The comparative role of intervening and independent variables in the adoption behaviour of maize growers in Njombe District, Tanzania

by

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Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Agricultural Extension

In the Faculty of Natural and Agricultural Science

University of Pretoria

Pretoria

June, 2007
ABSTRACT

The ongoing quest for a better understanding of adoption behaviour, and more specifically the search for relevant, and meaningful behaviour determinants that can be useful in the understanding, analysis and change of adoption behaviour, has prompted this study. It was specifically focused on the role of intervening variables and their influence relative to the commonly used independent variables. A pre-tested, structured questionnaire was used to collect data from 113 farmers randomly selected to represent five percent samples of four villages selected to represent the biggest variation in terms of climatic conditions within the Njombe district of Tanzania. Correlations, chi-square, and regressions were used to determine the relationship between the independent and the dependent variables. The results show that most of the farmers’ (97.3 percent) production efficiency falls well below the optimum maize yield of about 40 bags per acre. Various independent and intervening factors were found to influence adoption. In general, the intervening variables show, without exception, much stronger influence relationships with adoption behaviour than is the case with independent variables. Also, unlike what is a common phenomenon among independent variables, these relationships show great consistency, which further supports the research hypothesis. The most convincing evidence in support of the critical role of intervening variables in decision making and adoption behaviour are the regressions, which explain about 73.2 to 93.6 percent of the variation in adoption as compared to the mere 6.0 to 32.9 percent of the independent variables. The explanation for this highly significant difference is that the intervening variables are probably the immediate and direct determinants of adoption behaviour and that the influence of intervening variables only becomes manifested in adoption behaviour via the intervening variables. This explains why the influence of independent variables is much smaller and more inconsistent than that of the intervening variables. The practical implications of these findings are that the emphasis in the analysis and understanding of adoption behaviour should be on the intervening variables. They lend themselves as so-called “forces of change” and thus represent the focus of extension endeavours, but also as criteria for evaluation and monitoring. From the study arise various issues that call for further research like refinement of the measurements.
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## ABBREVIATIONS AND SYMBOLS

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<td>DALDO</td>
<td>District agricultural and livestock development officer</td>
</tr>
<tr>
<td>H</td>
<td>Hybrid</td>
</tr>
<tr>
<td>UH</td>
<td>Uyole hybrid</td>
</tr>
<tr>
<td>P</td>
<td>Pioneer hybrid</td>
</tr>
<tr>
<td>TARO</td>
<td>Tanzania agricultural research organization</td>
</tr>
<tr>
<td>TSP</td>
<td>Tri-super phosphate</td>
</tr>
<tr>
<td>DAP</td>
<td>Di-ammonium phosphate</td>
</tr>
<tr>
<td>MRP</td>
<td>Minjingu rock phosphate</td>
</tr>
<tr>
<td>CAN</td>
<td>Calcium ammonium nitrate</td>
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<tr>
<td>NPK</td>
<td>Nitrogen Phosphate Potassium</td>
</tr>
<tr>
<td>FYM</td>
<td>Farm yard manure</td>
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<td>FAO</td>
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<td>$R^2$</td>
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ACKNOWLEDGEMENTS

My profound thanks go to the almighty God for enabling this work to reach at this stage. I wish to express my sincere and special thanks to my supervisor Prof. G. H. Düvel for his constructive criticism, comments and untiring guidance during the preparation and writing of this thesis.

I gratefully acknowledge FOCAL/PANTIL project for financing my PhD programme. I also wish to thank all staff members of District Council in Njombe District for helping me in the whole period of data collection. Special appreciations go to the District Agricultural and Livestock officer (DALDO), Ms Liana and her family for their moral, material and physical support during the entire course of data collection. I am highly indebted to village leaders and all interviewees for their cooperation in this research.

My Profound appreciation are extended to Ms Joe Courtze and Ms Suzan Mbilinyi for assisting in organizing the final version.

I want to take this opportunity to thank very much my mother Hulda Phillip for every kind of support she extended to me including taking care of my baby Elimina during her infant stage. Without her the completion of this work could have been of many difficulties. My Daughter Elimina has always been with me accompanying me in my studies and stay in South Africa.

I also thank my husband, sisters, brothers, other family members and friends for their love and support during the entire study. My daughters Elilumba and Elihaika are highly appreciated for not hesitating to stay away from me at their tender ages, but they have always been with me spiritually.
DEDICATION

This work is dedicated to my precious mother, Hulda Phillip and my beloved brother Winston Phillip who laid the foundation of my education.