



UNIVERSITI PUTRA MALAYSIA

**ROLE PERFORMANCE OF THE
FRONTLINE EXTENSION AGENTS IN THE
INTEGRATED AGRICULTURAL EXTENSION STRATEGY OF
SRI LANKA**

MAHANAMA ILLANGASINGHE

FPP 1998 2

**ROLE PERFORMANCE OF THE
FRONTLINE EXTENSION AGENTS IN THE
INTEGRATED AGRICULTURAL EXTENSION STRATEGY OF
SRI LANKA**

MAHANAMA ILLANGASINGHE

**DOCTOR OF PHILOSOPHY
UNIVERSITI PUTRA MALAYSIA**

1998



**ROLE PERFORMANCE OF THE
FRONTLINE EXTENSION AGENTS IN THE
INTEGRATED AGRICULTURAL EXTENSION STRATEGY OF
SRI LANKA**

**BY
MAHANAMA ILLANGASINGHE**

**Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in the Faculty of Educational Studies,
Universiti Putra Malaysia**

June 1998



ACKNOWLEDGEMENTS

It is my profound duty to express sincere gratitude and appreciation to many individuals and organisations, who have assisted me in numerous ways in accomplishing this task:

- Associate Professor Dr. Hj. Saidin bin Teh, the Chairman of the supervisory committee for his paternal kindness, understanding, guidance, constructive suggestions, and various other assistance since my arrival in Malaysia until these last days;
- Associate Professor Dr. Turiman Suandi and Dr. Bahaman Abu Samah, members of my supervisory committee for their constructive criticisms, suggestions and benevolent guidance in preparation of this dissertation and also throughout my graduate programme;
- My external examiner Professor Dr. Sulaiman Hj Mohd Yassin for his valuable criticisms and suggestions to improve this presentation by perusing the final draft within a short period of time;
- The academic staff of the Department of Extension Education for their contributions during my tedious learning process, friendship and moral support during my programme both at Pusat Pengenbangan dan Pendidikan Langutan (PPPL) and Faculty of Educational Studies;
- Special thanks are due to Mr. Azmi M. Noordin the Assistant Registrar at PPPL and Mrs. Junainah A. Manan for their generous support during my early days at PPPL;



- Mrs. Arbaiyah Mohd. Isa, the Assistant Registrar of the Graduate School, Mrs. Faridah Shamsudin and the members of the Office of the Graduate School for their support during my stay in Malaysia;
- Mr. M.A.R. Kularatna, the Director, Department of Export Agriculture Sri Lanka for his friendly support and encouragement throughout my career in the Department, my colleagues TB and Chandre for their moral support all the time, Assistant Directors, Matale, Galle, Kegalle and Gampaha (Warake, Somasiri, Sarath and Daya) for their immense support in the data collection process and all the supervising officers and respondents of this study, who assisted me by completing the questionnaires on time;
- The Project Director, Second Agriculture Extension Project, Mr. G. A. Gunathilake and his staff for making all necessary facilities and their full-fledged support during my study period.;
- Dr. D. J. Weilgama and his family, Dr. Anura Dissanayake and his family. My room mate Dr. L L W Somasiri and Course-mate Waridin for their support in numerous ways to make ease my monotonous life in Malaysia and
- My Dear wife Sumie, daughter Tharindra and son Channa for their sacrifices, patience, understanding, and encouragement throughout this study.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	ii
LIST OF TABLES	ix
LIST OF FIGURES	xii
ABBREVIATIONS	xiii
ABSTRACT	xv
ABSTRAK	xviii
 CHAPTER	
I INTRODUCTION	1
An Overview of the Agricultural Extension System in Sri Lanka	1
Background	1
Development of a New Extension Strategy	3
The Context of the Research Problem	7
Problem Statement	12
Objectives of the Study	14
Significance of the Study	15
Scopes and Limitations of the Study	15
Assumptions	16
Definitions of Terms	16
 II LITERATURE REVIEW	 19
Performance	19
Definition of Performance	19
Concepts of Performance	20
Role and Concepts	26
Role Perception	28
Role Episode	29
Role and Performance	32
Motivation and Role Performance	34
Need Theories	35
Cognitive Theories	36
Determinants of Role Performance	41
Dimensions in Role Performance	41
Personal Traits and Performance	42
Attitudes and Performance	43
Attitudes of Individuals in Group Activities	45



Extension Services and Performance	46
Strategies of Extension	46
Group Approach to Extension	48
Performance Appraisal in Extension	50
Work Environment and Performance	52
The Role of the Extension Agent	54
Group Behaviour and Extension	56
Definition for Groups	57
Group Dynamics	59
Concepts of Group Performance	60
Productivity Losses and Gains in Groups	62
Formation and Maintenance of Groups	66
Leadership in Groups	68
Conflicts and Conflict Management	69
Participation	71
Group Cohesiveness (Team Spirit)	72
Cohesiveness and Performance	73
Group Performance Models	74
Comparison of Models	76
Summary and Trends of the Literature Survey	79
Review of Major Theories	79
Major Predictor Variables	82
III METHODODOLOGY	83
Conceptual Framework of the Study	83
Research Hypotheses	87
Population	89
Sampling	90
Distribution of Extension Agents in the Sample Area....	91
Units of Analyses	93
Development of the Instrument	93
Measurement of Variables	94
Measurement of Dependent Variable	94
Measurement of Independent Variables	97
Individual Factor	97
Motivation Factor	97
Attitudinal Factor	99
Role Perception Factor	100



	Group Dynamics Factor	100
	Organisational Factor	103
	Validity and Reliability of Instruments	104
	Collection and Management of Data	107
	Data Analysis	108
	Determining the Strength of Relationships	110
	Level of Significance	110
1V	RESULTS AND INTERPRETATIONS	111
	Respondents	111
	Demographic Characteristics	112
	Gender and Geographical Distribution of the Respondents	112
	Distribution of Respondents by Agency of Employment	113
	Employment Agency and Age of the Respondents ...	113
	Work Experience and Agency of Employment	115
	Education and Employment Agency	116
	Distance from Home to Workplace	116
	Positional membership in the FET	118
	Role Performance	119
	Magnitude of Role performance	121
	Significance of Respondents' Performance by Agencies	124
	Respondents' Attitudes	125
	Attitudes towards IAES	126
	Attitudes towards GET members	126
	Attitudes towards Own Agency	127
	Attitudes towards Own FET	128
	Significance of Respondent's Attitudes	131
	Role Perception of the Respondents	132
	Role Clarity	133
	Role Commitment	133
	Role Ambiguity	134
	Role Overload	135
	Differences of Role Perception among Agencies	136
	Analysis of Variance for Role Perception Factor by Agencies	138



Individual Factor	139
Motivation	139
Group Dynamics Factor	141
Organisational Factor	143
Association between Role Performance and Predictor Variables	144
Association between Role Performance and Individual Factor	144
Association between Attitudinal Factor and Role Performance	146
Association between Motivation and Role Performance	147
Association between Role Performance and Role Perception Factor	149
Association between Group Dynamics Factor and Role Performance	151
Interrelationships of Variables in Group Dynamics Factor	153
Association between Organisational Factor and Role Performance	157
Predictability of Role Performance	157
Collective Prediction and Explaining Ability of Role Performance by Independent Variables	158
Attitudinal Factor and Role Performance	160
Role Perception and Role Performance	161
Motivation and Role Performance	163
Group Dynamics Factor and Role Performance	164
Organisational Factor and Role Performance	165

V	SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS	167
	Summary	168
	Research Problem	168
	Objectives of the Study	170
	Data Analysis	171
	Summary of Findings related to Objectives	173
	The Dependent Variable	173
	Demographic Characteristics	174



Motivation Factor	175
Attitudinal Factor	176
Role Perception Factor	177
Group Dynamics Factor	179
Conclusions	180
Implications Recommendations	183
Attitudinal Factor	184
Demographic Characteristics	185
Motivational Factor	187
Role Perception Factor	188
Group Dynamics Factor	190
Organisational Factor	191
Recommendations	193
Recommendations for Future Research	199
BIBLIOGRAPHY	200
APPENDICES	
A Additional Tables	211
B The Instrument English Version	213
The Instrument Sinhala Version	229
BIOGRAPHICAL SKETCH	244



LIST OF TABLES

Table	Page
1. The Distribution of Study Respondents	91
2. Reliability Analysis of Variable Scores	106
3. Nature of Response to the Study	112
4. Percentage Distribution of Respondents by Geographical Area and Gender	112
5. Percentage Distribution of Gender by Agency of Employment	113
6. Percentage Distribution of Age by Agencies	114
7. Percentage Distribution of Work Experience of Extension Agents in each Employment Agency	115
8. Percentage Distribution of Levels of Educational Qualifications Held by Extension Agents in each Employment Agency	116
9. Percentage Distribution of Respondents based on the Distance of Travel to Workplace by Employment Agency	117
10. Percentage Distribution of Holding of Positions by FET members	119
11. Percentage Distribution of Holding of FET Membership By Implementing Agencies	119
12. Percentages Distribution of Extension Agents According To Different Levels of Performance and Implementing Agencies	122
13. Summarised ANOVA Results of Role Performance	124
14. Percentage Status of Attitudes Towards IAES,GET Own Agency and Own FET	128
15. Summarised Values for Attitudes	129
16. Analysis of Variance for Attitudinal Factor by Implementing Agencies	131



17.	Excerpts from Multiple Comparison of Least Significant Differences	132
18.	Percentage Status of Role Perception of Extension Agents from Different Agencies	134
19.	Summarised Statistics on Role Perception	136
20.	Analysis of Variance for Role Perception Factor by Agencies	138
21.	Significance of Role Overload among Agencies	139
22.	Summarised Statistics on Motivation Factor	139
23.	Summarised Results of the ANOVA for Individual Factor	140
24.	The differences of Motivation among Agencies	141
25.	ANOVA Results for Group Dynamics Factor	142
26.	The Differences of Participation among Agencies	143
27.	Summarised Results of ANOVA for Organisational Factor by Agencies	143
28.	Differences in Organisational Supervision by Agencies	144
29.	Association between Role Performance and Variables of Individual Factor	145
30.	Association between Role Performance and Variables of the Attitudinal Factor	147
31.	Association between Role Performance and Motivation and it's Multiplicative Variables	148
32.	Correlation Statistics of Role Performance and Role Perception Factor	150
33.	Association between Role Performance and Variables in Group Dynamics Factor	152
34.	Correlation Analysis for Group Dynamics Variables.....	155
35.	Association between Role Performance and Variables of the Organisational Factor	157
36.	Step-wise Multiple Regression between Independent Variables and Role Performance	159



37	Step-wise Regression between Attitudinal Factor and Role Performance	161
38	Step-wise Regression between Role Perception Factor and Role Performance	162
39	Step-wise Regression between Motivation Factor and Role Performance	163
40	Step-wise Regression between Group Dynamics Factor and Role Performance	164
41	Step-wise Regression between Organisational Factor and Role Performance	166



LIST OF FIGURES

Figure	Page
1. Co-ordinating Bodies of IAE	5
2. Diagrammatic Presentation of Input Output in relation to Performance	24
3. Expanded Expectancy Model of Porter and Steers	41
4. Comparison of Group Performance Models	77
5. Conceptual Framework of Role Performance	86
6. Map of Sri Lanka Depicting Study Area	92
5. Diagrammatic Representation of the Attitudinal Variables by Agencies	130
6. Diagrammatic Representation of Role Perception by Agencies	137



ABBREVIATIONS

AD	:	Assistant Director
AEC	:	Agricultural Extension Committee
AEWG	:	Agricultural Extension Working Group
AI	:	Agricultural Instructor
AO	:	Agricultural Officer
AP&H	:	Animal Production and Health Department
ARM	:	Assistant Regional Manager
ATDT	:	Composite Score for Attitudes towards Own Agency
ATGMT	:	Composite Score for Attitudes towards Guide and Extension Team
ATOT	:	Composite Score for Attitudes towards Own Team
ATST	:	Composite Score for Attitudes towards Integrated Agricultural Extension Strategy
CARP	:	Council for Agricultural Research Policy
CCB	:	Coconut Cultivation Board
CDO	:	Coconut Development Officer
DD	:	Deputy Director
DEA	:	Department of Export Agriculture
DOA	:	Department of Agriculture
EO	:	Extension Officer
FET	:	Field Extension Team
GET	:	Guide and Extension Team
HQ	:	Headquarters
IAES	:	Integrated Agricultural Extension Strategy
LDI	:	Livestock Development Instructor
MALF	:	Ministry of Agriculture' Lands and Forestry
NGO	:	Non Governmental Organisations
PCC	:	Project Coordination Committee
PC/PS	:	Problem Census and Problem Solving
PCT	:	Problem Census Technique
PD	:	Provincial Director

PET	:	Provincial Extension Team
PMU	:	Project Management Unit
RAMT	:	Composite Score for Role Ambiguity
RCMT	:	Composite Score for Role Commitment
RCLT	:	Composite Score for Role Clarity
ROLT	:	Composite Score for Role Overload
RM	:	Regional Manager
SAEP	:	Second Agricultural Extension Project
T&V	:	Training and Visit
VS	:	Veterinary Surgeon

Abstract of the dissertation submitted to the Senate of Universiti Putra Malaysia in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

**ROLE PERFORMANCE OF THE
FRONTLINE EXTENSION AGENTS IN THE
INTEGRATED AGRICULTURAL EXTENSION STRATEGY OF
SRI LANKA**

BY

MAHANAMA ILLANGASINGHE

JUNE 1998

Chairman : Associate Professor Dr. Hj. Saidin bin Teh.

Faculty : Educational Studies

A novel extension strategy is in existence in Sri Lanka since 1994 integrating the extension efforts of Departments of Agriculture (DOA), Export Agriculture (DEA), Animal Production and Health (AP&H) and the Coconut Cultivation Board (CCB). Team efforts by these agencies from national to grass root level, is a prominent feature of the Integrated Extension Strategy (IAES). Field Extension Teams (FET) were established for geographically demarcated areas (*Govi Kendraya*) consisting of frontline extension agents from four implementing agencies to service the farmer. The major objective of this study was thus to explore the predicting factors that influenced the role performance of these extension agents.

Extension Agents from 4 of 15 districts, where IAES was active were selected randomly for the study. Two self-administered questionnaires, one to be completed by extension agents and the other by immediate supervisory officers appraising their performance formed the main source of data



collection. The sample contained 275 extension agents of a total of 1364 and 201 questionnaires were collected for data analyses. The main statistical procedures employed were Exploratory Data Analysis, ANOVA, Pearson Product Correlation and Step-wise Multiple Regression.

Analyses revealed that the age and experience of the respondents, of whom two thirds were males, were 43 and 17 years respectively. The extension agents had negative attitudes towards IAES. Although the quality of work was good the quantity of work performed by them was poor. They showed higher levels of motivation, role clarity and commitment and conversely low role ambiguity and role overload.

Of the variables tested, some variables namely: attitudes towards GET members, role overload, valacy, participation, technical supervision and also quality, quantity and overall performances showed significant differences among the extension agents of the participating agencies in the IAES.

Many variables namely: attitudes towards IAES, Guide and Extension Team (GET), motivation, valency, role commitment, role ambiguity, group cohesion, group interaction, followership, participation, technical supervision and administrative supervision showed significant relationships with the dependent variable role performance but the magnitudes of relationships shown by all variables were small.

Attitudes towards GET, Role commitment, motivation, participation and technical supervision were the principal variables that could predict and

explain the role performance of the extension agents. Nevertheless; attitudes towards IAES, valency, followership, group cohesiveness and administrative supervision were the other variables which could explain and predict role performance as second category predictors from the step-wise regression analyses.

A distinct feature of these findings was that all the above variables collectively could predict and explain slightly over one-third of the variance in role performance. This indicated the substantial presence of various other facilitating and inhibiting factors out side the control of role incumbents.



Abstrak disertasi yang dikemukakan kepada Senat Universiti Putra Malaysia bagi memenuhi sebahagian syarat ijazah Doktor Falsafah.

**PRESTASI PERANAN AGEN PENGEMBANGAN
BARISAN HADAPAN DALAM
STRATEGI PENGEMBANGAN PERTANIAN BERSEPADU SRI LANKA**

OLEH

MAHANAMA ILLANGASINGHE

JUN 1998

Pengerusi : Profesor Madya Dr. Hj. Saidin bin Teh

Fakulti : Pengajian Pendidikan

Strategi pengembangan pertanian baru yang diamalkan di Sri Lanka sejak 1994 adalah menyepadukan usaha pengembangan Jabatan Pertanian (DOA – Department of Agriculture); Jabatan Pertanian Eksport (DEA – Department of Export Agriculture); Jabatan Penghasilan dan Kesihatan Haiwan (AP&H – Department of Animal Production and Health); dan Lembaga Penanaman Kelapa (CCB – Coconut Cultivation Board). Usaha secara berpasukan daripada agen-agen ini dari peringkat kebangsaan hingga ke peringkat petani sendiri merupakan ciri utama Strategi Pengembangan Pertanian Bersepadu Sri Lanka (IAES – Intergrated Agriculture Extension Strategy of Sri Lanka). Untuk menyampaikan khidmat pengembangan kepada petani, Pasukan Pengembangan Ladang (FET - Field Estension Team) telah dibentuk bagi kawasan-kawasan yang telah ditentukan sempadannya secara geografi (*Govi Kendraya*). Pasukan ini terdiri daripada agen pengembangan terkemuka daripada empat agensi pelaksana strategi. Sehubungan



itu, tujuan kajian ini adalah untuk meneliti faktor yang dijangka terlibat dalam mempengaruhi prestasi agen pengembangan ini.

Empat Agen Pengembangan dari 15 kawasan yang melaksanakan IAES secara aktif dipilih secara rawak untuk kajian ini. Dari segi sumber data yang dipungut, kajian ini menggunakan dua set soal selidik yang ditadbirkan sendiri; satu set disempurnakan oleh agen pengembangan, sementara satu set lagi di disempurnakan oleh pegawai penyelia yang menilai secara langsung prestasi agen tersebut. Daripada sejumlah 1,364 agen pengembangan terkemuka, 275 telah dipilih sebagai sampel, dan 201 soal selidik telah dapat dipungut untuk analisis data. Prosedur utama yang digunakan untuk analisis data ialah statistik Eksplorasi Data, ANOVA, Korelasi Pearson, dan Regresi Berganda Secara Berperingkat.

Dapatan kajian menunjukkan bahawa dua per tiga daripada responden adalah lelaki, dan umur mereka adalah agak tinggi, iaitu pada purata 43 tahun. Begitu juga, pengalaman mereka agak panjang, iaitu pada purata 17 tahun. Sikap agen pengembangan terhadap IAES adalah negatif. Walaupun kualiti kerja agen pengembangan ini adalah baik, tetapi dari segi kuantiti, prestasi kerja mereka tidak memuaskan. Mereka menunjukkan tahap yang tinggi dari segi motivasi, kejelasan peranan, serta komitmen. Sebaliknya, mereka menunjukkan tahap yang rendah dari segi keraguan terhadap peranan dan pemberatan beban peranan.

Daripada ujian terhadap variabel, didapati bahawa beberapa ankuabah menunjukkan signifikan yang berbeza-beza di kalangan agen-agen pengembangan daripada agensi yang terlibat dalam IAES, ini termasuklah sikap terhadap anggota

Pasukan Pembimbing dan Pengembangan (GET - Guide and Extension Team), pemberatan beban peranan, keterikatan, penyertaan, penyeliaan teknikal, dan juga kualiti prestasi, kuantiti prestasi serta prestasi secara menyeluruh.

Sikap terhadap Pasukan Bimbingan dan Pengembangan, komitmen peranan, motivasi, penyertaan dan penyeliaan teknikal merupakan ankuubah utama yang dapat meramalkan dan menerangkan prestasi peranan agen pengembangan. Walau bagaimanapun, sikap terhadap IAES, keterikatan, kepengikutan, kesepaduan kumpulan, dan penyeliaan pentadbiran tetap merupakan ankuubah yang turut dapat meramalkan dan menerangkan prestasi peranan kategori penelah kedua dalam analisis regresi berperingkat.

Hasil kajian juga menunjukkan wujudnya hubungan yang signifikan antara ankuubah bebas, iaitu prestasi peranan dengan sebahagian besar ankuubah bersandar, termasuk sikap terhadap IAES, Pasukan Bimbingan dan Pengembangan (GET), motivasi, keterikatan, komitmen peranan, keraguan tentang peranan, kesepaduan pasukan, interaksi pasukan, penerimaan pimpinan, penyertaan, penyeliaan teknikal, dan penyeliaan pentadbiran. Walau bagaimanapun, tahap hubungan signifikan yang ditunjukkan oleh semua variabel adalah rendah.

Satu ciri yang menonjol dapat ditunjukkan melalui jumpaan ini, iaitu semua ankuubah di atas secara kolektif boleh meramalkan dan menerangkan lebih daripada satu per tiga varians dalam prestasi peranan. Ini menunjukkan bahawa pelbagai faktor penggalak dan penghalang wujud di luar kawalan pelaksana peranan.

CHAPTER I

INTRODUCTION

An Overview of the Agricultural Extension System in Sri Lanka

Background

Agricultural extension has its roots in Sri Lanka since the year 1880, with the appointment of Agricultural Instructors who had two years training in agriculture to work under Provincial Government Agents. Establishment of Ceylon Agricultural Society in 1904 resuscitated the peasant agriculture and was responsible in agricultural development until the establishment of the Department of Agriculture in 1912 (Arasasingham, 1981). During the British colonial regime, the export oriented plantation agriculture, which comprised predominantly of tea, rubber and coconut was playing a major role in Sri Lanka's economy. The establishment of Department of Agriculture at that era was mainly to cater to this sector. Several other organisations were later established to serve both plantation and smallholder agriculture.

At present there exists four extension agencies in the forefront of the smallholder agricultural development in Sri Lanka, namely the Department of Agriculture (DOA), Department of Animal Production and Health (AP&H), Department of Export Agriculture (DEA) and Coconut Cultivation Board (CCB). All these agencies have their own extension cadres to serve the farmers, and until recent past they continued to work rather quite independently.



Training and Visit system (T&V) was the extension strategy practised by the Department of Agriculture mainly for the promotion of paddy and subsidiary food crops since 1979 until the end of 1993. Other three agencies followed the commodity development oriented approach of extension. The cost effectiveness of the T&V and commodity-oriented extension and their relevance to complex farming systems and sustenance were debated in the recent past particularly when operating funds and other resources became limited (Ratnayake et al., 1994). The constitutional changes and devolution of powers to Provincial Councils in late 1980s, further threatened the line of command that existed in the system. The above changes also created a situation to remove the entire cadre of village-level extension workers, the Krusikarma Viyapthi Seva Niladari (KVSNI) of the DOA from their extension activities and were deployed to perform village-level administrative functions. These changes resulted in a partial paralysis of the T&V extension system, as the immediate link between the farmers and extension became very much weakened (Ratnayake et al., 1994).

The other three agencies serving the smallholders, practised the commodity specialised extension approach and used various types of subsidy schemes as a tool to promote agricultural production for the crops under their purview. Those subsidy schemes constituted with cash and certain free inputs and advice on crop establishment and maintenance. The present trend of pruning down of government subsidies led these agencies to divert their efforts to different strategies in order to achieve their objectives. Thus to ameliorate the situation, the need to evoke a new strategy became apparent not

only to replace the T&V system but also to meet the challenges faced by the other Government extension agencies who were in the forefront of the non plantation agriculture. As a result a new extension approach was introduced under the financial assistance of the World Bank, to meet the new demand for agriculture development.

Development of a New Agricultural Extension Strategy

As the unification of the above agencies into a single body to carry out extension could have posed more problems, the four agencies in the forefront of the smallholder agriculture were compelled to agree commonly on an integrated approach to agricultural extension strategy (IAES). When designing of the new extension strategy, the primary objective was to enhance agricultural production and income through promotion of active farmer participation in all aspects of agricultural development programming at village level and to introduce innovative technology according to their needs and demands. Cognizance with the above objective, procedural guidelines for implementation of an integrated extension intervention was formulated and agreed upon by the four agencies and the lending agency (World Bank). The following key aspects were considered as paramountly important when preparing the operational guidelines of the extension strategy (Ministry of Agriculture, Lands and Forestry, 1995).

- A holistic approach to extension.
- A farmer-centred farming system approach.