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 Pengembangan 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

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

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

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Co-ordinating Bodies of IAE</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Diagrammatic Presentation of Input Output in relation to Performance</td>
<td>24</td>
</tr>
<tr>
<td>3.</td>
<td>Expanded Expectancy Model of Porter and Steers</td>
<td>41</td>
</tr>
<tr>
<td>4.</td>
<td>Comparison of Group Performance Models</td>
<td>77</td>
</tr>
<tr>
<td>5.</td>
<td>Conceptual Framework of Role Performance</td>
<td>86</td>
</tr>
<tr>
<td>6.</td>
<td>Map of Sri Lanka Depicting Study Area</td>
<td>92</td>
</tr>
<tr>
<td>5.</td>
<td>Diagrammatic Representation of the Attitudinal Variables by Agencies</td>
<td>130</td>
</tr>
<tr>
<td>6.</td>
<td>Diagrammatic Representation of Role Perception by Agencies</td>
<td>137</td>
</tr>
</tbody>
</table>
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
ATGTM : 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
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 outside the control of role incumbents.
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.


Daripada ujian terhadap variabel, didapati bahawa beberapa ankubah 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 ankubah utama yang dapat meramalkan dan menerangkan prestasi peranan agen pengembangan. Walau bagaimanapun, sikap terhadap IAES, keterikatan, kepengikutian, kesepaduan kumpulan, dan penyeliaan pentadbiran tetap merupakan ankubah yang turut dapat meramalkan dan menerangkan prestasi peranan kategori penelah kedua dalam analisis regresi berperingkat.

Hasil kajian juga menunjukkan wujudnya hubungan yang signifikan antara ankubah bebas, iaitu prestasi peranan dengan sebahagian besar ankubah bersandar, termasuk sikap terhadap IAES, Pasukan Bimbingan dan Pengembangan (GET), motivasi, keterikatan, komitmen peranan, keraguan tentang peranan, kesepaduan pasukan, interaksi pasukan, keterimaan 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 ankubah 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 (KVSN) 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.