INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

U·M·I

University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700 800/521-0600

Order Number 9412030

**Factors related to the motivation of extension agents in Kenya's
Rift Valley Province**

Mwangi, John Gowland, Ph.D.

The Ohio State University, 1993

Copyright ©1993 by Mwangi, John Gowland. All rights reserved.

U·M·I

**300 N. Zeeb Rd.
Ann Arbor, MI 48106**

FACTORS RELATED TO THE MOTIVATION OF
EXTENSION AGENTS IN KENYA'S RIFT VALLEY PROVINCE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

John Gowland Mwangi, Dip. A. H., B.Sc., M.Ed., Cert. PAE & M.

* * * * *

The Ohio State University

1993

Dissertation Committee:

Dr. N. L. McCaslin

Dr. Jo M. Jones

Dr. R. Dale Safrit

Approved By

Adviser,

Department of Agricultural Education

© 1993
By John Gowland Mwangi

DEDICATION

Dedicated to those who are dearest to my heart:
To my wife Mary. Your value is far above rubies.
To our son Ppag. We love you.

ACKNOWLEDGEMENTS

To all of you who have supported, guided, encouraged or shown kindness to me in some way, I remember you individually with great pleasure. There are no words that can adequately express my joy for the privilege of being able to count on you.

The more I reflect on my long and difficult road to graduate school, the more I reverently and prayerfully thank my Lord and Savior, Jesus Christ, whose love and grace have brought me this far. Despite my little faith, he supplied all my needs and gave me the opportunity to witness his control of human destiny, by making real what, only a few years ago, was just dream. To him indeed, be the glory forever.

Outstanding people who made unforgettable contributions to my success in the Ph.D. program include Mr. J. K. Gatheru, Senior Deputy Director of Agriculture, Mr. T. K. Tuei, Rift Valley Provincial Director of Agriculture, and Dr. L. W. Kimaru, Deputy Director of Veterinary Services. Their strong recommendations and unfailing support earned me a scholarship that enabled me to study at The Ohio State University. Not a day goes by that I don't think of their goodness to me, to my career, and to my family.

Others who deserve special thanks include my colleagues in PDA's Office Nakuru, fellow Extension agents in Kiambu District and in Rift Valley Province, and the drivers (James Wahome and Toromo A. Cheruiyot) who enthusiastically assisted me in data collection. People whose names are listed in appendix G also gave me valuable suggestions in naming the Job Satisfaction Factors.

Very special thanks go to three excellent educators who comprised my Dissertation Committee: Dr. N. L. McCaslin, adviser, Dr. Jo M. Jones and Dr. Roger Dale Safrit. I can't describe how grateful I am for what they taught me, but I know with certainty that their names will continue to be highly respected in our family. Their perceptive, invaluable, and sincere comments, responses, opinions and probing questions, continually provoked me to think, learn and improve. I appreciate everything they did, either individually or as a team, to help me succeed. I strongly recommend them to any student interested in learning from a selfless, competent, caring and friendly team of professors.

It is hard to forget Dr. Curtis E. Paulson. I think of him every moment of every day that I use a computer. Dr. Paulson taught me skills that I needed and will continue to use long after graduation. His dedication to, and interest in, helping students are amazing. Many thanks to him and to those who hired him.

I am grateful to Dr. James W. Altschuld for his field-oriented teaching and for serving in my general exam, Mr. Fred Ruland, Senior Computer Specialist, for showing me how to use the main-frame-computer, Ms. Crescencia G. Ricca for ensuring my fees and allowances came on time, Drs. Larry E. Miller, J. Robert Warmbrod, John D. Rohrer and Lowell E. Hedges for their helpful comments on my questionnaire and Mr. Donald Peasley for sharing his knowledge and experience with me frequently.

Staying at The United Christian Center enabled me to concentrate on my studies. Thanks to the Center's Director and University Pastor: the Rev. Dr. Richard David Bausman.

Final thanks go to my lovely wife, Mary, for taking excellent care of our son, Ppag, while I was away from Kenya. Her love and skills as a mother and housewife continue to fill my heart with joy.

VITA

October 17, 1951	Born - Nakuru, Kenya
March 26, 1976	Dip. A.H., Egerton University, Kenya
April 5, 1976	Divisional Animal Husbandry Officer, South Imenti division, Meru district
September 1, 1976	Divisional Animal Husbandry Officer, Mbooni division, Machakos district
May 1, 1977	Principal Designate, Ngerenyi Farmers' Training Center, Taita Taveta district
July 1, 1977	Principal, Mtwapa Farmers' Training Center, Coast Province
June 30, 1982	B.Sc., University of Georgia, Athens
June 30, 1983	M.Ed., University of Georgia, Athens
July 1, 1983	Lecturer, Eldoret Institute of Agriculture
August 30, 1987	PAE & M, Brighton Polytechnic, England
1984 to Present	Rift Valley Provincial Extension Supervisor

FIELDS OF STUDY

Major Field:	Agricultural Education	
	Studies in Program Planning, Administration and Supervision	
	Dr. Jo M. Jones and Dr. R. Dale Safrit	
Minor Fields:	Programs' Evaluation	Dr. James W. Altschuld
	Research & Statistics	Dr. N. L. McCaslin

FACTORS RELATED TO THE MOTIVATION OF EXTENSION AGENTS IN KENYA'S RIFT VALLEY PROVINCE

By

John Gowland Mwangi, Ph.D.

The Ohio State University, 1993

Professor N. L. McCaslin, Adviser

This descriptive-correlational study sought to identify factors related to motivation, to determine agents' motivational level, and to examine relationships among variables. Extension managers needed this information to help them understand why some agents performed better than others with similar qualifications, experience, and abilities. Selected job satisfaction factors and personal characteristics formed independent and extraneous variables respectively. Motivation was the dependent variable.

Literature Review

The study was based on the motivation theories of Maslow, Herzberg, Adams, Vroom and Skinner. The literature indicated that people are motivated by their desire to grow in competence, skills and creativity; that to improve performance, employees need achievable incentives which satisfy their needs and depend on individual performance; that managers who know what motivates their staff will be more effective, and that work environments can be structured to foster and reward initiative and desired work behavior.

Methodology

From 2,087 agents, 325, stratified by rank and gender, completed a group administered questionnaire (reliability: alpha = .79 & .81). Final response rate was 100%.

Findings

Dependable Supervisors, Pay, Job Security, Evaluation, and Administration and Supervision were significantly related to motivation at .05 level ($R^2 = .542$). The agents' mean motivational level was 3.66 (1=lowest, 5=highest). Agricultural Assistants had a significantly higher mean (3.80) than higher ranking agents (<3.43). On the average agents were 34.6 years, had worked for 9.6 years, 85% were married, 77% were male, and over 50% were 31-35 years. Personal characteristics were not significantly related to motivation.

Conclusions

1. Dependable supervisors explained the largest proportion of R^2 (30.5%). Therefore, proper selection and training of supervisors is the most important step in improving agents' motivation and performance.
2. The second most important step involves evaluating agents objectively, meeting their needs, and rewarding performance individually.
3. Because job satisfaction and motivation were positively related, raising one also increases the other.
4. For agents' motivation, personal characteristics were not important.

Recommendations

1. Pay attention to agents' concerns related to selection procedures for inservice training and promotion, and to their concerns for allowances.
2. Select supervisors carefully and train them regularly on personnel management.
3. Tie rewards to performance, evaluate agents objectively, and reward them individually.
4. Replicate the study in other provinces to compare results.
5. Find factors that account for unexplained R^2 .

TABLE OF CONTENTS

DEDICATION-----	ii
ACKNOWLEDGMENTS-----	iii
VITA-----	v
ABSTRACT-----	vi
LIST OF TABLES-----	xii
LIST OF FIGURES-----	xiv

CHAPTER	PAGE
I. INTRODUCTION-----	1
Background-----	1
Problem Statement-----	3
Significance of the Problem-----	3
Purpose and Objectives of the Study-----	5
Definitions of Terms-----	5
Limitations of the Study-----	8
Basic Assumptions of the Study-----	8
Summary-----	9
II. LITERATURE REVIEW-----	10
Motivation Theories-----	12
Content Approaches to Motivation-----	12
Maslow's Hierarchy of Needs-----	12
Herzberg's Two Factor Theory-----	16
Process Approaches to Motivation-----	20
Vroom's Expectancy Theory-----	20
Adams' Equity Theory-----	23
Skinner's Reinforcement Theory-----	23
Conceptual Framework-----	24

	Summary-----	28
III.	METHODOLOGY-----	31
	Research Design-----	31
	Population-----	32
	Sampling-----	34
	Instrumentation-----	35
	Data Collection and Analysis-----	37
IV	FINDINGS-----	39
	Results Related to Objective One-----	39
	Gender-----	39
	Age-----	40
	Marital Status-----	41
	Qualification-----	42
	Total Years in Extension Service-----	43
	Years in Present Position-----	44
	Number of Promotions-----	45
	Results Related to Objective Two-----	46
	Results Related to Objective Three-----	50
	Results Related to Objective Four-----	55
V	SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS-----	61
	Summary-----	61
	Literature Review-----	62
	Methodology-----	65
	Findings-----	65
	Conclusions-----	67
	Implications-----	68
	Recommendations for Extension Managers--	72
	Recommendations for Future Research-----	73
	APPENDICES-----	74
A.	Calculating the Fog Index-----	75
B.	Instructions to the Panel of Experts Evaluating the Questionnaire's Content Validity-----	77

C.	The Questionnaire-----	80
D.	Cover Letter for the Pilot Test in Kiambu district---	89
E.	Letter Requesting Cooperation in Data Collection from District Agricultural Officers in Rift Valley Province-----	91
F.	Cover Letter for the Questionnaire-----	93
G.	Names of Experts Who Assisted in Naming Job Satisfaction Factors-----	95
LIST OF REFERENCES-----		100

LIST OF TABLES

TABLE	PAGE
1. Summary of Extension Agents in Kenya's Rift Valley Province By District or Unit (March, 1993)-----	33
2. Summary of Extension Agents in Kenya's Rift Valley Province: Rank By Gender (March, 1993)-----	34
3. Stratified Sample Size-----	34
4. Agents' Rank on the Job By Gender-----	39
5. Agents' Rank on the Job By Age-----	40
6. Agents' Rank on the Job By Marital Status-----	41
7. Agents' Rank on the Job By Highest Qualification-----	42
8. Agents' Rank on the Job By Total Years in Kenya's Extension Service-----	43
9. Agents' Rank on the Job By Years in Present Position -----	44
10. Agents' Rank on the Job By Number of Promotions Since Joining Extension-----	45
11. Rotated Factor Matrix Loadings' Order of the Job Satisfaction Items on Oblique Factors-----	48
12. Percent of Job Satisfaction Variance Explained By Factors Related to the Job Satisfaction of Extension Agents in Kenya's Rift Valley Province-----	49

13.	Interfactor Correlations for the Oblique Rotated Factors Underlying Job Satisfaction of the Extension Agents in Kenya's Rift Valley Province-----	49
14.	Means and Standard Deviations for Variables Comprising the Eight Job Satisfaction Factors-----	51
15.	Agents' Job Motivation Variables and Mean Motivational Level-----	52
16.	Motivational Level By Agents' Rank-----	52
17.	Analysis of Variance of the Motivational Level By Agents' Rank-----	53
18.	Multiple Range Test: Tukey's HSD Procedure-----	53
19.	Motivational Level: Group Differences By Agents' Gender-----	54
20.	Correlations of Extraneous Independent Variables and Motivation-----	56
21.	Relationship Between Job Satisfaction Factors and Agents' Motivation-----	56
22.	Regression of Motivation on Agents' Personal Characteristics - Stepwise Entry-----	57
23.	Regression of Motivation on Agents' Rank, Years of Service, and Job Satisfaction Factor Scores - Stepwise Entry-----	58
24.	Regression of Agents' Motivation on Agents' Rank and Selected Job Satisfaction Factor Scores - Hierarchical Entry-----	59
25.	Regression of Motivation on Selected Job Satisfaction Factor Scores - Stepwise Entry-----	59

LIST OF FIGURES

FIGURES	PAGE
1. Characteristics of the motivation-maintenance model-----	17
2. Proponents of two content and three process theories-----	25
3. Conceptual framework for identifying factors related to the motivation of Extension agents in Kenya's Rift Valley Province-----	27
4. Order of importance of job satisfaction factors in relation to the agents' job satisfaction and motivation-----	60
5. Factors change positions of relative importance as they account for the variance in the agents' job satisfaction and motivation-----	60
6. Revised conceptual framework showing the relationship between selected job satisfaction factors and agents' motivation in Kenya's Rift Valley Province-----	71

CHAPTER I

INTRODUCTION

This chapter addresses the background, problem statement, significance of the problem, purpose and objectives of the study, and definition of terms. It also identifies the limitations and basic assumptions of the study, and concludes with a summary.

Background

People generally assume that if Extension agents have adequate resources, they can offer the public specialized services in an enthusiastic, reliable and professionally effective manner. In practice, however, work output seems to vary greatly, even among individuals with similar skills and abilities. To illustrate this variation, Lawler III (1973) gave an example of two employees who at one time performed almost equally but when subjected to a pay-incentive system, one performed at 52 per cent below average and the other at 66 per cent above average. What caused the difference? Why do some employees consistently work harder than others who are equally talented and qualified?

People do what they do, explained L. E. Hedges (personal communication, October 1, 1992), because they want something they don't have or because they have something that they don't want. Blum (1987) indicated that many developments and extension efforts fail when circumstances favor frustration and nothing is tried to boost vision, dedication, and creative problem solving, all of which cannot be imported. One way to minimize

frustration of employees and to boost their morale, suggested Grossnickle and Thiel (1988), is to prevent motivational problems before they begin to lower staff performance and to disrupt individual worker's productivity. In order to discuss agents' motivation effectively, it needs to be defined.

Glassman (1978) defined motivation as a drive within individuals that, dependent upon their expectations of the level of satisfaction they can achieve, incites them to action. Motivation and individual ability, suggested Heneman et al. (1980), combine with job requirements and rewards to influence one's actions. Motivation is a continuous process that can be used to inspire staff morale (Grossnickle & Thiel, 1988), and to energize and direct behavior to improve performance (Perry & Wise, 1990). Many authors (Glassman, 1978; Glueck, 1978; Cascio, 1982; Main, 1987; Kelly, 1988; Kreitner, 1989; Beder, 1990; Cohen, 1990; Schmincke, 1990; Winslow, 1990; Watanabe, 1991) indicated that staff motivation is important for any organization interested in being effective and efficient. Motivation is a major determinant of work behavior (Katzel & Thompson, 1990; Watanabe, 1991). Therefore, managers should study its causes to help them better understand the variables that influence the initiation, direction, and continuance of desired work performance (Kreitner, 1989; Davies et al., 1990).

Problem Statement

Extension managers need to know what motivates employees to perform in order to encourage all staff to perform at their best. Kreitner (1989) indicated that motivational programs often fail when managers make subjective assumptions about what their subordinates want from their jobs. Staff motivation is particularly important in Kenya because, unlike the industrialized countries of western Europe such as Sweden, England and Germany, it is still in the public interest to promote agricultural production and efficiency through Extension (Kenya Government, 1986; Nitsch, 1989; Kenya Government, 1990). Furthermore, public officials need accurate information for decision making and accountability (Forest et al., 1989; Altschuld & Thomas, 1991; Green & McClintock, 1991). As times and conditions change, people's needs and expectations also change, and past motivational strategies become ineffective (Buford & Bedeian, 1988). It is necessary, therefore, to constantly investigate what motivates Extension agents so that the findings may be used to develop effective staff incentive programs that are consistent with the emerging organizational climate and culture (Katzel & Thompson, 1990). Information on factors related to job satisfaction and motivation of Extension agents in Kenya's Rift Valley Province was not available. This study was, therefore, designed to provide that information.

Significance of the Problem

Staff motivation is becoming increasingly important for successful Extension work. Modern management practices are shifting their emphasis from one of control to one of stimulating

creativity and viewing people's interests as being of dominant concern (Steiner, 1973; Carroll, 1989; Roueche et al., 1989; Yukl, 1989; Perry & Wise, 1990; Winslow, 1990; Watanabe, 1991). Moris (1987) cited inadequate staff incentives as a major problem facing many Extension systems, particularly in Africa, that makes it harder for the systems to fulfill their official mandates. He believed that if the agents are poorly trained, poorly paid, lack transportation and welfare services, and feel isolated and neglected, they will have low motivation. Other scholars feel that since Extension managers achieve their goals and objectives by working through the agents, they must facilitate staff motivation by offering incentives that correctly match agents' changing values and attitudes, and by preventing a mismatch between incentives and motivation from developing (Grossnickle & Thiel, 1988; Yukl, 1989). Kreitner (1989) indicated that a mismatch would cause any motivational effort or program to fail. Many researchers (Buford & Bedeian, 1988; Katzel & Thompson, 1990; Winslow, 1990; Watanabe, 1991) have concluded that employees tend to work harder if they are happy with their jobs, and if they believe they can get personally meaningful rewards. Researchers have also suggested that demand-based management styles that are centered on employees' needs are more effective than those whose primary goal is to make profit while ignoring employees' interests, concerns and welfare (Katzel & Thompson, 1990; Winslow, 1990; Watanabe, 1991). To motivate Extension agents, Extension managers must meet their needs. These needs change as times and working conditions change. Therefore, identifying agents' needs regularly is an essential step in the process of providing meaningful, motivational staff incentives.

Purpose and Objectives of the Study

The primary objective was to identify job satisfaction factors related to the motivation of Extension agents in Kenya's Rift Valley Province. Rift Valley is Kenya's largest and most important province agriculturally. It is 173,868 km² (Kenya Government, 1988). The researcher planned to use the findings of the study as the basis for suggesting and recommending ways to improve agents' motivation and job satisfaction in Kenya's Extension Service, within the available financial, material, and personnel resources and constraints. Listed below were the specific objectives of the study:

1. To identify selected personal characteristics of Extension agents in Kenya's Rift Valley Province;
2. To identify the underlying factors of job satisfaction related to the motivation of Extension agents in Kenya's Rift Valley Province and their relative importance;
3. To determine the job motivational level of Extension agents in Kenya's Rift Valley Province; and
4. To examine the relationships among factors underlying job satisfaction, personal characteristics, and motivation of Extension agents in Kenya's Rift Valley Province.

Definitions of Terms

Terms used in the study that were thought to be unfamiliar to the reader were defined. The terms and their definitions are listed in alphabetical order as follows:

Agricultural Assistant (AA): An Extension agent with two years post-secondary certificate level qualification from a recognized agricultural institute or college. Most AAs work directly with Extension clients who are mainly farmers.

Assistant Agricultural Officer (AAO): An Extension agent with three years post-secondary diploma level qualification from a recognized agricultural college or university with specialization in a particular agricultural discipline such as horticulture or farm management. AAOs supervise AAs either from the location, division or district level, while others teach in farmer's training centers.

Agricultural Officer (AO): An Extension agent with at least a bachelors' degree from a recognized university. AOs are based mainly at the district, province or headquarters but some are in charge of farmer's training centers or the divisions. They support AAs and AAOs professionally and administratively.

Cue: A determiner of a person's response to a drive (McClelland & Steele, 1973).

Drive: A strong stimulus that impels action. The stronger the stimulus the more the drive action it possesses (McClelland & Steele, 1973). Drives and urges are forces to action. For example: A person will have drives or urges for eating, sexual activity, achieving distinction, gaining liberty, taking a brisk walk, becoming wealthy, or being careful to avoid accidents (Sorenson, 1954).

Goal: Anything that will alleviate a need and reduce a drive (Spiegel, 1989).

Incentive: Environmental external determinant stimulating a drive, which in turn seeks a goal and gathers momentum to realize that goal (Thomson, 1951).

Interest: A short term commitment that comes from natural impulses, urges or drives. It flows, or spreads, from any interesting thing into any uninteresting thing whenever the two are clearly connected in thought (L. E. Hedges, personal communication, October 1, 1992).

Job Factors with Motivational Appeal: Factors that encourage agents to work harder by meeting their specific needs.

Job Satisfaction: Complete fulfillment of a need or want; attainment of a desired end; pleasure derived from able work accomplished and recognized (Gove & Webster, 1969). To satisfy is to meet to the full one's wants and expectations. (Flexner & Hank, 1987).

Level of Formal Education:

1. Certificate level (2 years or less after secondary school).
2. Diploma level (3 years after secondary school).
3. Degree level (Bachelor's degree and above).

Work Experience: Number of years worked in Kenya's Extension Service.

Motive: A thought, feeling, or condition that causes one to act in order to satisfy a need, and functions as a prevailing force for more than just a short time (Sorenson, 1954). When a drive mobilizes a person toward an objective or goal, a motive exists and will persist until the drive is satisfied (Thomson, 1951).

Motivation: The psychological process that gives purpose, direction, and intensity to behavior (Kreitner, 1989). It is a set of attitudes that predispose a person to act in a specific way toward a goal; an inner state that energizes, channels, and sustains human behavior to achieve specific, unmet needs or goals (Glueck, 1978; Buford & Bedeian, 1988). All

activity is motivated behavior. In so far as an act has a goal, the individual is motivated. In this study, motivation was constitutively defined as the driving force or reason that makes people want to excel in performing their work responsibilities. Operationally, motivation was defined as the summated score on a Likert-type, survey instrument.

Motivational Level: The summated mean score of the respondent on a Likert-type, survey instrument.

Need: A lack of something useful or desired, or the gap between what is and what should be (Boyle, 1981; Baker, 1987). It is an objective deficiency of an individual, created whenever there is a psychological or physiological imbalance (Boyle, 1981; Baker, 1987; Spiegel, 1989).

Limitations of the Study

In measuring the motivational level of Extension agents in Rift Valley Province using an attitude scale instrument, only factors identified by the researcher from the literature and from personal experience with Kenya's Extension service were included in the questionnaire. Consequently, factors were limited to those chosen by the researcher for the study. Only agents who were currently working in Kenya's Rift Valley Province participated in the study. Generalizations were, therefore, confined to that group.

Basic Assumptions of the Study

The researcher assumed that the agents understood the questions and responded frankly. He also assumed that they realized how important their contributions were in helping Extension managers develop effective staff motivational programs, and were, therefore, willing to share their actual, personal feelings.

Summary

Many scholars believe that motivation is mainly responsible for differential staff performance, that it changes as time and conditions change, is dependent on incentives that the staff value and believe to be attainable with increased individual performance, and that it is high when staff frustration is minimal. Because motivation gives purpose, direction and intensity to behavior, managers need to understand the factors that impact on motivation to obtain the desired work performance of their subordinates. This study was designed to identify job satisfaction factors related to the motivation of Extension agents, with the aim of using the findings to recommend effective, staff-incentives.

The study was significant for three main reasons. First, public officials need reliable information for decision making and accountability. Second, modern management practices are shifting manager's emphasis from control to concern for people's creativity, interests and welfare. Third, current information on factors related to agents' motivation in Kenya's Rift Valley Province was lacking. The study was limited to the factors identified by the researcher based on the literature review and personal experience, and included only agents working in the Rift Valley Province. The remainder of this document will address the literature review; methodology; findings; and summary, conclusions, implications and recommendations.

CHAPTER II

LITERATURE REVIEW

This chapter reviews and summarizes the literature on major motivation theories, organized into content approaches and process approaches. On the basis of what is currently known about staff motivation from various authors, a conceptual framework for identifying factors related to the motivation of Extension agents in the Rift Valley Province concludes the chapter. This conceptual framework forms the basis for the study.

For Extension to serve the public well, it must not only comprehend the purpose and the spirit driving societal demands for change (Poley, 1991), but must also understand how to motivate its staff (Moris, 1987). According to Skinner's (1969) reinforcement theory, behavior is a function of its consequences. Winslow (1990) believed that human beings are motivated by the desire to pursue their own growth in competence, skills and creativity. Consequently, he advocated structuring work environments to foster and reward staff initiative and desired work behavior. Besides being more productive, motivated workers equal or excel any standards set by their superiors (Dowling Jr., & Sayles, 1971).

Lawler III (1973) reported that in most manufacturing jobs, the best worker produces two to three times as much as the worst worker while, in other jobs, differences are even greater. He indicated that in addition to motivation, performance is influenced by one's ability and other situational and environmental factors,

including mechanical breakdowns and low-quality or inadequate supply of materials. However, if little ability is required and people have the same ability, skills, and training, positive staff motivation is the single most important determinant of effective job performance (Lawler III, 1973). Positive consequences of good performance motivate employees to perform well and to be satisfied with their jobs (Glassman, 1978; Buford & Bedeian, 1988; Kreitner, 1989; Katzel & Thompson, 1990; Watanabe, 1991).

Relating compensation to agents' performance can have a powerful motivational appeal, but only if the: (1) rewards are commensurate with performance, (2) goals are clear, challenging, attractive and attainable, and (3) agents have the skills, autonomy, and resources to do the job (Smith, 1988; Katzel & Thompson, 1990). Moris (1987) warns that failure to provide adequate staff motivation will weaken Extension's ability to fulfill its mission.

Motivation studies examine what energizes, directs, or channels human behavior, and explain how to maintain staff morale and productivity. Because employees' needs, perceptions, goals, and expectations affect performance, managers who know (or can find out) what motivates their staff will make more effective personnel decisions (Glassman, 1978; Glueck, 1978). In selecting appropriate staff incentives, it is important to realize that today's workers are more interested in intrinsic rewards, such as achievement, personal growth, challenge, satisfaction and the quality of the work life, than in extrinsic factors, such as pay and promotion (Buford & Bedeian, 1988). These authors felt that a difference existed between intrinsic and extrinsic motivation, but Kleinbeck et al. (1990) disagreed with such distinction claiming that a large amount of research evidence does not support it. A

review and discussion of major theories on what human motivation is and how it works follow:

Motivation Theories

Many scholars use either the content approach or the process approach to explain how human motivation works and to advise managers on how to motivate their staff. A summary of these two approaches is presented below.

Content Approaches to Motivation

Content motivation theories explain things that motivate people at work arising from needs, expectations, and goals. They assume that to understand human motivation, one must first identify people's needs (Buford & Bedeian, 1988; Davies et al., 1990). This section will describe Maslow's hierarchy of needs and Herzberg's two factor theory.

Maslow's hierarchy of needs. Maslow (1943 & 1954) suggested that people are motivated by five categories of needs with physiological needs being the most basic. His hierarchy of needs is one of the most popular and widely known theories of human motivation (Kreitner, 1989). It is simple, straight-forward, and widely accepted in management (Carroll, 1989). According to Maslow, motivation is a goal-seeking behavior that is contingent upon the desire for needs' satisfaction (Finch & McGough, 1982). Maslow suggested that higher level needs emerge only when lower-level needs are satisfied and, although a person can have several needs at once, only one can dominate at any one time. A satisfied need, he stated, loses its motivational appeal and exists only potentially in the sense that if threatened later, it regains its

potency and remains dominant until it is satisfied. The next higher level need then replaces it. Maslow believed that people always have needs and are always wanting and expecting. Below are the categories that comprise Maslow's (1943) hierarchy of human needs, starting with the most basic:

1. Physiological or survival needs: Include needs for food, water, rest, shelter, air, and sex. Nothing else is more important to an individual when these survival needs have not been met. An unmet need creates tension that forces a person to seek alternatives for its reduction and to take appropriate action to achieve that goal.
2. Safety needs: Are both physical and economic (Boyle, 1981). They include the need for security, stability, freedom from fear or threat, avoidance of pain, and peace. Boggs (1976) called motivation a function of growth and safety. He stated that motivation was intrinsic to the person, that it was capable of being externally augmented, reinforced, or administered and that, although safety forces give rise to reactions and behaviors rooted in fear, safety is delightful because it implies certainty, support of peers, comfort in routine, strength of tradition and the continuation of the familiar.
3. Social or love needs: Include the need for friendship, affection, interaction with others, acceptance and group membership. Generally, people strive to have a sense of belonging with others, to love, or to be loved. Since employees usually work in a social environment where they interact with supervisors and co-workers, supervisors can provide positive rewards such as praise and recognition, as well as negative rewards such as discipline.

4. **Esteem or ego needs:** Include the need for self-respect, recognition, respect from others, self-confidence, autonomy, competence or knowledge, responsibility and a sense of accomplishment or achievement. Being accepted or respected by others raises an individual's self-esteem and satisfies one type of a person's egoistic needs (Wenrich & Wenrich, 1974; Buford & Bedeian, 1988; Kreitner, 1989). To maintain staff motivation, the relationship between superior and subordinate should be supportive and ego-building, and the interaction must be viewed in the light of the subordinate's background, values and expectations. The subordinate must see the experience as one that increases and maintains his or her sense of significance and human dignity (Likert, 1967). A healthy self-esteem is the single most important quality of successful people (Blanchard & Peale, 1988). It is one's self-evaluation in terms of whether the individual is capable, significant, successful and worthy (Grossnickle & Thiel, 1988).
5. **Self-actualization:** Includes the need for status, recognition or the deserved respect of one's fellows, appreciation, realization of one's potential, creativity, independence, self-expression, and intellectual curiosity. When self-esteem and self-actualization needs become important to a person, the individual seeks indefinitely to satisfy them, but they do not become significant motivators until physiological, safety, and social needs are reasonably satisfied (Wenrich & Wenrich, 1974).

Maslow's critics argue that researchers have been unable to reproduce the five levels of needs and, contrary to what Maslow proposed, have found that a reversal occurs in the satisfaction-importance relationship at the highest level of the needs' hierarchy. Unlike motivation based on lower-level needs, which seems to disappear as the needs are met, motivation based on self-actualization increases as people become satisfied (Glassman, 1978; Buford & Bedeian, 1988; Kreitner, 1989). Extension managers must be aware of the following limitations (Dowling Jr. & Sayles, 1971; Heneman et al. 1980; Davies et al., 1990) in thinking of Maslow's theory as a framework for staff management:

1. It ignores the possibility of altruistic behavior that may reject subordinate levels in favor of self-actualization;
2. It does not account for individual differences in their preference for rewards. Self-esteem, for example, may be more important for some people than social needs;
3. It fails to provide a conceptual link between satisfaction and performance;
4. Continuous satisfaction of a need may diminish its relative importance;
5. Satisfaction of higher level needs may change the perception of what constitutes satisfaction of lower level needs;
6. Work is not the only source of satisfaction;
7. Managers cannot assume a homogeneous workforce; and
8. Its self-actualization concept is vague and difficult to describe to managers;

Maslow's theory has several implications in Extension management (Glassman, 1978; Finch & McGough, 1982; Kreitner, 1989; Davies et al., 1990). They include the following:

1. A fulfilled need does not motivate;
2. Because employees satisfy their needs differently, Extension managers should anticipate a person's needs' profile and provide incentives to meet workers' needs individually;
3. Since challenging work and meaningful recognition enhance self-esteem and better performance, managers should redesign routine, non creative jobs to meet higher level needs, or risk decline of job motivation; and
4. Managers should provide counseling and an appropriate work climate for their employees. Glassman (1978) reported that individuals with higher drives for achievement desire more responsibility for problem solving. In addition, they seek more comments, more response, or opinion on their performance, set higher but realistic goals for themselves, and are more willing to take risks.

Herzberg's two factor theory. Herzberg (1959) suggested a satisfaction based theory of employee motivation that states that a satisfied employee is motivated from within to work harder (intrinsic motivation) while a dissatisfied person is not self-motivated. Employees in Herzberg's study appeared to be motivated by job content and the work they did. Consequently, he concluded that enriched jobs, rather than pay, supervision, and other environmental factors were the key to motivation and job satisfaction. His results indicated that the following (intrinsic rewards) job factors that he called satisfiers or motivators make

employees feel satisfied with their job assignments and were of greater importance for a lasting change of attitudes (Herzberg, 1972):

1. Achievement;
2. Recognition for achievement;
3. Work itself. Perry and Wise (1990) reported that highly educated and more experienced workers were more likely to choose the public service, offsetting lower wages with the rewards arising from the characteristics of their jobs;
4. Responsibility;
5. Advancement; and
6. Possibility of personal growth.

Herzberg (1972) indicated that motivators provide the psychological stimulation that makes a person active toward self-realization, motivation and job satisfaction. The presence of motivators in the work situation leads to workers' satisfaction but their absence does not increase dissatisfaction. Herzberg implied, for instance, that a deficiency of any of the satisfiers makes employees dissatisfied (to have no satisfaction) and causes them to behave in a dysfunctional manner. He pointed out that satisfaction was not the opposite of dissatisfaction. The opposite of job satisfaction, he said, is not job dissatisfaction but rather no job satisfaction. Similarly, the opposite of job dissatisfaction is not job satisfaction but no dissatisfaction (see Figure 1).

	Motivators	Maintenance
If present	Job satisfaction	No job dissatisfaction
If absent	No job satisfaction	Job dissatisfaction

Figure 1. Characteristics of the motivation-maintenance model.

Herzberg's hygienes (also called dissatisfiers, or maintenance /extrinsic factors) describe the environment and primarily prevent job dissatisfaction. They have little effect on positive job attitudes. When present in a job situation, hygienes will not motivate an employee but will remove dissatisfaction. They include

1. Good company policy and administration;
2. Good supervision;
3. Good relation with supervisor;
4. Good relations with peers. People need approval and acceptance by peers and want to participate in group activities. Finch and McGough (1982) indicated that preventing the formation of small groups would frustrate staff and make them uncooperative or even aggressive;
5. Good relation with subordinate;
6. Good pay;
7. Good working conditions (office facilities, transport, etc.);
8. Personal profile (a person's needs and interests);
9. Status;
10. Security;
11. Good interpersonal relations;
12. Good working location; and
13. Suitable housing.

Dissatisfiers or hygiene factors describe the environment, prevent job dissatisfaction, and have little effect on positive job attitudes. Their absence may cause constant staff discontent with their jobs and may foster agents' apathy, which could become impervious to administrative and managerial reform (Moris, 1987). According to Herzberg, when hygienes (dissatisfiers) are absent in the work situations, they lead to dissatisfaction but when present,

they remove dissatisfaction but do not increase motivation and are therefore, not motivators. Herzberg compared motivators and hygienes to vision and hearing that, he said, were two separate dimensions. The stimulus for vision, he explained, is light, that has no effect on hearing while the stimulus for audition is sound that has no effect on vision (Herzberg, 1972).

Herzberg's theory has a number of limitations of which Extension managers need to be aware (Herzberg, 1972; Buford & Bedeian, 1988; Kreitner, 1989). They include the following:

1. Over generalization. Evidence was based on a restricted sample of 200 accountants and engineers in the Pittsburgh area and therefore, the sample may not represent other employee groups;
2. Research has not supported Herzberg's contention that hygienes can prevent dissatisfaction but cannot satisfy employees;
3. Research studies indicate that professional and nonprofessional employees have different work preferences for which Herzberg did not account;
4. Because of the unreliability of many of its findings, psychological research is more suspect than research in the hard sciences. The unreliability results from the large number of variables involved and possible investigator bias;
5. In psychology replication is needed to substantiate findings; and
6. The approach used is technique-bound. Therefore, it may over determine the answers given by the subjects.

Despite the limitations, Herzberg's theory has some implications for Extension managers (Herzberg, 1972; Buford & Bedeian, 1988; Kreitner, 1989). They include the following:

1. Extension managers should think carefully about what actually motivates employees;
2. A challenging, enriched job has a motivating potential;
3. A person can be satisfied and dissatisfied at the same time;
4. Certain actions such as improved working conditions do not often improve motivation; and
5. One way to increase staff motivation is to redesign jobs in order to provide opportunities for individual achievement, recognition, responsibility, advancement and personal growth.

Process Approaches to Motivation

While content approaches to motivation deal with what motivates people to act in a certain way, process approaches are concerned with how people are motivated. Examples of process approaches to motivation are listed below. They include Vroom's expectancy theory, Adams' equity theory, and Skinner's reinforcement theory.

Vroom's expectancy theory. According to Vroom (1964 & 1973), an individual directs personal behavior toward pleasurable, and away from undesirable, outcomes. Actions spring from pleasure seeking and pain avoidance (Weiner, 1980) which seems logical (Kreitner, 1989). The expectancy theory appeals strongly to common sense, is empirically supported by research, and is often called cognitive because it assumes people consciously act in a

way that will lead to satisfaction (Heneman et al., 1980; Kreitner, 1989). Productivity results from a combination of a person's skills, traits, role perception, and motivational level (Carroll, 1989). Vroom (1964) suggested that motivation is determined by perceived probabilities of success, and rises as people's perceived effort-performance and performance-reward probability increases. He explained that potential rewards could be positive, neutral, or negative and that an employee may, for example, find peer group approval positively valent, be indifferent to a pay raise, and consider a promotion to be negatively valent. If employees believe their actions would lead to rewards that they value and have a good chance of getting them, they will be motivated to work harder (Heneman et al., 1980; Buford & Bedeian 1988; Kreitner, 1989).

The expectancy theory predicts that pay (an extrinsic reward) will motivate employees to improve performance if they consider it valent and are convinced that its attainment depends on performance. Linking pay to individual performance helps build staff motivation, but pay linked to group performance is less motivating, and the larger the group the lower the motivation. Researchers indicate that job-based and seniority-based reward systems do not motivate high performance. They recommend that linking pay to performance be accompanied by correct performance assessment and an appropriate standards-setting process (Heneman et al., 1980). Poor performance measurement and inequitable standards, where employees earn more than others because of standards rather than true differences in performance, reduce an incentive's motivational appeal. To increase this appeal, Heneman et al. (1980) suggested that other rewards must also be linked to performance, and employees must

have the necessary skills and administrative attention. Vroom's expectancy theory has several managerial implications (Finch & McGough, 1982; Buford & Bedeian, 1988; Davies et al., 1990).

They include the following:

1. Employees must believe they can attain expected performance;
2. Goals must be reasonable and the outcomes must be negotiated rather than being set arbitrarily;
3. Desired performance must be clearly linked to appropriate and meaningful employees' rewards and the causal link between effort, performance, and outcome must be viewed in individual and subjective terms;
4. Failure to reward performance decreases motivation;
5. Managers need interpersonal skills to identify and understand individual perceptions and should match rewards with employees' needs for maximum motivation; and
6. Job designs, appraisal, target-setting, comments, response or opinion and review should be used to improve staff motivation.

Managers should identify, support and reinforce individual perception through appraisal linked to professional and personal development. In the context of development and motivation, staff appraisal is concerned with managing individual perceptions and relating them to Extension goals. Kreitner (1989) reported that job dissatisfaction, low motivation, and turnover, result mainly from unrealized expectations.

Adams' equity theory. Equity theory (Adams & Rosenbaum, 1962) stated that perceived inequity, either real or imagined, creates tension within a person that motivates the individual to act in order to restore equity. People will, for example, experience inequity when they are either underpaid or overpaid. Underpaid employees may work less, while overpaid ones may work harder. The greater the perceived inequity, the stronger the resulting behavior. Because equity theory appeals to common sense, it is easy to understand and is, therefore, very popular (Buford & Bedeian, 1988; Kreitner, 1989). Although its critics point out that little is known about how input and outcomes are combined to result in perceived inequity, or when and how combination of input and output changes over-time, the theory has some implications for Extension managers (Buford & Bedeian, 1988; Kreitner, 1989). They include the following:

1. Treating employees inequitably lowers their motivation and performance; and
2. To influence employees' perceptions of equity, inputs required for outcomes must be made as explicit as possible.

Skinner's reinforcement theory. Skinner (1969) proposed a theory of human motivation in which he stated that behaviors resulting in desirable consequences are likely to recur while those that result in undesirable consequences are less likely to recur. He suggested that one's behavior is determined by personal history of reinforcement. What an organization appears to reward is the behavior that will be seen as the model for success (Winslow, 1990). In a working environment, a manager's success depends on individual ability to reinforce good performance and to

discourage unproductive behavior (Likert, 1967). Skinner's reinforcement theory has several limitations (Kreitner, 1989; Winslow, 1990). They include the following:

1. It does not consider the importance of individual needs, expectations and values; and
2. It overemphasizes the importance of external outcomes such as pay and promotion, while ignoring the role of internal outcomes such as feelings of accomplishment and recognition that result from simply doing a task.

Despite the limitations, Skinner's theory has some managerial implications (Skinner, 1969; Buford & Bedeian, 1988; Kreitner, 1989; Winslow, 1990). They include the following:

1. Because what is rewarded will be repeated, Extension managers should state which behaviors will be rewarded and which ones will not;
2. Rewards should be based on performance;
3. Identical rewards for all employees across the board, such as salary increment for everyone, reinforce mediocre and slow performance, reduce motivation, and weaken high performance; and
4. If high performance is not rewarded at all, it will diminish and eventually cease.

Conceptual Framework for Identifying Factors Related to the Motivation of Extension Agents in Rift Valley Province of Kenya

The framework which is based on the two content and the three process motivation theories was developed by reviewing the five theories of motivation, combining similar ideas expressed in each, and then summarizing them (see Figure 2). For example,

the literature suggested that Maslow's higher level needs were equivalent to Herzberg's motivators and his lower level needs were similar to Herzberg's hygienes (Buford & Bedeian, 1988).

Theory Proponent	Possible Sources of Motivation
Maslow	<p>Higher level needs</p> <ol style="list-style-type: none"> 5. Self-actualization (realization of one's potential, creativity, personal freedom, self-expression and intellectual curiosity) 4. Self-esteem or ego needs (recognition, respect, responsibility and a sense of accomplishment). <p>Lower level needs</p> <ol style="list-style-type: none"> 3. Social needs (friendship, affection, socializing with others, acceptance and group membership) 2. Safety needs (security, stability, freedom from fear or threat, avoidance of pain and peace) 1. Physiological needs (food, water, shelter, sex and clothing)
Herzberg	<p>Motivators (equivalent to Maslow's higher level needs)</p> <ol style="list-style-type: none"> 1. Achievement, 2. Recognition 3. Work itself, 4. Responsibility 5. Advancement and personal growth <p>Hygienes (equivalent to Maslow's lower level needs)</p> <ol style="list-style-type: none"> 1. Organizational policies and administration, 2. Supervision, 3. Pay, 4. Relation with supervisor, 5. Relation with peers 6. Working conditions
Vroom	<p>(Expectancy) x (valence) (Belief that effort will lead to performance) x (belief that performance will lead to rewards) x value attached to specific rewards (Buford & Bedeian, 1988)</p>
Adams	Perceived inequity
Skinner	<p>Reinforcement</p> <ol style="list-style-type: none"> 1. Positive reinforcement such as praise or merit pay raise increases motivation. 2. Negative reinforcement such as punishment weakens behavior

Figure 2. Proponents of two content and three process motivation theories.

Considering different explanations of what seems to determine motivation and how it occurs, the researcher found it logical to group factors influencing motivation into those that operate within the individual's control (internal factors) and those outside a person's control (external factors). Extraneous variables or personal characteristics such as gender, age, marital status, formal education and experience or years of service of the agents were also included in the study to determine the extent to which they were related to staff motivation.

Figure 3. Conceptual framework for identifying factors related to the motivation of Extension agents in Kenya's Rift Valley Province.

Summary

Research has shown that employees work harder and perform better if motivated and satisfied with their jobs. To be effective, incentives must satisfy staff needs, be achievable, and be dependent on individual performance.

Maslow's levels of human needs begin with physiological or survival needs, which are the most basic and first to be satisfied, followed by safety needs, social or love needs, self-esteem or ego needs and self-actualization needs. Researchers have been unable to reproduce these levels and have found, contrary to what Maslow proposed, that motivation based on self-actualization increases as people become satisfied. In Maslow's hierarchy, there is no conceptual link between satisfaction and performance. His self-actualization concept is vague and difficult to describe to managers, and his theory does not account for individual differences in staff preference for rewards. However, Maslow showed that a fulfilled need does not motivate and therefore, managers should provide different rewards and counseling to motivate different workers. It is important to remember that other researchers have shown that needs satisfaction at the self-actualization level leads to increased motivation.

Unlike Maslow, Herzberg stressed the need for a favorable work environment saying that staff motivation results from job content and work itself. He suggested that people's satisfaction with job assignments is related to motivating factors (satisfiers) such as achievement, recognition, work itself, responsibility, advancement and personal growth. The absence of other factors, which he called hygienes or dissatisfiers, leads to dissatisfaction but the presence of these factors does not increase motivation and

therefore, they are not motivators. Hygienes include good company policy and administration, good supervision, good relations with supervisor, peers and subordinates, good pay, good working conditions, personal profile, status, security, good interpersonal relations, good working location, suitable housing and easily accessible transportation.

Researchers view Herzberg's conclusion as an over generalization since his evidence was based on a restricted sample. Moreover, research has not supported his view that hygienes can prevent dissatisfaction but cannot satisfy employees. Furthermore, research has shown that professional and nonprofessional employees have different work preferences for which Herzberg did not account. Herzberg encouraged managers to think carefully about what actually motivates employees. He showed that challenging, enriched jobs are more motivating than dull, routine jobs. He pointed out that a person can be satisfied and dissatisfied at the same time, that improved working conditions can improve motivation, and that re-designing jobs to provide opportunities for achievement, recognition, responsibility, advancement and personal growth, can raise staff motivation.

Under the process theories of motivation, Vroom's expectancy theory, Adams' equity theory, and Skinner's reinforcement theory were discussed. According to Vroom, motivation is determined by perceived probabilities of success, and rises as an individual's perceived effort-performance and performance-reward probability increases. On the basis of one's perception, rewards may be positive, neutral or negative. To be effective, all rewards must be linked to performance, the performance must be assessed accurately, and must be based on

standards that employees perceive to be fair, achievable and equal for all. Equally important, employees must have the necessary skills and the entire incentive system must get administrative backing and attention. Vroom showed that employees will not be motivated unless expected performance is attainable, that failure to reward performance will decrease motivation and that job description, appraisal, target-setting, and comments, response or opinion can be designed and used to improve staff motivation.

Adams suggested that staff motivation depends on perceived inequity and therefore, treating employees inequitably, will lower their motivation. For motivational purposes, incentives are considered equitable only if agents perceive them to be so.

Skinner stated that behavior is a function of its consequences, and that it depends on a person's history of reinforcement. He did not consider the importance of individual needs, expectations and values but rather overemphasized the importance of external outcomes such as pay and promotion while ignoring the role of internal outcomes, such as feelings of accomplishment and recognition that results from doing the job. Skinner implied that if behavior is rewarded it will be repeated, if high performance goes unrewarded it will diminish and cease, that identical rewards for all employees are ineffective motivators, and therefore, rewards aimed at increasing staff motivation should be based on individual performance.

CHAPTER III

METHODOLOGY

This chapter describes the research methodology. Aspects to be addressed include research design, population, sampling, instrumentation, and data collection and analysis.

Research Design

The researcher used descriptive, correlational research (Campbell & Stanley, 1963) to collect information on factors related to job satisfaction and motivation of Extension agents in Kenya's Rift Valley Province. The research design was that of a one-short case study. On the basis of the literature review and personal experience with Kenya's Extension service, the researcher identified independent variables and categorized them into internal and external factors.

The internal factors were comprised of variables thought to influence motivation from within the individual. They included achievement, recognition, personal growth, responsibility, status, work itself, and fear of punishment.

The external factors were variables over which the individual had no control but which could influence personal motivation. They included working conditions, praise for good performance, feedback (personalized comments, response or opinion), work location, pay, job security, agents' housing, transportation, office facilities, Extension administration and policy, honest and dependable supervisors, supervision aimed at solving problems,

and staff appraisal that focuses on set goals.

Extraneous independent variables comprised of personal characteristics such as gender, age, marital status, formal education and experience. These factors were also studied to determine their relationship, if any, to the agents' motivation. The dependent variable was the level of job motivation. It was measured using a summated Likert-type scale.

Population

Two thousand and eighty-seven (2,087) Extension agents formed both the target and accessible population of the study (see Table 1). The information presented in Table 2 includes a summary of agents by gender and rank. It was found that 77.4% were male and 22.6% were female. Of the total number of agents, 5.7% were Agricultural Officers (AOs), 31.3% Assistant Agricultural Officers (AAOs), and 63.0% Agricultural Assistants (AAs).

Unlike the AOs and AAOs who operate in a supervisory or administrative capacity, AAs form the core of the Extension staff whose role is purely technical. Most AAs have two years' post-secondary agricultural training and work directly with Extension clientele or teach at farmers' training centers. They have no offices and therefore make their field or farm visits from their homes on foot, bicycles, or motor cycles. Those who use bicycles or motor cycles while on duty are entitled to claim a monthly bicycle or motor cycle allowance. Most AAs cannot be reached by telephone.

While some Agricultural Officers and Assistant Agricultural Officers work in mechanization stations and irrigation units, the majority operate from the headquarters of the location, division,

district, province or ministry, and are provided with motorized means of transportation, offices, telephones and office support staff. They are university graduates (i.e., hold at least a diploma or a bachelor's degree) who have specialized in various technical or professional disciplines. Their main responsibility is to support Agricultural Assistants technically and administratively by training and visiting them regularly in the field.

Table 1.

Summary of Extension Agents in Kenya's Rift Valley Province
(March, 1993)

District Or Unit	AAs		AAOs		AOs		Total
	M	F	M	F	M	F	
Provincial Agricultural Office	4	1	2	2	8	0	17
Rural Technology Dev. Center	5	1	8	1	6	0	21
Provincial Irrigation Unit	3	0	3	0	2	1	9
Central Workshop	1	0	4	0	2	0	7
1. DAO Baringo	94	31	47	81	10	0	263
2. DAO Kajiado	47	18	36	14	7	2	124
3. DAO Laikipia	44	25	21	8	6	1	105
4. DAO Keiyo Marakwet	74	5	28	9	5	0	121
5. DAO Kericho	139	38	58	10	13	1	259
6. DAO Nakuru	126	38	50	28	8	6	256
7. DAO Nandi	90	35	31	7	5	2	170
8. DAO Narok	65	7	38	8	6	2	126
9. DAO Samburu	21	3	14	2	3	1	44
10. DAO Trans Nzoia	120	23	36	13	5	0	197
11. DAO Turkana	20	4	9	0	2	0	35
12. DAO Uasin Gishu	139	15	46	9	5	3	217
13. DAO West Pokot	68	11	26	4	6	1	116
Total	1060	255	457	196	99	20	2087

Note: AOs Agricultural Officers.
 AAOs Assistant Agricultural Officers.
 AAs Agricultural Assistants.
 M Male
 F Female
 DAO District Agricultural Officer.

Sampling

A stratified random sample was selected on the basis of rank and gender as indicated by Tables 1, 2, and 3. Stratification was done to ensure that the results would be generalizable to the Extension agents in Kenya's Rift Valley Province. For a population of 2,200 subjects, Krejcie and Morgan (1970) recommended a sample size of 327 (14.86%). On the basis of this recommendation, the researcher chose a random sample of 325 subjects or 15.57% of the stratified target population of 2,087 Extension agents (see Tables 1, 2 & 3).

Table 2.

Summary of Extension Agents in Kenya's Rift Valley Province (March, 1993)

Gender	AAs		AAOs		AOs		Total	
	n	%	n	%	n	%	n	%
Males	1060	80.6	457	70.0	99	83.2	1616	77.4
Females	255	19.4	196	30.0	20	16.8	471	22.6
Total	1315	63.0	653	31.3	119	5.7	2087	100.0

Table 3.

Stratified Sample Size

		AAs		AAOs		AOs		Total	
		M	F	M	F	M	F	M	F
Population:	N	1060	255	457	196	99	20	1616	471
	%	50.8	12.2	21.9	9.4	4.7	1.0	77.4	22.6
Sample	n	165	40	71	31	15	3	251	74
	%	50.8	12.3	21.9	9.5	4.6	.9	77.2	22.8

Note: Population 2087; Sample 325 (15.57%).

Instrumentation

The researcher used a closed-ended, forced-choice questionnaire divided into two sections to identify factors related to Job satisfaction and motivation of Extension agents in Kenya's Rift Valley Province. The closed form was chosen to enable the respondents to complete the questions easily, to solicit uniform responses, and to improve the response rate. Section one of the questionnaire contained 115 items. Ten of the items measured agents' motivation while the remainder collected data related to their job satisfaction. Each item in Section one had a five-point scale as follows: 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, and 5=Strongly Agree. Section two had 10 items designed to collect biographical data. All questionnaires were group-administered. The District Agricultural Officers invited the respondents at least two weeks in advance, to a meeting in their district offices to complete the questionnaire. Agents unable to attend the scheduled meetings were later contacted individually and requested to complete the questionnaires at their District Agricultural Offices. This procedure was used to ensure maximum response.

The dependent variable in the study was the motivational level of Extension agents in Kenya's Rift Valley Province. The motivational level was expressed as the summated mean score on the ten item, Likert-type survey instrument.

Prior to administration, the questionnaire was reviewed for content validity by nine faculty and two graduate students selected for their background and experience in Agricultural Extension. The two graduate students were doctoral candidates with many years of experience in Kenya's Extension service. The

questionnaire was field and pilot tested with 76 Extension agents (30 from Kiambu district in Kenya's Central Province and 46 from Kenya's Rift Valley Province) who had similar characteristics with the major segments of the target population, for face validity, suitability, and reliability. Initially there were 106 job satisfaction items but, after the pilot test, item 2 was found unsuitable and was consequently dropped. The Cronbach's alpha reliability coefficient was .79 and .81 for the 105 and the 10 items related to the agents' job satisfaction and motivation respectively.

Hair, Anderson, Tatham, and Black (1992) indicated that a commonly used threshold for acceptable reliability is .70 and that values below .70 are acceptable if the research is exploratory in nature. Since the panel of experts found the instrument valid, and since its alpha coefficient exceeded the value required for acceptable reliability, the researcher concluded that the instrument was suitable for data collection.

The questionnaire was prepared and administered in English, the official language in Kenya. It had a Fog Index of 11 which was considered to be appropriate for the reading level of the Extension agents participating in the study (see Appendix A). In addition to the questionnaire, the agents were asked in each district as a group the following questions: Were the questions clear? Was the English understandable? Did the questions cover things that interest Extension staff? Are there things that ought to have been covered that were omitted? Would you say that Extension agents are highly motivated, motivated or not motivated?

Data Collection and Analysis

The data for this study were collected between January and March, 1993. Winter was conveniently chosen for data collection. In Kenya, winter was the peak season for farm operations. Very few agents were allowed to be on leave and, therefore, it was easier to contact most of them. During the entire data collection process, the researcher was present to answer any questions from the respondents. This interaction helped avoid the problem of missing data as well as non response or other errors with the data. In the rooms in which the questionnaires were completed, only the respondents were present and although each questionnaire had a code number, the code numbers were not used to identify the respondents. This arrangement provided an open environment for the respondents to complete the questionnaires without fearing to express their views. Out of the 325 agents in the sample, 276 (84.9%) completed the questionnaire as scheduled. The 49 agents (15.1%) who failed to turn up as scheduled were later contacted through follow-ups and were able to complete the questionnaire raising the response rate to 100%.

The data were analyzed in spring and summer, at The Ohio State University, using the SPSS package for analyzing social research data. Frequencies, percentages, and measures of central tendency were used to describe the results and to make inferences. Exploratory factor analysis was used to identify the job satisfaction factors related to job satisfaction and motivation. To compare means for various responses and to determine if they differ, the researcher used a t-test and analysis of variance. Multiple regression was used to determine the amount of variance in agents' motivation explained by the extraneous variables and by

the main independent variables. The alpha level was set *a priori* at .05. For interval or ratio data, Pearson product moment correlation coefficient was used to describe relationships, Phi correlation coefficient was used to describe relationships between dichotomous variables while Spearman rank correlation coefficient was used to describe the relationships between ordinal variables. Semipartial and partial correlation coefficients were also used in the data analysis. Appropriate tables and figures were used to illustrate specific concepts or findings of the study in order to make it easier for the reader to understand.

CHAPTER IV FINDINGS

This chapter describes the findings related to the objectives of the study and is divided into four sections. Tables and figures were used to present the data, followed by short explanations.

Results Related to Objective One of the Study

Objective one of the study sought to identify the personal characteristics of Extension agents in Kenya's Rift Valley Province. These characteristics included gender, age, marital status, highest educational qualification achieved and agents' total years of service. Tables 4 to 8 summarize these characteristics.

Gender

In Table 4 the gender of the agents is presented. The results indicated that nearly one in every four agents was a female. The

Table 4
Agents' Rank on the Job By Gender

Gender	Agents' Rank							
	AAs		AAOs		AOs		Total	
	n	%	n	%	n	%	n	%
Males	165	65.7	71	28.3	15	6.0	251	100.0
%	80.5		69.6		83.3		77.2	
Females	40	54.1	31	41.9	3	4.1	74	100.0
%	19.5		30.4		16.7		22.8	
Total	205	63.1	102	31.4	18	5.5	325	100.0
Column %	100.0		100.0		100.0		100.0	

ratio of females to males was highest among Assistant Agricultural Officers (1 to 3), and lowest among Agricultural Officers (1 to 6). Among Agricultural Assistants, the female to male ratio was 1 to 5.

Age

The age of the agents by rank is summarized in table 5. The findings indicated that the agents' mean age was 34.6 years. While the age of the agents ranged from 24 to 55 years, more than 50% of the agents were 31 to 35 years of age. There were no

Table 5
Agents' Rank on the Job By Age

Age in Years	AAs		AAOs		AOs		Total	
	n	%	n	%	n	%	n	%
24 - 25 %	7 3.5	87.5	1 1.0	12.5			8 2.5	100.0
26 - 30 %	32 15.8	57.1	17 17.2	30.4	7 41.2	12.5	56 17.6	100.0
31 - 35 %	97 48.0	60.6	53 53.5	33.1	10 58.8	6.3	160 50.3	100.0
36 - 40 %	32 15.8	64.0	18 18.2	36.0			50 15.7	100.0
41 - 45 %	12 5.9	66.7	6 6.1	33.3			18 5.7	100.0
46 - 50 %	13 6.4	76.5	4 4.0	23.5			17 5.3	100.0
51 - 55 %	9 4.5	100.0					9 2.8	100.0
Total %	202 100.0	63.5	99 100.0	31.0	17 100.0	5.3	318* 100.0	100.0
Means	35.1		34.1		30.9		34.6	
SD	6.7		4.7		2.4		6.0	
Min	24		25		27		24	
Max	55		50		35		55	

Note: * information was unavailable for 7 individuals.

Agricultural Officers in the sample younger than 26 or older than 35 years. The youngest and oldest agents in the sample were Agricultural Assistants. Most Agricultural Assistants and Assistant Agricultural officers were 26 to 40 years old, while most Agricultural Officers were 31 to 35 years old. There were no Assistant Agricultural Officers over 50 years old and only one of them was below 26 years of age.

Marital Status

Table 6 describes the agents' rank on the job by marital status. In terms of marital status, 84.9% of all agents were married. The rest (15%) were either single (14.5%), divorced (.3 %) or widowed (.3%). Within the three ranks, 86.8% of all Agricultural Assistants, 82.4% of Assistant Agricultural Officers, and 77.8% of Agricultural Officers in the sample were married. These findings indicated that Agricultural Assistants had the

Table 6

Agents' Rank on the Job By Marital Status

Marital Status	AAs		AAOs		AOs		Total	
	n	%	n	%	n	%	n	%
Single*	26	55.3	17	36.2	4	8.5	47	100.0
%	12.7		16.7		22.2		14.5	
Married	178	64.5	84	30.4	14	5.1	276	100.0
%	86.8		82.4		77.8		84.9	
Divorced			1	100.0			1	100.0
%			1.0				.3	
Widowed	1	100.0					1	100.0
%	.5						.3	
Total	205	63.1	102	31.4	18	5.5	325	100.0
Column %	100.0		100.0		100.0		100.0	

Note: * Never married

largest number of married agents. The lowest number of married agents was among Agricultural Officers, who were relatively younger in comparison to the other two groups. One Agricultural Assistant had been widowed while one Assistant Agricultural Officer had been divorced.

Qualification

Table 7 summarizes the agents' highest qualification by rank. All of the Agricultural Assistants in the sample had received a certificate in agriculture. Of the Assistant Agricultural Officers, 89.1% had received a diploma. The rest (10.9%) were certificate holders who had been promoted to their present rank. One Agricultural Officer had obtained a master's degree while the others possessed a bachelor's degree.

Table 7

Agents' Rank on the Job By Highest Qualification

Qualification	AAs		AAOs		AOs		Total	
	n	%	n	%	n	%	n	%
Certificate %	204	95.3	10	4.7			214	100.0
	100.0		9.9				66.0	
Diploma %			90	100.0			90	100.0
			89.1				27.8	
Bachelor's degree %					18	100.0	18	100.0
					94.7		5.6	
Master's degree %					1	100.0	1	100.0
					5.3		.3	
Other (non agric. cert.) %			1	100.0			1	100.0
			1.0				.3	
Total Column %	204	63.0	101	31.0	19	6.0	324*	100.0
	100.0		100.0		100.0		100.0	

Note: * Information was not available for 1 individual.

Total Years in Extension Service

Table 8 indicates agents' total time in extension by rank. Agricultural Assistants had served longest on the average (10.5 years), followed by Assistant Agricultural Officers (8.5 years), and Agricultural Officers (5.2 years). The standard deviation related to years of service was 7.2, 5.4, and 1.9 for Agricultural Assistants, Assistant Agricultural Officers and Agricultural Officers respectively. The agents' years of service ranged from 2 to 33 for Agricultural Assistants, 1 to 29 for Assistant Agricultural Officers, and 1 to 9 for Agricultural Officers.

Table 8

Agents' Rank on the Job By Total Years in Kenya's Extension Service

Years in Extension	AAs		AAO		AOs		Total	
	n	%	n	%	n	%	n	%
1 - 5	49	52.1	36	38.3	9	9.6	94	100.0
%	23.9		35.3		50		28.9	
6 - 10	85	66.9	33	26.0	9	7.1	127	100.0
%	41.5		32.4		50		39.1	
11 - 15	37	61.7	23	38.3			60	100.0
%	18.0		22.5				18.5	
16 - 20	5	41.7	7	58.3			12	100.0
%	2.4		6.9				3.7	
21 - 25	14	87.5	2	12.5			16	100.0
%	6.9		2.0				4.9	
26 - 30	14	93.3	1	6.7			15	100.0
%	6.9		1.0				4.6	
31+	1	100.0					1	100.0
%	.5						.3	
Total	205	63.1	102	31.4	18	5.5	325	100.0
%	100.0		100.0		100.0		100.0	
Mean	10.5		8.5		5.2		9.6	
SD	7.2		5.4		1.9		6.6	
Min	2		1		1		1	
Max	33		29		9		33	

The agents' total years in Kenya's Extension service ranged from 1 to 33. The largest number of Agricultural Assistants (41.5%) had served for 6 to 10 years while 90.2% of the Assistant Agricultural Officers had worked from one 1 to 15 years. A total of 86.5% of the agents in the sample had worked for 15 years or less, while all Agricultural Officers had 10 years or less of service.

Years in Present Position

Table 9 describes the agents' years in present positions by their rank. On the average, Agricultural Assistants tended to have served longer on their present positions (5.5 years) than Assistant

Table 9

Agents' Rank on the Job By Years in Present Position

Years in Present Pos	AAs		AAO		AOs		Total	
	n	%	n	%	n	%	n	%
<1 - 5 %	139 67.8	58.6	84 82.4	35.4	14 77.8	5.9	237 72.9	99.9
6 - 10 %	44 21.5	71.0	14 13.7	22.6	4 22.2	6.5	62 19.1	100.0
11 - 15 %	15 7.3	93.8	1 1.0	6.2			16 4.9	100.0
16 - 20 %	1 .5	25.0	3 2.9	75.0			4 1.2	100.0
21 - 25 %	2 1.0	100.0					2 .6	100.0
26 - 30 %	4 2.0	100.0					4 1.2	100.0
Total %	205 100.0	63.1	102 100.0	31.4	18 100.0	5.5	325 100.0	100.0
Mean	5.5		3.9		3.9		4.3	
SD	5.3		3.4		1.7		4.7	
Min	<1		<1		<1		<1	
Max	30		19		6		30	

Agricultural Officers and Agricultural Officers. These two groups had served the same length of time on average in their present positions (3.9 years). The minimum time served in the present position in each of the three groups was less than one year while the maximum was 30 years, 19 years and 6 years for Agricultural Assistants, Assistant Agricultural Officers and Agricultural Officers, respectively.

Number of Promotions

Table 10 summarizes the agents' rank on the job by the number of promotions since joining the Extension service. The findings indicated that 41.4% of the agents in the sample had

Table 10

Agents' Rank on the Job By Number of Promotions Since Joining Extension

Number	AAs		AAO		AOs		Total	
	n	%	n	%	n	%	n	%
0	83	61.9	43	32.1	8	6.0	134	100.0
%	40.7		42.2		44.4		41.4	
1	107	64.8	49	29.7	9	5.5	165	100.0
%	52.5		48.0		50		50.9	
2	11	52.4	9	42.9	1	4.8	21	100.0
%	5.4		8.8		5.6		6.5	
3	2	66.7	1	33.3			3	100.0
%	1.0		1.0				1.0	
4	1	100.0					1	100.0
%	.5						.3	
Total	204	63.0	102	31.5	18	5.6	324*	100.0
%	100.0		100.0		100.0		100.0	
Mean	.68		.69		.61		.68	
SD	.67		.67		.61		.66	
Min	0		0		0		0	
Max	4		3		2		4	

Note: * Information was unavailable for 1 individual

never received any promotion. Of those who had not been promoted, 61.9% were Agricultural Assistants, 32.1% were Assistant Agricultural Officers, and 6% were Agricultural Officers. About half (50.9%) of all agents had been promoted at least once, 6.5% twice, 1.0% three times, and only 0.3% of the agents had been promoted four times. The three groups had approximately the same average number of promotions.

Results Related to Objective Two of the Study

Objective two was to identify the underlying factors of job satisfaction related to motivation and their relative importance for Extension agents in Kenya's Rift Valley Province. This was conducted using factor analysis. Norusis (1990) indicated that factor analysis can be used to determine the underlying dimensions or factors of complex phenomena. In this case, the complex phenomena was that of job satisfaction.

A maximum likelihood (common factors) factor analysis was conducted since the researcher assumed that the variance of each measured variable could be decomposed into common and unique portions. Ford, MacCallum and Tait (1986) indicated that this approach was appropriate when the measured variances are assumed to be a linear function of the measured (latent) variables. The maximum likelihood factor analysis was also deemed appropriate since the analysis was done on a sample rather than a population (Norusis, 1990).

The number of subjects recommended for conducting factor analysis varied from five to ten per item (Gorsuch, 1974; Nunnary, 1978; and Arrindell & van der End, 1985). Hair, Anderson, Tatham and Black (1992) indicated that factor analysis needed at

least a sample of 50 but preferably 100 observations. As a general rule, they recommended a conservative figure of 4 or 5 observations per variable but pointed out that in many instances, researchers are forced to factor-analyze a set of variables when only a 2:1 ratio of observations to variables is available. Since no studies have been conducted on the job satisfaction of Extension agents in Kenya, this exploratory research was conducted using approximately three subjects per item (3.1:1 ratio).

Data presented in Table 11 indicate the items with their accompanying factor loadings. According to Hair, Anderson, Tatham and Black (1992) factor loadings greater, in absolute value, than .30, .40 and .50 are significant, more significant, and very significant respectively. Ford, MacCallum and Tait (1986) indicated that, as a rule, only variables with loadings greater than .40 should be considered significant and used in defining a factor.

In order to decide on the number of factors to extract before the amount of unique variance begins to dominate common variance, a combination of the Latent Root Criterion (eigen value >1) and the Scree Test Criterion were used, as recommended by Hair, Anderson, Tatham and Black (1992). A total of eight factors were extracted using this procedure. These eight factors accounted for 24% of the variance in the agents' job satisfaction (see Table 12).

In this study, only variables with factor loadings of .40 or higher were reported. Because the factors were correlated with one another (see Table 13), the Oblimin rotation with maximum likelihood was used for extraction and to arrive at the factor matrix loadings.

Table 11**Rotated Factor Matrix Loadings' Order of 35 Job Satisfaction Items on Oblique Factors (n=325)**

Item Number on the Questionnaire	Factor Loadings Factors ^a							
	1	2	3	4	5	6	7	8
60	.50							
87	.50							
33	.49							
45	.47							
92	.46							
61	.41							
20	.41							
116	.41							
43		.64						
28		.64						
15		.50						
30		.49						
57		.49						
97		.44						
16		.42						
88			-.46					
37			.44					
24				-.57				
84				-.54				
58				.45				
46					.50			
36					.47			
32					.47			
59					.44			
52					.44			
80						.76		
82						.68		
51						.60		
6						.60		
76						.45		
99						.42		
22							-.55	
26							-.41	
100								.47
96								.41

^a Factor names: 1= Evaluation, 2 = Dependable Supervisor, 3 = Work incentives, 4 = Pay, 5 = Praise & Work Location, 6 = Housing & Transportation, 7 = Job Security, 8 = Administration & Supervision.

Table 12

Percent of Job Satisfaction Variance Explained By Factors Related to the Job Satisfaction of Extension Agents in Kenya's Rift Valley Province

Job Satisfaction Factors	Eigen Value	% of Variance Explained	Cumulative %
1	7.8	7.4	7.4
2	5.6	5.3	12.7
3	3.0	2.8	15.6
4	2.4	2.2	17.8
5	1.9	1.8	19.7
6	1.6	1.6	21.2
7	1.6	1.5	22.7
8	1.4	1.3	24.0

Factor names: 1= Evaluation, 2 = Dependable Supervisor, 3 = Work incentives, 4 = Pay, 5 = Praise & Work Location, 6 = Housing & Transportation, 7 = Job Security, 8 = Administration & Supervision.

Table 13

Interfactor Correlations for the Oblique Rotated Factors Underlying Job Satisfaction of the Extension Agents in Kenya's Rift Valley Province (n=325)

Factors	1	2	3	4	5	6	7	8
1	1.00							
2	.13	1.00						
3	.10	.12	1.00					
4	-.01	-.18	-.23	1.00				
5	.08	-.08	.08	.03	1.00			
6	.29	-.07	.09	.06	.16	1.00		
7	-.19	-.03	-.02	-.02	-.04	-.16	1.00	
8	.05	-.02	.09	.07	.08	-.20	-.004	1.00

Factor names: 1= Evaluation, 2 = Dependable Supervisor, 3 = Work incentives, 4 = Pay, 5 = Praise & Work Location, 6 = Housing & Transportation, 7 = Job Security, 8 = Administration & Supervision.

The researcher assisted by a panel of experts named the factors (see Appendix G) . Factor one was named evaluation. The second most important factor related to the agents' job satisfaction was named dependable supervisors. The third factor was named work incentives; the fourth factor was named pay; the fifth factor was named praise and work location; the sixth factor was named housing and transportation; the seventh factor was named job security; and the eighth factor was named administration and supervision. The means and standard deviations for the items with factor loadings greater than .40 are presented in Table 14.

Results Related to Objective Three of the Study

The objective sought to determine the job motivational level of Extension agents in Kenya's Rift Valley Province. In this study, motivation was constitutively defined as the driving force or reason that makes people want to excel in performing their work responsibilities. Operationally, motivation was defined as the summated mean score of 10 motivation items on the Likert-type, survey instrument (see Table 15).

The mean and standard deviation of each variable used to measure the agents' motivation are summarized in Table 15. The overall agents' mean motivational level score was 3.66 on a scale range of 1 to 5 where 1 represented the lowest and 5 the highest level of motivation.

Findings summarized in Table 16 indicated differences in the motivational level of Agricultural Assistants, Assistant Agricultural Officers, and Agricultural Officers. An analysis of variance was conducted and it was determined that the differences in the motivational level of these three groups were statistically significant (see Table 17).

Table 14

**Means and Standard Deviations for Variables Comprising the
Eight Job Satisfaction Factors (n=325)**

Item	Abbreviated Variable Label ^a	Mean	SD
60	Being recognized for good work increases my motivation	4.18	.82
87	Evaluation of my work motivates me to work harder	4.14	.77
33	Feedback from my supervisor increases my motivation	4.21	.78
45	Positive recognition makes me proud to be an agent	4.42	.82
92	I enjoy meeting my supervisor to discuss my work.	3.74	1.05
61	Effective supervisors praise agents for good performance	3.52	1.14
20	My supervisor's feedback gives me confidence in my job	4.35	.77
116	Praise for good performance increases my desire to excel	4.09	.89
43	My supervisor tends to concentrate more on my mistakes	3.20	1.30
28	I get more negative input than help from my supervisor	3.63	1.31
15	I frequently receive positive recognition for good work	2.87	1.32
30	In Extension most hardworking agents go unrewarded	1.81	1.14
57	I am satisfied with most of the current Extension policies	2.56	1.14
97	My supervisor makes my work more pleasant	3.33	1.10
16	I have a chance to do things for which I am most qualified	3.28	1.39
88	I work hard mainly to avoid being disciplined	2.10	1.02
37	Evaluating me on work objectives would lower my motivation	3.83	1.01
24	I am more motivated by pay than by the work I do	3.92	1.17
84	Higher pay is more important to me than job security	3.94	.96
58	In extension, pay is the most important thing to me	2.15	1.02
46	Praise has little influence on my work performance	3.72	1.10
36	I deserve little positive recognition for doing my job well	4.06	1.16
32	I prefer working far away from my home area	3.79	1.20
59	I should be praised less frequently for doing my job well	3.39	1.11
52	Being praised makes me feel flattered	3.69	1.00
80	Good housing increases my motivation to work	4.11	.85
82	Housing has little influence on my job satisfaction	3.96	.93
51	Good housing contributes to favorable work environment	4.42	.74
6	Good housing contributes to my job satisfaction	4.26	.94
76	Inadequate transport reduces my job effectiveness	4.15	1.05
99	Adequate transport gives me job satisfaction	4.38	.79
22	I prefer a secure job that pays less than insecure one that pays more	3.62	1.39
26	Feeling secure on the job motivates me to work harder	4.38	.82
100	Extension administration has little influence on my work performance	3.83	1.00
96	Supervision from my boss has little effect on how I work	3.55	1.08

^a Items 24, 28, 30, 32, 36, 37, 43, 46, 52, 59, 82, 84, 96, & 100 which were negatively stated were recoded. The items were rated on a scale of 1 to 5 where 1=Strongly Disagree 2=Disagree, 3=undecided, 4=Agree, 5=Strongly Agree.

Table 15

Agents' Job Motivation Variables and Mean Motivational Level
(n=325)

Item	Variable Label ^a	Mean	SD
9	I often think of leaving the Extension service	3.76	1.27
38	Working as an Extension agent is in itself rewarding	3.79	1.07
42	I am highly motivated as an agent	3.27	1.38
64	I love my job	4.33	.74
102	My job is frustrating	3.91	1.14
105	I wish I had chosen a different career	4.04	1.03
109	The hours I spend on the job are the ones I enjoy most	3.67	1.03
113	If I were to choose a career once more, I would choose to be an extension agent	3.80	1.08
114	While on vacation, I often wish I were back to work	2.90	1.16
115	In the Extension service, I have many opportunities for personal growth	3.15	.27

Note: ^a Negative items 9, 102, and 105, were recoded in the reverse before calculating the variable means and standard deviations (1 represented the lowest and 5 the highest level of motivation).

Mean = 3.66

SD = .72

Min = 1.4

Max = 5.0

Table 16

Motivational Level By Agents' Rank (n=325)

	Agents' Rank			Total
	AAs	AAOs	AOs	
n	205	102	18	325
mean	3.80	3.43	3.40	3.66
SD	.68	.74	.74	.72
SE ^a	.05	.07	.18	.04
Min	1.4	1.4	1.9	1.4
Max	5.0	5.0	4.8	5.0
95% CI ^b	3.71-3.89	3.29-3.58	3.03-3.77	3.58-3.74

^a Standard error, ^b 95% confidence interval for the means

In order to determine which groups were different, further analysis was done using Tukey's HSD (honestly significant difference) post hoc test. These findings are summarized in Table 18. In terms of their motivational level, Agricultural Assistants (3.80) were significantly different from both Assistant Agricultural Officers (3.43) and Agricultural officers (3.40) but these latter two groups were not significantly different from each other.

Table 17

Analysis of Variance of the Motivational Level By Agents' Rank

Source	Analysis of Variance				
	D.F.	Sum of Squares	Mean Squares	F	p
Between Groups	2	10.5	5.02	10.7*	.0000
Within Groups	322	157.6	0.49		
Total	324	168.1			

* F: $p < .0001$

Table 18

Multiple Range Test: Tukey's HSD Procedure

Mean	Group		
	AAs	AAOs	AOs
3.80	AAs	*	*
3.43	AAOs	*	
3.40	AOs	*	

Note: (*) Denotes pairs of groups significantly different at the .05 alpha level

An F test (see Table 19) was conducted to determine whether gender affected the agents' motivational level. The results indicated that the mean motivational level of males (3.66) was not significantly different from that of females (3.67).

Table 19

Motivational Level: Group Differences By Agents' Gender

Variable	n	mean	SD	SE*	F	p
Motivation						
males	251	3.66	.71	.05	1.21	.298
Females	74	3.67	.77	.09		

* Standard error

In conducting the study, the researcher also conducted group interviews. The agents were asked to describe their motivation in terms of whether they were highly motivated, motivated, or not motivated. In 11 districts, the agents said they were not motivated while in one district the agents said they were motivated. The district in which the agents described themselves as motivated had a District Agricultural Officer who had a reputation of being an effective and dependable supervisor. The officer had won the trust of subordinates and the praise and admiration of superiors. This particular finding further confirmed the overall findings of the study which indicated that having dependable supervisors was the most important factor related to the motivation of Extension agents in Kenya's Rift valley Province.

The group interviews also revealed that most agents believed that their promotions were more related to years of service rather than to individual performance. Therefore, the agents had little motivation to perform well. In staff recruitment for inservice training, agents reported that merit was often overlooked or not seriously considered in the selection process. Although other important factors such as one's past academic record, work performance, years since graduation, and home district were considered in selecting an agent for further training, agents stated

that for inservice training to have a motivational value, merit ought to be the most important in the selection process.

Other things that agents said were important for their motivation included adequate and regular payment of bicycle and motor cycle allowance, travel allowance, hotel accommodation allowance, and health insurance. Some agents felt that technical staff, irrespective of rank, should receive equal per diem for travel and hotel accommodation to enable them stay in decent hotels while on duty. Per diem for rail travel and hotel expenses in Kenya for officers on duty is based on one's rank. Consequently, it was difficult for low ranking agents to stay in the same hotels with high ranking agents even when working on similar assignments because of reimbursement problems. However, other agents viewed per diem based on rank as a good incentive for attracting low ranking agents to move up through the ranks. This view tended to be held by high ranking agents while the low ranking agents tended to hold the opposing view.

Results Related to Objective Four of the Study

Objective four of the study sought to examine the relationships between factors underlying the job satisfaction and motivation of Extension agents in Kenya's Rift Valley Province. The first step in this process was to deal with extraneous variables and possible effects of multicollinearity. The intercorrelations among extraneous independent variables and motivation are summarized in Table 20. Table 21 presents the relationship between job satisfaction factors and agents' motivation. An examination of Table 20 revealed very high correlations between agents' age and their total years in Extension service ($r=.90$), and between agents' rank and their highest qualification ($r=.95$).

Table 20

Correlations of Extraneous Independent Variables and Motivation

	D1	D2	Q118	Q120	Q121	Q122	Q124	Q126	Mot	Corr
D1 ^a	1.0									Phi
D2 ^b	.22**	1.0								Phi
Q118	-.18	.29	1.0							Pearson
Q120	.07	-.07	-.15**	1.0						Rrb
Q121	.06	-.10	-.16**	.95**	1.0					Rrb
Q122	-.09	.27**	.90**	-.21**	-.24**	1.0				Pearson
Q124	-.02	.10	.37**	-.13*	-.12*	.40**	1.0			Pearson
Q126	-.05	.22**	.48**	-.01	-.01	.49**	-.20**	1.0		Pearson
Mot ^c	.02	.06	.15**	-.24**	-.24**	.17**	.08	.02	1.0	Pearson

^a Gender, 0=males; 1=females. ^b Marital status, 0=single; 1=married.

^c Motivation. * Significance level .05, ** Significance level .01 (2-tailed).
 Q118=Age, Q120=Rank, Q121=Qualifications, Q122=Total Years in Extension service, Q124=Years in present position, Q126=Number of promotions,
 Rrb=Spearman rank

Table 21

Relationship Between Job Satisfaction Factors and Agents' Motivation (n=325)

Job Satisfaction Factors	Pearson's r	Association
1 Evaluation	.33**	Low
2 Dependable Supervisors	.55**	Substantial
3 Work Incentives	.21**	Negligible
4 Pay	-.44**	Moderate
5 Praise & Work Location	-.06	Negligible
6 Housing & Transportation	-.01	Negligible
7 Job Security	-.27**	Moderate
8 Administration & Supervision	-.17**	Negligible

Note: ** significance level .01 (2-tailed t test)

The presence of highly correlated independent variables, indicated that one variable can be highly explained or predicted by the other. This multicollinearity limits the size of R^2 or incorrectly estimates the regression coefficients because of confounding the effects of the independent variables (Hair et al., 1992).

To control the effects of multicollinearity, one variable in each pair was dropped from further analysis. The variable more highly correlated with motivation, the dependent variable, was retained. Thus agents' age was dropped in favor of their total years in Kenya's Extension service while highest qualification was dropped in favor of the agents' rank on the job.

The following categorical, extraneous variables: agents' gender, marital status, rank on the job and highest qualification were dummy coded prior to entering them into the regression equation. Stepwise procedure was used to regress motivation on the agents' personal characteristics and is summarized in Table 22. Only agents' rank and years of service were found to be statistically significant at the .05 alpha level.

Table 22

Regression of Motivation on Agents' Personal Characteristics -
Stepwise Entry (n=325)

Factors	R ²	R ² Ch	b	t	p
Agents' Rank	.068	.068	3.48	4.33	.0001
Years of service	.085	.017	.15	2.46	.0145
Constant			33.12		

Note: Standard error = 6.87, Adjusted R² = .079, Model F = 14.84, p<.0001

The stepwise regression procedure (see Table 23) was repeated using the job satisfaction factor scores plus the two statistically significant extraneous independent variables (rank & years of service). The results showed that only rank and five of the eight job satisfaction factors were statistically significant ($p < .05$).

Table 23

Regression of Motivation on Agents' Rank, Years of Service and Job Satisfaction Factor Scores - Stepwise Entry (n=325)

Factors	R ²	R ² Ch	b	t	p
Dependable Supervisors	.305	.305	3.46	10.98	.0000
Pay	.409	.105	-2.56	-7.93	.0000
Job Security	.488	.078	-1.79	-5.31	.0000
Evaluation	.520	.032	1.51	4.70	.0000
Administration and Supervision	.542	.022	-1.12	-3.34	.0000
Agents' Rank	.554	.012	-1.76	-2.87	.0044
Constant				37.10	

Note: Standard error = 4.86, Adjusted R² = .545, Model F = 61.94, p<.0001

Following McCracken's (1991) recommendation for controlling the effects of extraneous independent variables, the researcher first entered the agents' rank on the job into a hierarchical regression equation to determine the amount of unique variance it contributed (see Table 24). The variable accounted for about 7% of the variance in the agents' motivation. The job satisfaction factors which had been found to be statistically significant in the stepwise regression equations were then entered into the hierarchical regression equation in order of their importance.

After entering all the factor scores into the equation, the final R² was .55 while adjusted R² was .54 indicating that the job satisfaction factors contributed an additional 48% of the variance in the agents' motivation after accounting for the variance contributed by agents' rank. However, the t values for the partial regression coefficients associated with Dummy3 and Dummy4, in the final equation, were not statistically significant. When agents' motivation was regressed on the five job satisfaction factors in a

stepwise regression equation omitting rank, an R^2 of .54 and an adjusted R^2 of .53 were obtained (see Table 25).

Table 24

Regression of Agents' Motivation on Agents' Rank and Selected Job Satisfaction Factor Scores - Hierarchical Entry (n=325)

Factors	R^2	R^2_{Ch}	b	t	p
Rank: Dummy3	.068	.068	.48	.38	.7025
Dummy4	.068	.000	-1.34	-1.07	.2876
Dependable Supervisors	.352	.284	3.46	10.96	.0000
Pay	.449	.097	-2.55	-7.86	.0000
Job Security	.510	.061	-1.77	-5.20	.0000
Evaluation	.539	.029	1.51	4.68	.0000
Administration and Supervision	.554	.015	-1.18	-3.19	.0016
Constant				36.67	

Note: Standard error = 4.87, Adjusted R^2 = .544, Model F = 52.96, $p < .0001$

Table 25

Regression of Agents' Motivation on Selected Job Satisfaction Factor Scores - Stepwise Entry (n=325)

Factors	R^2	R^2_{Ch}	b	t	p
Dependable Supervisors	.305	.3305	3.51	11.03	.0000
Pay	.409	.105	-2.55	-7.82	.0000
Job Security	.488	.078	-1.91	-5.65	.0000
Evaluation	.520	.032	1.59	4.88	.0000
Administration and Supervision	.542	.022	-1.28	-3.81	.0002
Constant			36.54		

Note: Standard error = 5.04, Adjusted R^2 = .534, Model F = 70.97, $p < .0001$

Figure 4 summarizes the job satisfaction factors in order of their importance in relation to the job satisfaction and motivation of Extension agents. The factors accounted for job satisfaction and motivation differently. For example, although evaluation was

the most important factor related to job satisfaction, it was the fourth most important factor related to motivation. Figure 5 illustrates the way the factors change positions of their relative importance as they account for job satisfaction and motivation.

Job Satisfaction	Motivation*
1 Evaluation	1 Dependable Supervisors
2 Dependable Supervisors	2 Pay
3 Work Incentives	3 Job Security
4 Pay	4 Evaluation
5 Praise & Work Location	5 Administration & Supervision
6 Housing & Transportation	6 Housing & Transportation
7 Job Security	7 Praise & Work Location
8 Administration & Supervision	8 Work Incentives

* Only factors 1-5 were significantly related to motivation at .05 alpha level.

Figure 4. Order of importance of job satisfaction factors in relation to the agents' job satisfaction and motivation.

* Only factors 1-5 were significantly related to motivation at .05 alpha level.

Figure 5. Factors change positions of relative importance as they account for the variance in the agents' job satisfaction and motivation.

44

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter summarizes the study, presents conclusions, states the implications, and outlines the researcher's recommendations. The findings are arranged in the order and sequence in which the objectives were stated.

Summary

Motivation is a major determinant of work behavior, and increases employees effectiveness, efficiency and overall productivity. Staff motivation depends on their needs and expectations, which change as times and working conditions change. Failure to provide adequate staff motivation will weaken Extension's ability to fulfill its mission.

Kenya's Extension managers needed to know their agents' needs and expectations in order to better understand why some of them performed better than others who had similar qualifications, experience and abilities. Current information on staff motivation in Kenya's Rift Valley Province was lacking and hence the need for the study. The findings of the study were intended to facilitate sound decision making and accountability in planning effective staff motivational programs, by helping Extension managers address concerns for employees' creativity, interests and welfare. These concerns have received major emphasis in modern management practices.

The primary purpose of this study was to identify job satisfaction factors related to staff motivation. Specifically, the study sought to identify the agents' personal characteristics; underlying factors of job satisfaction and their relative importance; determine the agents' motivational level; and examine relationships between the independent variables and the dependent variable. Only agents who were currently working in Kenya's Rift Valley Province participated in the study. Therefore, the findings are only generalizable to that population.

Literature Review

The researcher reviewed and summarized the literature on major motivation theories. On the basis of the literature, a conceptual framework was developed for identifying factors related to motivation. The literature indicated that for employees to work harder and better, they must be motivated and satisfied with their jobs. For this effort, they need achievable incentives that satisfy their needs, and which depend on individual performance. The literature also indicated that behavior is a function of its consequences and that human beings are motivated by their desire to pursue their own growth in competence, skills and creativity. To improve staff motivation, managers were advised to structure work environments in order to foster and reward staff initiative and desired work behavior.

Research has shown that managers who know or can find out what motivates their staff will make more effective personnel decisions. The literature suggested that relating compensation to agents' performance can have a powerful motivational appeal, but only if the rewards are commensurate with performance; goals are

clear, challenging, attractive and attainable; and agents have the skills, autonomy, and the resources to do the job.

Maslow stated that people are motivated by five categories of needs. He indicated that higher level needs emerge only when lower-level needs are satisfied and that a person can have several needs at once. However, only one need can dominate at any one time. A satisfied need loses its motivational appeal, but if threatened later, it regains its potency and remains dominant until it is satisfied. Maslow showed that a fulfilled need does not motivate. However, other researchers have shown that needs satisfaction at the self-actualization level leads to increased motivation. Maslow advised managers to provide different rewards and counselling to motivate different workers.

In his two factor theory, Herzberg stressed the need for a favorable work environment saying that enriched jobs rather than pay, supervision, and other environmental factors were the key to motivation and job satisfaction. He indicated that one way to increase staff motivation is to redesign jobs in order to provide opportunities for individual achievement, recognition, responsibility, advancement and personal growth. However, research studies have shown that professional employees have different work preferences for which Herzberg did not account. Herzberg suggested that challenging, enriched jobs were more motivating than dull, routine jobs. He indicated that a person can be satisfied and dissatisfied at the same time and that certain actions such as improved working conditions do not often improve motivation.

Vroom, in his expectancy theory, indicated that an individual directs personal behavior toward pleasurable and away from undesirable outcomes. He suggested that motivation is determined by perceived probabilities of success, and increases as an individual's perceived effort-performance and performance-reward probability increases. If employees believe that their actions would lead to rewards that they value and have a good chance of getting them, they will be motivated to work harder. To be effective, he stressed, all rewards must be linked to performance, goals must be reasonable, and the outcomes must be negotiated rather than being set arbitrarily. He advised managers to identify, support and reinforce individual perception by linking appraisal to professional and personal development.

In his equity theory, Adams indicated that treating employees inequitably lowers their motivation and performance. He advised managers to make inputs required for outcomes as explicit as possible in order for staff to perceive them as equitable.

Skinner indicated that behaviors which result in desirable consequences are likely to recur while those that result in undesirable consequences are less likely to recur. What an organization appears to reward, he suggested, is the behavior that will be seen as the model for success. Skinner overemphasized the importance of external outcomes such as pay and promotion but ignored the role of internal outcomes such as feelings of accomplishment and recognition. He failed to consider the importance of individual needs, expectations and values. Because what is rewarded will be repeated, Skinner advised managers to clearly state which behaviors will be rewarded and which ones will not, and to tie rewards to individual performance.

Methodology

A descriptive, correlational type of research was chosen to collect data for the study. A one-shot case study design was used. Job satisfaction factors and agents' personal characteristics formed the main independent and extraneous variables respectively with motivation as the dependent variable. Of the 2,087 agents who formed the frame, and also the accessible population, a sample of 325 (15.57%) agents stratified by rank and gender was drawn. Then a closed-ended, forced-choice questionnaire with 105 job satisfaction, 10 motivational, and 10 personal characteristics items was used to collect data for the study. Prior to administration, the questionnaire was checked for validity, reliability and reading level. The test scales for the job satisfaction and motivation items had a reliability of .79 and .81 respectively and a Fog Index of 11. Data were collected between January and March 1993 and the final response rate was 100%. The SPSS statistical package for analyzing social research data was used to analyze data after setting alpha *a priori* at the .05 level of significance.

Findings

The findings related to the objectives indicated that nearly one in every four agents was a female. The agents' average age was 34.6 years with the youngest and oldest agent being 24 and 55 years respectively. In terms of marital status, 84.9% of the agents were married. The remainder were either single, divorced or widowed.

The highest qualification possessed by Agricultural Assistants, Assistant Agricultural Officers and Agricultural

Officers was a certificate, a diploma and a master's degree respectively. Agricultural Assistants had served longest on the average (10.5 years) followed by Assistant Agricultural Officers (8.5 years) and Agricultural Officers (5.2 years). The agents' total years in Extension service ranged from 1 to 33. Nearly 87% of the agents had worked from one to 15 years while all Agricultural Officers had 10 years or less of service. On the average, Agricultural Assistants had served longest in their current positions (5.5 years). Agents in the other two ranks had, on the average, served for the same length in their current positions (3.9 years). About 41% of the agents had not received any promotion, 50.9% had been promoted once, 6.5% twice, 1.0% three times and 0.3% four times.

Eight job satisfaction factors, accounting for 24% of the variance in job satisfaction were extracted using eigen value and the scree plot as criteria. The overall mean motivational level of Extension agents was 3.66 on a scale of 1 to 5 in which 1 represented the lowest and 5 the highest level of motivation. Within the ranks, the motivational level was 3.80 for Agricultural Assistants, 3.43 for Assistant Agricultural Officers, and 3.40 for Agricultural Officers. Agricultural Assistants were significantly different in their motivational level from Assistant Agricultural Officers and Agricultural Officers but Assistant Agricultural Officers were not significantly different from Agricultural Officers. In terms of gender, there was no statistically significant difference between the motivational level of males (3.66) and that of females (3.67). As a group, agents in 11 districts indicated that they were not motivated while in one district they indicated that they were motivated. Agents indicated that inservice training and payment

of travel and subsistence allowances and health insurance were important for their motivation.

Five job satisfaction factors were significantly related to the motivation of Extension agents. They accounted for 54.2% of the variance in motivation. None of the agents' personal characteristics were statistically significant at the .05 alpha level, in explaining the variance in staff motivation. Dependable supervisors accounted for the largest proportion of the variance in staff motivation followed by pay, job security, evaluation, and administration and supervision.

Conclusions

On the basis of this study, the researcher made several conclusions, which were related to the objectives of the study and were generalizable to Extension agents in Kenya's Rift Valley Province. They are as follows:

1. Personal characteristics were not as important for the motivation of Extension agents in Kenya's Rift Valley Province as were the job satisfaction factors.
2. For the job satisfaction of Extension agents in Kenya's Rift Valley Province, eight job satisfaction factors were important. In decreasing order of their importance, these factors were evaluation, dependable supervisors, work incentives, pay, praise and work location, housing and transportation, job security, and administration and supervision.
3. For the motivation of Extension agents in Rift Valley Province, only five of the job satisfaction factors were important. In decreasing order of their importance, these

factors were dependable supervisors, pay, job security, evaluation, and administration and supervision.

4. One cause of agents' frustration and low motivation in Rift Valley Province was their perception that merit was either being ignored, or not seriously considered, in selecting candidates for inservice training.
5. On the basis of the scale used to measure agents' motivation in this study, their motivational level was above average.
6. Over half of the variance in the agents' motivation can be explained by five job satisfaction factors.
7. Job satisfaction and motivation are related but different. This conclusion was illustrated by the fact that eight job satisfaction factors were important for the agents' job satisfaction and five of these factors were important for their job motivation.
8. Though generalizable only to agents in Kenya's Rift Valley Province, the findings may be helpful to Extension managers in other parts of the country, because Kenya's Extension agents are similar in their basic training and terms of service.

Implications

Since none of the agents' personal characteristics were significantly related to their motivation, Extension managers could do a better job of improving staff motivation by giving less attention to these characteristics, and more attention to the job satisfaction factors that were identified in this study. In 1973, Lawler III reported that in most manufacturing jobs, the best worker produced two to three times as much as the worst worker

while in other jobs, differences were even greater. He indicated that in addition to motivation, staff performance was influenced by one's ability and other factors such as mechanical breakdowns and low-quality or inadequate supply of materials. He pointed out that if little ability was required and people had the same ability, skills, and training, positive staff motivation was the single most important determinant of effective job performance.

This study has shown that for Extension agents in Kenya's Rift Valley Province, having dependable supervisors was the most important factor related to motivation. Therefore, investing in proper selection and training of Extension supervisors is the most important step in improving staff motivation, performance and productivity. In addition to having dependable supervisors, staff motivation can be increased significantly by tying agents' pay to performance, providing job security, evaluating agents objectively and having an administration and supervision whose primary concern is both staff productivity and welfare. This study has also shown that motivation is positively related to job satisfaction. Therefore, raising the motivation of extension agents also increases their job satisfaction.

The study supports Herzberg's (1959) findings regarding the importance of good relations with supervisor, administrative support and supervision, good pay and job security. However, it does not support his view that these factors cannot satisfy employees. In this study eight job satisfaction factors accounted for 24% of the variance in job satisfaction. Housing, praise, work location, transportation, and work incentives provided job satisfaction for the agents, but were not significantly related to their motivation.

The findings strengthen Vroom's (1964) recommendation that staff performance must be assessed accurately, and must be based on standards that employees perceive to be fair, achievable, and equal for all. They support his view that the entire incentive system must get administrative backing and attention, and also agree with the observation made by Adams and Rosenbaum (1962) that treating employees inequitably will lower their motivation. Finally, the study supports Skinner's (1969) conclusion that identical rewards for all employees are ineffective motivators. For rewards to motivate staff effectively, they must be based on individual performance.

Figure 6 is a revision of Figure 3, the original conceptual framework of the study. In it, the extraneous variables, comprised of personal characteristics, were omitted because the study showed that they were not significantly related to the agents' motivation. More than half of the agents' motivation in Kenya's Rift Valley Province could be explained by the five external job satisfaction factors, which Extension managers can manipulate to improve staff motivation.

From Figure 6, the reader might not immediately see the difference between dependable supervisors and supervision but the two factors are different. While dependable supervisors symbolize a healthy interpersonal relationship between the supervisor and supervisee, supervision refers more to the process of giving the agents instruction, guidance and discipline which they require to fulfill their duties and responsibilities. Whether one is a dependable supervisor or not depends on how the supervisor and the supervisee interact with each other. However, effective supervision depends on how the supervisor, the

supervisee and the Extension organization interact with one another. Policies and resources that the supervisor may have no immediate control will affect the individual's supervision process.

Figure 6. Revised conceptual framework showing the relationship between selected job satisfaction factors and agents' motivation in Kenya's Rift Valley Province.

Recommendations for Extension Managers

Extension managers in Kenya's Rift Valley Province can use the findings of this study to improve staff motivation. The researcher recommends the following:

1. That Extension managers pay attention to agents' concerns related to selection procedures for inservice training, staff appraisal for purposes of promotion, health insurance and travel, hotel, and subsistence allowances.
2. That Extension managers take appropriate steps to improve the quality of their Extension supervisors. The researcher suggests that applicants for the positions of Extension supervisors be evaluated thoroughly to ensure that they are professionally qualified and dependable. Those selected should be given regular, on-the-job training in personnel management to provide them with the skills they need to maintain the motivation and job satisfaction of Extension agents. Extension supervisors placed in administrative positions must not only be qualified, but must also be seen to be qualified and competent by their peers and subordinates to be respected.
3. That Extension managers tie pay to job performance, assure agents of job security, evaluate them objectively using agreed upon criteria, and ensure that the administration and supervision are supportive and sensitive to staff welfare.

Recommendations for Theory and Future Research

The study has raised several questions which could be answered by further research. The researcher recommends the following:

1. That the study be replicated in other provinces to compare the results from those provinces with the results obtained in Rift Valley Province.
2. That more studies be done in Rift Valley Province to identify other factors that account for the unexplained variance in the agents' motivation and job satisfaction.
3. That at least five items be used for collecting data related to each factor under investigation, and that the ratio of observations to variables be at least five to one, to improve reliability of the results if factor analysis is to be used in identifying underlying factors of motivation and job satisfaction.
4. That further studies be done to determine the impact of inservice training and payment of personal allowances and benefits on the agents' motivational level. Group interviews revealed that these issues were of great concern to the Extension agents.

APPENDICES

APPENDIX A
Calculating the Questionnaire's Fog Index

FOG INDEX^a

Calculating the Fog Index for a piece of writing requires the following three simple steps:

1. Take a sample of 100 words. Divide the total number of words in the sample by the number of sentences. This calculation gives the average sentence length of the sample.
2. Count the number of words with three or more syllables in the 100-word sample. Don't count words that are
 - a. Capitalized;
 - b. Combinations of short, easy words (like "bookkeeper" and "butterfly");
 - c. Verb forms made three syllables by adding -ed or -es (like "created" or "trespasses"). This gives you the percentage of hard words in the passage.
3. To get the Fog Index, add the average sentence length and percentage of hard words. Multiply this total by .40. The answer corresponds to the years of education needed to understand the piece of writing.

Fog Index = (average sentence length + percent hard words) x .40 =
years of education needed to understand the writing.

^a Prepared by Extension Division - University of Missouri -
Columbia, Extension Communications

APPENDIX B
Instructions to the Panel of Experts Evaluating the
Questionnaire's Content Validity

1985 Waldeck Avenue
Columbus, Ohio 43201
November 2, 1992

Dear Professor _____

Food shortage is a major problem in most developing countries. In Kenya, where I come from, it is the responsibility of Extension workers to ensure the nation is well fed and that farmers have surplus produce for local and export markets.

Research has shown that employees tend to work harder if they are happy with their jobs, and if they believe they can get personally meaningful rewards. Problems of inadequate staff incentives often keep Extension workers from fulfilling their official responsibilities. In order to motivate their subordinates, supervisors must know and meet their needs.

I am developing the accompanying questionnaire to determine factors related to the motivational level of Extension agents in Kenya's Rift Valley Province. The findings of this study will be used to review, develop and strengthen staff incentives in our Extension service. My conceptual framework, which is enclosed, is based on two content and three process motivation theories.

As an experienced and widely respected educator and researcher, you can assist me greatly improve my dissertation research on staff motivation. Please review the entire questionnaire. Based on your experience, circle the number of any statement that includes a factor that would not help motivate staff. I intend to have about 116 items on the final questionnaire. Write (next to the statement) why you think it would not help. Additionally, please give me some feedback on the following questions:

1. Is the content of this questionnaire representative of the factors contained in the conceptual framework that are related to staff motivation? If not, why not?
2. What other statements should be added to the questionnaire?
3. How adequate are the instructions provided for the Extension agents?
4. How legible, attractive, readable and convenient is the questionnaire?

Thank you very much for your extremely important contribution to this study.

Yours faithfully,

John Gowland Mwangi

1. Is the content of this questionnaire representative of the factors contained in the conceptual framework that are related to staff motivation? If not, why not?
2. What other statements should be added to the questionnaire?
3. How adequate are the instructions provided for the Extension agents?
4. How legible, attractive, readable and convenient is the questionnaire?

APPENDIX C
The Questionnaire

**FACTORS RELATED TO THE MOTIVATION OF
EXTENSION AGENTS IN KENYA'S RIFT VALLEY PROVINCE**

DIRECTIONS: The following statements are related to Extension staff motivation. Please **READ** each statement carefully and **RELATE** it to your work and motivation. Then **DECIDE** whether you agree or disagree with the statement. For each item, Please **CIRCLE THE LETTER(S)** that best describes your level of agreement.

KEY:
SD = **STRONGLY DISAGREE**
D = **DISAGREE**
U = **UNCERTAIN**
A = **AGREE**
SA = **STRONGLY AGREE**

Example: Pay is less important to me than job security. (SD) D U A SA

In the example above, the respondent strongly disagreed with the statement and circled the letters SD.

Now, show your level of agreement with the statements below using the key provided:

1	Having a higher level of job responsibility reduces my time for personal interests.	SD D U A SA
3.	In the Extension service, most transport problems result from mismanagement of available transport.	SD D U A SA
4.	My supervisor and I trust each other.	SD D U A SA
5.	Personal growth in the Extension service depends on my work performance.	SD D U A SA
6.	Good housing contributes to my job satisfaction.	SD D U A SA
7.	Transport problems are rarely the reason for my inability to accomplish my work objectives.	SD D U A SA
8.	I like being in charge of what is being done.	SD D U A SA
9.	I often think of leaving the Extension service.	SD D U A SA
10.	Disciplinary letters to staff for poor performance should be discouraged.	SD D U A SA
11.	As long as I am serving clientele, I will be motivated by any job that needs to be done.	SD D U A SA
12.	I work more efficiently when my supervisor tells me my shortcomings less frequently.	SD D U A SA
13.	Good Extension policies increase my motivation.	SD D U A SA
14.	Gaining higher community status when I work well shows that I am succeeding in my career.	SD D U A SA

Note: Item 2 was dropped after the pilot test.

KEY:
SD = STRONGLY DISAGREE
D = DISAGREE
U = UNCERTAIN
A = AGREE
SA = STRONGLY AGREE

15.	I frequently receive positive recognition for good work from my supervisor.	SD	D	U	A	SA
16.	In the Extension service, I have a chance to do the things for which I am most qualified.	SD	D	U	A	SA
17.	The need for status has little influence on my job performance.	SD	D	U	A	SA
18.	When my boss assigns responsibilities, I want very few of them.	SD	D	U	A	SA
19.	Working in my home area (area where I own property) would motivate me to work harder.	SD	D	U	A	SA
20.	Personal feedback from my supervisor gives me confidence in my job performance.	SD	D	U	A	SA
21.	I prefer spending less time on my job.	SD	D	U	A	SA
22.	I prefer a secure job that pays less to an insecure one that pays more.	SD	D	U	A	SA
23.	The possibility of having a higher level of responsibilities increases my motivation to work.	SD	D	U	A	SA
24.	I am more motivated by pay than by the work I do.	SD	D	U	A	SA
25.	Stressful conditions heighten my job motivation.	SD	D	U	A	SA
26.	Feeling secure on the job increases my motivation.	SD	D	U	A	SA
27.	My accomplishment has little influence on my motivation to work.	SD	D	U	A	SA
28.	I get more negative input (such as harassment) than help from my supervisor.	SD	D	U	A	SA
29.	Having a good office support staff raises my motivation to work.	SD	D	U	A	SA
30.	Most hardworking agents in Extension go unrewarded.	SD	D	U	A	SA
31.	I work better on a job that interests me personally.	SD	D	U	A	SA
32.	I prefer working far away from my home area.	SD	D	U	A	SA
33.	Personal feedback from my supervisor increases my motivation to work.	SD	D	U	A	SA

KEY:
SD = STRONGLY DISAGREE
D = DISAGREE
U = UNCERTAIN
A = AGREE
SA = STRONGLY AGREE

34.	A staff appraisal that focuses on work objectives is frequently inaccurate.	SD	D	U	A	SA
35.	Receiving my allowances more than one month late has little effect on my motivation to work.	SD	D	U	A	SA
36.	I deserve little positive recognition for doing my job well.	SD	D	U	A	SA
37.	Basing staff appraisal on work objectives would lower my motivation to work.	SD	D	U	A	SA
38.	Working as an Extension agent is in itself rewarding.	SD	D	U	A	SA
39.	Focusing staff appraisal on work objectives helps my supervisor to evaluate all aspects of my job.	SD	D	U	A	SA
40.	Positive recognition for good performance has little influence on my job satisfaction.	SD	D	U	A	SA
41.	Good work improves my status in Extension.	SD	D	U	A	SA
42.	I am highly motivated in my work.	SD	D	U	A	SA
43.	My supervisor concentrates more on my mistakes.	SD	D	U	A	SA
44.	Working in an area with good roads motivates me.	SD	D	U	A	SA
45.	Receiving positive recognition from my supervisor makes me proud to be an Extension agent.	SD	D	U	A	SA
46.	Praise has little influence on my work performance.	SD	D	U	A	SA
47.	The possibility of receiving a disciplinary letter from my supervisor for poor performance increases my motivation to work.	SD	D	U	A	SA
48.	The possibility for professional growth in Extension heightens my motivation to succeed.	SD	D	U	A	SA
49.	As long as I get my pay, I am satisfied with any type of office facilities.	SD	D	U	A	SA
50.	My work output is usually higher under stressful working conditions.	SD	D	U	A	SA
51.	Good housing contributes to a favorable working environment.	SD	D	U	A	SA

KEY:
SD = STRONGLY DISAGREE
D = DISAGREE
U = UNCERTAIN
A = AGREE
SA = STRONGLY AGREE

52.	Being praised makes me feel flattered.	SD	D	U	A	SA
53.	My supervisor frequently shows me how to solve clientele problems.	SD	D	U	A	SA
54.	A boring job decreases my motivation to work.	D	D	U	A	SA
55.	Extension policies on staff deployment, promotion and inservice training have little influence on my work performance.	SD	D	U	A	SA
56.	As long as my supervisor is happy with my work, it doesn't matter how good my work is.	SD	D	U	A	SA
57.	I am satisfied with most of the current Extension policies.	SD	D	U	A	SA
58.	In the Extension service, pay is the most important thing to me.	SD	D	U	A	SA
59.	I should be praised less frequently for doing my job well.	SD	D	U	A	SA
60.	The possibility of being recognized for successful job performance increases my motivation to work.	SD	D	U	A	SA
61.	Effective Extension supervisors use praise to encourage agents to improve performance.	SD	D	U	A	SA
62.	A good office has little influence on my motivation.	SD	D	U	A	SA
63.	Inadequate transport for official work is one of my major problems in the Extension service .	SD	D	U	A	SA
64.	I love my job.	SD	D	U	A	SA
65.	My job advancement depends on who I know.	SD	D	U	A	SA
66.	Supervisory visits from my supervisor usually help me solve clientele problems.	SD	D	U	A	SA
67.	Gaining community respect because of working well encourages me to work harder.	SD	D	U	A	SA
68.	Job security enables me to plan ahead.	SD	D	U	A	SA
69.	I would like to serve where staff welfare is valued.	SD	D	U	A	SA
70.	Being an Extension agent is exciting.	SD	D	U	A	SA

KEY:
SD = STRONGLY DISAGREE
D = DISAGREE
U = UNCERTAIN
A = AGREE
SA = STRONGLY AGREE

71.	Having a nice office makes me go to the field for Extension work less frequently.	SD	D	U	A	SA
72.	I work better under a supervisor who writes disciplinary letters to staff more frequently.	SD	D	U	A	SA
73.	I dislike being supervised.	SD	D	U	A	SA
74.	Serving the public well improves my community status.	SD	D	U	A	SA
75.	Work location has little influence on my desire to accomplish my work responsibilities.	SD	D	U	A	SA
76.	Inadequate transportation reduces my job effectiveness.	SD	D	U	A	SA
77.	There is little need for staff supervision in Extension.	SD	D	U	A	SA
78.	The possibility of getting a merit pay raise would motivate me to work harder.	SD	D	U	A	SA
79.	Personalized feedback is mainly used by ineffective supervisors.	SD	D	U	A	SA
80.	Good housing increases my motivation to work.	SD	D	U	A	SA
81.	Pay is the only satisfaction I find in my job.	SD	D	U	A	SA
82.	Housing has little influence on my job satisfaction.	SD	D	U	A	SA
83.	I prefer a commendation letter from the Director of Agriculture, to a cash prize of \$ 500.	SD	D	U	A	SA
84.	Higher pay is more important to me than job security.	SD	D	U	A	SA
85.	Good office facilities contribute to the overall achievement of my work objectives.	SD	D	U	A	SA
86.	Effective supervisors rarely write disciplinary letters to their staff.	SD	D	U	A	SA
87.	Evaluating my work motivates me to work harder.	SD	D	U	A	SA
88.	The main reason for working hard in my job is to avoid being disciplined.	SD	D	U	A	SA

KEY:
SD = STRONGLY DISAGREE
D = DISAGREE
U = UNCERTAIN
A = AGREE
SA = STRONGLY AGREE

89.	Job security gives me an "I don't need to care" attitude.	SD	D	U	A	SA
90.	I prefer a job with higher pay and less personal freedom to one with lower pay and greater personal freedom.	SD	D	U	A	SA
91.	The opportunity to be creative is more important to me than pay.	SD	D	U	A	SA
92.	I enjoy discussing my job performance with my supervisor.	SD	D	U	A	SA
93.	I dislike sharing my personal office.	SD	D	U	A	SA
94.	A good work location increases my job motivation.	SD	D	U	A	SA
95.	Focussing staff appraisal on work objectives helps my supervisor to assess my work more accurately.	SD	D	U	A	SA
96.	Supervision from my boss has little influence on my job motivation.	SD	D	U	A	SA
97.	My supervisor makes my work more pleasant.	SD	D	U	A	SA
98.	I prefer a supervisor who tells me how well I am doing my job.	SD	D	U	A	SA
99.	I feel more satisfied with my job when I have adequate transport to do my work.	SD	D	U	A	SA
100.	The administration of Extension services has little influence on my job performance.	SD	D	U	A	SA
101.	I often avoid things that detract me from my job.	SD	D	U	A	SA
102.	My job is frustrating.	SD	D	U	A	SA
103.	I enjoy serving clientele.	SD	D	U	A	SA
104.	I am usually overworked.	SD	D	U	A	SA
105.	I wish I had chosen a different career.	SD	D	U	A	SA
106.	Most of my colleagues are uncooperative.	SD	D	U	A	SA
107.	I would like to choose my work location.	SD	D	U	A	SA
108.	Accomplishing something in my job gives me joy.	SD	D	U	A	SA

KEY:
SD = STRONGLY DISAGREE
D = DISAGREE
U = UNCERTAIN
A = AGREE
SA = STRONGLY AGREE

109. The hours I spend on the job are the ones I enjoy most. SD D U A SA
110. I am inadequately rewarded for what I do. SD D U A SA
111. My Extension clients seem ungrateful for my work. SD D U A SA
112. Higher level job responsibilities would increase my self-esteem. SD D U A SA
113. If I were to choose a career once more, I would choose to be an Extension agent. SD D U A SA
114. While on vacation, I often wish I were back to work. SD D U A SA
115. I have many opportunities in my job for personal growth. SD D U A SA
116. Praise for performing my job well increases my desire to excel. SD D U A SA

Biographical Data

117. Gender (check one):
a. MALE _____
b. FEMALE _____
118. Date of birth: _____
119. Marital Status (check one):
a. SINGLE (Never married) _____
b. MARRIED _____
c. SEPARATED _____
d. DIVORCED _____
e. WIDOWED _____
120. Your Rank (check one):
a. AGRICULTURAL ASSISTANT _____
b. ASSISTANT AGRICULTURAL OFFICER _____
c. AGRICULTURAL OFFICER _____
d. AGRICULTURAL ENGINEER _____
e. OTHER (specify) _____
121. Highest Qualification (check one):
a. CERTIFICATE _____
b. DIPLOMA _____
c. BACHELOR'S DEGREE _____
d. MASTER'S DEGREE _____
e. DOCTORAL DEGREE _____
f. OTHER (specify) _____

122. Total time in Extension service: _____ Years.
123. Total time in Extension service: _____ Months.
124. Time in your present position: _____ Years.
125. Time in your present position: _____ Months.
126. Number of promotions since joining Extension service: _____

Please write down any additional information about what you do that you feel might help us understand your job. If you need more space, use the back of this page.

Please give your completed questionnaire to the researcher.

End of Questionnaire. Thank you very much.

Note: SD=1, D=2, U=3, A=4, SA=5. The following questions were negatively worded and were recoded in the reverse order (SD=5, D=4, A=2, SA=1): Q1, 3, 7, 9, 10, 11, 12, 17, 18, 21, 24, 25, 27, 28, 30, 32, 34, 35, 36, 37, 40, 43, 46, 49, 52, 55, 56, 59, 62, 65, 71, 73, 75, 77, 79, 81, 82, 83, 84, 86, 89, 91, 96, 100, 102, 104, 105, 106, 110, 111. All the other questions were positively worded.

Prior to factor analysis the items were grouped as follows:

Achievement: Q16, 27, 56, 81, & 108; Recognition: Q15, 36, 40, 45, & 60; Personal Growth: Q5, 30, 48, 65, & 115; Work itself: Q11, 24, 31, 42, & 54; Responsibility: Q1, 8, 18, 23, & 112; Status: Q14, 17, 41, 67, & 74; Praise for good performance: Q46, 52, 59, 61, & 116; Personalized Feedback: Q12, 20, 33, 79 & 98; Fear of Punishment: Q10, 47, 72, 86, & 88; Working conditions: Q25, 29, 35, 44 & 50; Pay: Q58, 78, 83, 90, & 91; Job Security: Q22, 26, 68, 84, & 89; Housing: Q6, 51, 80, & 82; Transportation: Q3, 7, 63, 76, & 99; Office facilities: Q49, 62, 71, 85 & 93; Extension Policy & Administration: Q13, 55, 57, 69 & 100; Dependable Supervisors: Q4, 28, 43, 53, & 97; Supervision: Q66, 73, 77, 92 & 96; Staff Appraisal: Q34, 39, 37, 87, & 95; Motivation: Q9, 21, 38, 64, 70, 101, 102, 103, 104, 105, 106, 109, 110, 111, 113, & 114.

APPENDIX D
Cover Letter for the Pilot Test in Kiambu District

Ministry of Agriculture,
Kilimo House,
P. O. Box 30028,
Nairobi.
January 2, 1993

Dear Extension Agent,

The Ministry of Agriculture has sponsored a research study in Rift Valley Province to identify factors that Extension agents consider important for their motivation in order to help review, develop and strengthen staff incentives. The study is being conducted by Mr. J. G. Mwangi (Extension Supervisor/RVP), as part of his Ph.D. Program, supervised by Professor N. L. McCaslin of The Ohio State University.

Prior to the actual data collection, the researchers wish to use agents in Kiambu district to test the suitability and reliability of the data collection instruments. You have been selected to participate in the pilot test and therefore, your contributions are very important.

Please answer all questions, in the accompanying questionnaire, as accurately as you can. Remember, there are no right or wrong responses. Your individual response will be kept confidential. If you have further questions concerning the study, please contact my office (Tel. 02-728370/1-9), or call Mr. J. G. Mwangi at PDA's Office Nakuru (Tel. 037-41166) or in his house (Tel. 037-85333).

J. K. Gatheru,

Senior Deputy Director of Agriculture.

APPENDIX E
Letter Requesting Cooperation in Data Collection from
District Agricultural Officers in Rift Valley Province

Ministry of Agriculture,
Rift Valley Province,
P. O. Box 530,
Nakuru.
January 2, 1993

The District Agricultural Officers:

1. Baringo,
2. Laikipia,
3. Kajiado
4. Keiyo Marakwet,
5. Kericho,
6. Nakuru,
7. Nandi,
8. Narok,
9. Trans Nzoia,
10. Turkana,
11. Samburu,
12. Uasin Gishu,
13. West Pokot

During the month of January and February, 1993, Mr. J. G. Mwangi (Extension Supervisor/RVP) and Professor N. L. McCaslin of The Ohio State University will be gathering research data on factors related to staff motivation in this province. The study, sponsored by the Ministry of Agriculture, is part of Mr. Mwangi's Ph.D. Program.

The study will require collecting data from approximately 325 Extension agents. Mr. Mwangi will give you further details on when and how you could help in this exercise. Please facilitate his contact with your Extension agents who have been selected to participate in the study. Thank you for your cooperation.

T. K. Tuei,

Provincial Director of Agriculture.

APPENDIX F
Cover Letter for the Questionnaire

Ministry of Agriculture,
Kilimo House,
P. O. Box 30028,
Nairobi.
January 2, 1993

Dear Extension Agent,

Being an important member of the Extension team, the Ministry of Agriculture would like you to be happy in your work. Consequently, it has sponsored a research study to identify factors that you consider important for your own motivation in order to help review, develop and strengthen staff incentives. The study is being conducted by Mr. J. G. Mwangi (Extension Supervisor/RVP), as part of his Ph.D. Program, supervised by Professor N. L. McCaslin of The Ohio State University.

You are one of the 325 Extension agents who were randomly selected to represent the 2,087 agents in Rift Valley Province. Your contributions are, therefore, very important.

Please answer all questions, in the accompanying questionnaire, as accurately as you can. Remember, there are no right or wrong responses. Your individual response will be kept confidential. If you have further questions concerning the study, please contact my office (Tel. 02-728370/1-9), or call Mr. J. G. Mwangi at PDA's Office Nakuru (Tel. 037-41166) or in his house (Tel. 037-85333).

J. K. Gatheru,

Senior Deputy Director of Agriculture.

APPENDIX G
Names of Experts Who Assisted in Naming
Job Satisfaction Factors

Names of Experts Who Helped in Naming the Job Satisfaction Factors

Dr. Jo M. Jones
Associate Professor and Associate Director,
The Ohio State University Extension Service.

Dr. R. Dale Safrit,
Assistant Professor and State Specialist, Volunteerism.
The Ohio State University Extension Service.

Dr. Wesley E. Budke, Associate Professor,
The Ohio State University.

Dr. Lowell E. Hedges, Associate Professor,
The Ohio State University.

Dr. Garee W. Earnest, Extension Associate,
The Ohio State University Leadership Development.

Mr. Jeff King, Director,
The Ohio State University Extension Leadership Center.

Mr. Ike Kershaw, IV
Graduate student, Department of Agricultural Education,
The Ohio State University.

Dr. Emmanuel Christian Nyaokoh, Lecturer
University of Science and Technology, Kumasi, Ghana.

Mr. Julius Mwangi Karia,
Resident Staff, United Christian Center.

Instructions for Naming Factors Identified By Factor Analysis

The process of factor analysis is a very mathematical and objective process. However, the naming of factors is not as scientific and analysts will no doubt assign different names to the

same results because of their background, experience and training. That is why I am asking you to help me in naming these factors. The following information is provided to assist you in this process.

1. Each factor is listed on a separate page.
2. Read the list of items that are correlated with each factor.
3. All of the items listed should be used in naming the factor.
4. Items with higher correlations are more highly related to the factor than items with lower correlations. Squared correlations would indicate the percentage of the variance in an item that is explained by the factor.
5. Items with higher correlations will influence to a greater extent the name of the factor than will items with lower correlations.
6. The signs on the correlations should be interpreted just as with any other correlation coefficient. Positive correlations are positively related to the factor and negative correlations are negatively related to the factor.
7. Write the name you give to each factor at the top of the page on which the items for that factor are located. The name should be comprised of one or two words - in some instances, a short phrase might be needed. Keep some brief notes to help you explain, in our discussion, why you selected that name.
8. Please examine the enclosed conceptual framework developed through a review of the literature and determine whether the names you choose for the factors correspond to those in the conceptual framework.

Factor 1

60	Being recognized for good work increases my motivation	.50
87	Evaluation of my work motivates me to work harder	.50
33	Feedback from my supervisor increases my motivation	.49
45	Positive recognition makes me proud to be an agent	.47
92	I enjoy meeting my supervisor to discuss my work	.46
61	Effective supervisors praise agents for good performance	.41
20	My supervisor's feedback gives me confidence in my job	.41
116	Praise for good performance increases my desire to excel	.41

Factor 2

43	My supervisor tends to concentrate less on my mistakes	.64
28	I get fewer negative input from my supervisor	.64
15	I frequently receive positive recognition for good work	.50
30	In Extension, most hardworking agents are rewarded	.49
57	I am satisfied with most of the current Extension policies	.49
97	My supervisor makes my work more pleasant	.44
16	I have a chance to do things for which I am most qualified	.42

Factor 3

88	I work hard mainly to avoid being disciplined	-.46
37	Evaluating me on work objectives would raise my motivation	.44

Factor 4

24	I am less motivated by pay than by the work I do	-.57
84	Higher pay is less important to me than job security	-.54
58	In extension, pay is the most important thing to me	.45

Factor 5

46	Praise has much influence on my work performance	.50
36	I deserve positive recognition for doing my job well	.47
32	I prefer working near my home area	.47
59	I should be praised more frequently for doing my job well	.44
52	Being praised makes me feel good	.44

Factor 6

80	Good housing increases my motivation to work	.76
82	Housing has much influence on my job satisfaction	.68
51	Good housing contributes to favorable work environment	.60
6	Good housing contributes to my job satisfaction	.60
76	Inadequate transport increases my job effectiveness	.45
99	Adequate transport gives me job satisfaction	.42

Factor 7

22	I prefer a secure job that pays less than insecure one that pays more	-.55
26	Feeling secure on the job motivates me to work harder	-.41

Factor 8

100	Administration has much influence on my work performance	.47
96	Supervision from my boss has much effect on how I work	.41

Note: Variables for each factor were listed in a separate page when sent to the panel of experts.

REFERENCES

- Adams, J. C., & Rosenbaum, W. B. (1962) The relationship of worker productivity to cognitive dissonance about wage inequities. Journal of Applied Psychology, 46(1), 161-164.
- Altschuld, J. W., & Thomas, P. M. (1991, winter). The teaching of evaluation: 25 years of growth and change. Theory Into Practice. Columbus: The Ohio State University.
- Arrindell, W. A., & van der Ende, J. (1985). An empirical test of the utility of the observations-to-variables ratio and component analysis. Applied Psychological Measurement, 9, 165-178.
- Baker, H. (1987). The program planning process. In Blackburn (ed.), Extension handbook (pp. 50-64). Ontario, Canada: University of Guelph.
- Beder, H. (1990). Reasons for nonparticipation in adult education. Adult Education Quarterly, 40 (4), (summer), 207-218.
- Blanchard, K. A., & Peale, N. V. (1988). The power of ethical management. New York: William Morrow & Co. Inc.
- Blum, A. (1987). The Israel experience in agricultural extension and its application to developing countries. In Rivera, W. M., & Schram, S. G. (ed.). Agricultural extension worldwide (pp. 163-171). New York: Croom Helm.
- Boggs, D. L. (1976). Motivation equals a function of growth plus safety. Journal of Extension, (March/April), 7-13.
- Boyle, P. G. (1981). Planning better programs, (pp. 143 - 159). Adult Education Association Professional Development Series. New York: McGraw-Hill Book Company.

- Buford, Jr., J. A., & Bedeian, A. G. (1988). Management in extension, (pp. 145-161). Alabama: Auburn University Cooperative Extension Service.
- Campbell, D. T. & Stanley, J. C. (1963). Experimental and quasi-experimental designs for research. Reprinted from N. L. Gage (ed.), Handbook of research on teaching (pp.5 - 71). Chicago: Rand McNally & Co.
- Carroll, B. J. (1989). Employee selection process: Integrating employee needs and employer motivators. Journal of Studies in Technical Careers, 11(3), (summer), 237-247.
- Cascio, W. F. (1982). Applied psychology in personnel management (2nd ed., pp.83-84). Englewood Cliffs, N. J.: Prentice-Hall.
- Cohen, D. J. (1990). What motivates trainees? Training and Development Journal, (November), 91-93.
- Davies, B., Ellison, L., Osborne, A., & West-Burnham, J. (1990). Education management for the 1990s, (pp.8 1-85). Great Britain: Harlow Longman .
- Dowling, Jr., W. F., & Sayles, L. R. (1971). What's wrong with a hierarchy of needs? How managers motivate: The imperatives of supervision, (pp. 4-13). New York: McGraw-Hill Book Company.
- Finch, C. R., & McGough, R. (1982). The leader as motivator. Administering and supervising occupational education; (pp.70-82). Englewood Cliffs, NJ: Prentice-Hall.
- Flexner, S. B. & Hank, L. C. (Eds.) (1987). The Random House dictionary of the English language, (2nd. ed.). New York: Random House.

- Ford, J. K., MacCallum, R. C. & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. Personnel Psychology, 39, 291-312.
- Forest, L.B., Rossing, B. E., & Coggins, C.C. (1989). Accountability: The challenge and response. In D. J. Blackburn (ed.). Foundations and changing practices in extension, (pp. 129-138). Ontario, Canada: University of Guelph.
- Glassman, A. M. (1978). The challenge of management, (pp. 16-17, 25-27, 209). New York: Wiley and Hamilton Publishing Co.
- Glueck, W. F. (1978). Personnel: A diagnostic approach (rev. ed., pp. 38-40, 402-408, 564-565, &704). Dallas: Business Publications Inc.
- Gorsuch, R. L. (1974). Factor analysis. Philadelphia, PA: W. B. Saunders.
- Gove, P. B. & Webster, M. (Eds.) (1969). Webster's third new international dictionary of the English language unabridged. Springfield, MA: G. & C. Merriam Company, Publishers.
- Green, J. C., & McClintock (1991). The evolution of evaluation methodology. Theory Into Practice, (winter). Columbus: The Ohio State University.
- Grossnickle, D. R., & Thiel, W. B. (1988). Promoting effective student motivation in schools and classroom: A practitioners perspective, (pp.1 & 53). Columbus: The Ohio State University Library microfiche.
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L. & Black, W. C. (1992). Multivariate data analysis with readings, (3rd ed.). New York: Macmillan Publishing Company.

- Heneman, H. G., Schwab, D. P., Fossum, J. A. & Dyer, L. D. (1980). Personnel/human resource management. Homewood, IL: R. D. Irwin.
- Herzberg, F. (1959). The motivation to work, (pp.1-150). New York: Wiley Co.
- Herzberg, F. (1972). Work and the nature of man, (pp. 72-76, 92). New York: New American Library.
- Katzel, R. A. & Thompson, D. E. (1990). Work motivation: Theory and practice. American Psychologist, (February), 144-153.
- Kelley, Robert E.(1988). In praise of followers. Harvard Business Review No. 88606, 143.
- Kenya Government (1986). Economic management for renewed growth. Sessional Paper No. 1 of 1986, (pp. 1, 3, 4, 62, 80, & 84. Nairobi: Government Printer.
- Kenya Government (1988). Central Bureau of Statistics' Statistical Abstract, (p. 2). Nairobi: Government Printer.
- Kenya Government (1990). Central Bureau of Statistics Economic Survey, (pp. 26-93). Nairobi: Government Printer.
- Kleinbeck, U., Quast, H. H., Thierry, H. & Hacker, H. (1990). Work motivation. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Kreitner, R. (1989). Management, (4th ed., pp. 430-431). Arizona State University. Princeton, NJ: Houghton Mifflin Company.
- Krejcie, R. V., & Morgan, D. W. (1970). Educational and Psychological Measurement, 30, 607-610.
- Lawler III, E. E. (1973). Motivation in work organizations, (pp. 1-10). Monterey, CA: Brooks/Cole Publishing Co.

- Likert, R. (1967). The human organization, (pp. 1, 47, 63-64). New York: McGraw-Hill Book Company.
- Main, J. (1987). Wanted leaders who can make a difference. Fortune, 94. Center for Creative Leadership.
- Maslow, A. H. (1943). A theory of human motivation. Psychological Review, 50(4) 370-396.
- Maslow, A. H. (1954). Motivation and personality. New York: Harper and Row Publishers.
- McClelland, D. C., & Steele, R. S. (1973). Human motivation: A book of readings. Morristown, NJ: General Learning Press.
- McCracken, J. D. (1991, December 6). The use and misuse of correlational and regression analysis in agricultural education research. Paper presented as the invited address at the National Agricultural Education Research Meeting, Los Angeles, California.
- Moris, J. R. (1987). Incentives for effective agricultural extension at farmer/agency interface. In Rivera, W. M., & Schram, S. G. edition. Agricultural extension worldwide, (pp. 163-171). London, New York: Croom Helm.
- Nitsch, U. (1989, May). Present trends in European agricultural advisory services. Proceedings of the Symposium on Research in Extension Education. Columbus: The Ohio State University, the Ohio Cooperative Extension Service, and the Department of Agricultural Education.
- Norusis, M. J. (1990). SPSS/PC + statistics V4.0. Chicago, IL: SPSS, Inc.
- Nunnary, J. C. (1978). Psychometrics theory (2nd ed.). New York: McGraw-Hill Book Company.

- Perry, J. L., & Wise, L. R. (1990). The motivational basis of public service. Public Administration Review, (May/June), 367-373.
- Poley, J. K. (1991). ' From conflict of interest to communities of interest. Journal of Extension, (summer), 7-8.
- Roueche, J. E., Baker III, G., & Rose, R. R. (1989). Shared vision: Transformational leadership in American community colleges, (pp.193-196). Columbus: The Ohio State University Library microfiche.
- Schmincke, D. R. (1990). Strategic thinking: A perspective for success. Management Review, 1092.
- Skinner, B. F. (1969). Contingencies of reinforcement; a theoretical analysis. New York: Appleton-Century-Crofts.
- Smith, R. L. (1988). Human resource development: An overview. Eric Counseling and Personnel Services Clearinghouse, 7.
- Sorenson, H. (1954). Psychology in education, (pp. 100-101). New York: McGraw-Hill Book Company.
- Spiegel, M. R. (Aug. 1989). Work motivational factors associated with the job performance of county Extension agents in Ohio. Unpublished doctoral dissertation, (p.13). Toledo, Ohio: Graduate School, The University of Toledo.
- Steiner, G. A. (1973, July). The second managerial revolution: Moving toward new management styles. The Conference Board Record, 28-31.
- Thomson, M. K. (1951). Educational psychology, (Charles E. Skinner ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Vroom, V. H. (1964). Work and motivation. New York: John Wiley & Sons, Inc.

- Vroom, V. H. (1973). Management and motivation, (pp. 91-106). New York: John Wiley & Sons, Inc.
- Watanabe, S. (1991). The Japanese quality control circle: Why it works. International Labor Review, 130(1) 57-79.
- Weiner, B. (1980). Human motivation, (pp. 179 & 275). New York: Holt, Rinehart, and Winston Publishers.
- Wenrich, R. C. & Wenrich, J. W. (1974). Leadership in administration of vocational and technical education, (pp. 97-98). Columbus, OH: Merrill (The Merrill series in career programs).
- Winslow, E. K. (1990). The issue of motivating entre(intra)preneurial behavior. The Journal of Creative Behavior, 24(4), 256-262.
- Yukl, G. A. (1989). Leadership in organizations, (2nd ed., p. 202). Englewood Cliffs, NJ: Prentice-Hall.