI	VUI	Roles	PVW	PW	UN	PP	PVP
					9. Reviewing the progress of soil conservation works in the monthly conference.					
					10. Approving the tour programme of soil conservation assistant/Engineering assistant.					
					11. Maintenance of proper accounts pertaining to S.C. loans.					
					12. Furnishing monthly and other progress reports to Addl. Director (S.C)					
					13. Preparation of annual budget estimate pertaining to his establishment.					
					14. Allocation of funds to subordinates for the implementation of soil conservation programme.					
					15. Convening the meeting of DLDC.					
					16. Processing of Soil & Water Conservation Schemes as per section of KLD ACT 1964.					
					17. Counter check of completed soil conservation work as contemplated in Chapter II of S.C. Code.					
					18. Preparation of Record of Rights and Liabilities of the completed S.C measures.					

PERCEPTION

VI I UN UI VUI

PERFORMANCE

PVW PW UN PP PVP

19. Publishing and forwarding of Record of Rights & Liabilities to revenue authorities.

20. Maintenance of required registers for each case of loan in form III.

PART - III

The following are various linking roles of District Soil Conservation Officers/and Principal Agricultural Officers with respect to soil and water conservation programmes. Kindly go through this linking roles and check your response about the extent of performance by putting tick (✓) mark in the appropriate column.

PART III

(For District Soil Conservation Officers)

Abbreviations used are

A - Always
 MF - Most frequently
 F - Frequently

ST - Sometimes
 N - Never

No.	Linking roles	A	MF	F	ST	N
1.	Assisting the Joint Director of Agriculture in Watershed identification.					
2.	Assisting the Joint Director of Agriculture in delineation watersheds					
3.	Assisting the Joint Director of Agriculture in codification of watersheds.					
4.	Assisting Joint Director of Agriculture in drafting of watershed plans.					
5.	Attending the monthly conference of watershed committee Conveners and Technical Officers.					
6.	Functioning as the Subject matter specialist of Joint Director of Agriculture.					
7.	Sending copies of monthly expenditure statement of soil conservation programmes to Joint Director of Agriculture.					
8.	Serving as resource personnel for monthly workshops, fortnightly trainings, etc.					
9.	Submitting monthly progress reports of Soil Conservation work programmes to Joint Director of Agriculture.					

No.	Linking roles	A	MF	F	ST	N
10.	Assisting Joint Director of Agriculture in all matters relating to execution of soil conservation works in the identified watersheds.					
11.	Preparation of detailed watershed map indicating individual plots.					
12.	Helping the Joint Director of Agriculture in the identification of thrust areas requiring effective strategy in soil and water conservation.					

(For Principal Agricultural Officers)

Abbreviations used are

A - Always
MF - Most frequently
F - Frequently

ST - Sometimes
N - Never

No.	Linking roles	A	MF	F	ST	N
1.	Controlling and supervising all the soil conservation works in the district.					
2.	Identification of watersheds in consultating with officials in Soil Conservation Unit.					
3.	Delineation of watersheds in consultation with officials in Soil Conservation Unit.					
4.	Codification of watersheds in consultation with officials in soil conservation unit.					
5.	Drafting watershed management plan with due participation of soil conservation unit.					
6.	Identification of thrust areas requiring effective extension strategy in soil and water conservation.					
7.	Scheduling the soil conservation programme with integration between the Soil Conservation unit and the Department of Agriculture.					
8.	Identification of budgetory resource available for soil and water conservation programmes.					
9.	Allocation of funds for each Soil Conservation Programmes at District level.					

No.	Linking roles	A	MF	F	ST	N
10.	Implementation of soil conservation programmes in the District.					
11.	Submitting montly progress reports of soil conservation programmes to Addl. Director (S.C)					
12.	Supervising District Soil Conservation Officer and Junior Soil Conservations Officers.					
13.	Seeking Direction and guidance from Addl. Director (S.C) in all matter relating to Soil and water conservation					
14.	Keeping the records of soil conservation activities in the District.					

PART IV

The following are some of the factors affecting linkage between the officials in Department of Agriculture and Soil Conservation Unit. Kindly go through these factors and check your response about the extent of perception by putting tick (✓) mark in the appropriate column.

Sl.	Factor	Most impor- tant	impor- tant	Least important
1.	Absence of separate department for soil and water conservation.			
2.	Inadequate contact between officials in the Department of Agriculture and Soil Conservation Unit in implementing schemes.			
3.	Lack of team work between the officials in the Department of Agriculture and Soil Conservation Unit.			
4.	Negative attitude towards functional integration of the Soil Conservation Unit with Department of Agriculture.			
5.	Lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit.			
6.	Overlapping of soil conservation works managed by officials in the Department of Agriculture and Soil Conservation Unit.			
7.	Possible areas of joint activity left undefined.			

**LINKAGE BETWEEN THE DEPARTMENT OF AGRICULTURE
AND SOIL CONSERVATION UNIT IN THE IMPLEMENTATION OF
SOIL AND WATER CONSERVATION PROGRAMMES IN KERALA**

BY

SUNILKUMAR, R.

ABSTRACT OF THE THESIS

**submitted in partial fulfilment of the requirement
for the degree**

MASTER OF SCIENCE IN AGRICULTURE

Faculty of Agriculture

Kerala Agricultural University

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

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ABSTRACT

The study was conducted with a view to analyse the linkage between the officials in the Department of Agriculture and Soil Conservation Unit in the implementation of Soil and water conservation programmes in Kerala and to suggest a suitable administration strategy for the effective implementation of soil and water conservation programmes. The study also aimed to understand the role perception and role performance of the officials in the Department of Agriculture and Soil Conservation Unit with respect to Soil and Water Conservation Programmes.

The locale of the study was Kozhikode, Idukki, Palakkad, Thrissur and Thiruvananthapuram districts. Stratified multistage random sampling procedure was adopted for the selection of respondents. The respondents comprised 64 Agricultural Officers, 12 Principal Agricultural Officers, 22 Junior Soil Conservation Officers and 12 District Soil Conservation Officers. Pre-tested structured questionnaires were used for the collection of data.

Role perception, role performance and linkage were the dependent variables of the study. The independent variables selected for the purpose of study

were age, education, rural-urban background, experience, trainings undergone, achievement motivation, job involvement, job environment and job satisfaction.

The salient findings the study were as follows:

Majority of the Agricultural Officers and 50 per cent of the Principal Agricultural Officers had low level of perception about their roles whereas majority of Junior Soil Conservation Officers and District Soil Conservation Officers had high role perception with respect to soil and water conservation.

More than half of the Agricultural Officers, 50 per cent of the Principal Agricultural Officers and two third of the Junior Soil Conservation Officers and District Soil Conservation Officers had high role performance with respect to soil and water conservation.

Majority of the officials were from rural background, had high achievement motivation, high job involvement and high job satisfaction.

The characteristics viz; trainings undergone, job involvement, job environment and job satisfaction had a positive and significant relationship with role perception of Agricultural Officers. Among the characteristics job involvement contributed much to the

role perception of Agricultural Officers.

Of all the nine characteries, only job satisfaction had a positive and significant relationship with role performance of Agricultural Officers.

There was linkage between officials in the Department of Agriculture and Soil Conservation Unit, but only modicum and there was no significant difference between the Principal Agricultural Officers and District Soil Conservation Officers in the performance of their linking roles with respect to soil and water conservation programmes.

The important factors which affect linkage as perceived by the officials in Soil Conservation Unit were absence of separate department for Soil and Water Conservation, inadequate contact between officials in the Department of Agriculture and Soil Conservation Unit, lack of team work between officials in the Department of Agriculture and Soil Conservation Unit, negative attitude towards functional integration of Soil Conservation Unit with the Department of Agriculture, lack of formal and informal communication between officials in the Department of Agriculture and Soil Conservation Unit and possible areas of joint activity left undefined.