

DEDICATION

To the Soul of my father
To the Soul of my mother
To my lovely husband
To my lovely daughters
To my brothers and sisters
To all my friends
With love

ACKNOWLEDGEMENT

First, I give thanks to Allah who enabled me to complete this work. I gratefully thank my supervisor, Prof. Dr. Awadalla Mohamed Saeed, for his help in all phases of this study, for his guidance and advice.

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Abstract

The main objective of the study reported in this thesis is to measure the impact of the extension programs on adoption of wheat production in Khartoum State. A conceptual model was developed as a framework for causal explanation of the impact of the extension programs and other factors on adoption of the recommended wheat production package by farmers as a principal endogenous variable affecting productivity and total production of wheat in seven selected wheat production projects. The model is focused on 10 variables (which are arranged in a logical casual order to provide for explanation of wheat production and income in Khartoum State), namely formal education, family size, age, total amount of finance received, total farmland area in possession, access to agricultural extension services, participation in project development activities, adoption of improved wheat production technology, total production of wheat in sacks, gross income from wheat production.

For purposes of the study, a stratify random sampling method was used to select one hundred and fifty respondents from total of eight hundred eighty-five farmers engaged in wheat production in seven projects, namely El Jummuia, El Isailat, Wad Ramli, El Khojalab, Dabak and Eltikaina, El Sururab all of which are located in Khartoum state. The primary data for the study were collected through use of individual interviews, using of structured questionnaires, supported by personal observation. Different statistical procedures were used in data analysis, including frequency and percentage distribution tables, t-test, correlation analysis (to identify significant correlates of the model variables), and regression analysis (for testing the postulated causal model). Regression analysis constituted the

principal procedure for extending casual explanation by means of the application of path analysis.

Comparative analysis for the seven projects involved in the study showed that El Jummuia project has succeeded to achieve greater level of adoption of the recommended technological package for wheat production. This is attributed to high level of access to extension services, and the long wheat production experience of most of the participating farmers

On the basis of the findings, the study generates a set of recommendations was drawn:

Recommendations for the Ministry of Agriculture, Animal Resources and Irrigation, – Khartoum State: It is recommended that the Ministry of Agriculture, Animal Resources and Irrigation, – Khartoum State provide support for the Technology Transfer and Extension Administration to enhance the capabilities of the staff and encourage greater participation in extension programs by the farmers. It is recommended that the Ministry of Agriculture adopts policies that encourage the pooling of land recourses to form larger farming units capable of adoption to improve to packages and improved land preparation practices. It is recommended that the Ministry of Agriculture adopts policies facilitate access to production inputs. It is recommended that extension administration increases the rate of farmers' participation in planning, implementation, monitoring, and evaluation of extension programs.

مستخلص البحث

الهدف الرئيسي لهذه الدراسة هو قياس أثر البرامج الإرشادية على تبني تقانات انتاج القمح المحسنة بولاية الخرطوم. و قد تم تطوير إطار مفهومي تسببي لكيفية تأثير برامج الإرشاد والعوامل الأخرى على تبني الحزم التقنية و الإنتاجية والإنتاج الكلي لمحصول القمح في المشاريع السبعة المختارة موضوع الدراسة. و يتكون هذا النموذج من 10 متغيرات تشتمل على : العمر ، التعليم، حجم الاسرة، حجم التمويل المقدم للمزارع ، المساحة الكلية للارض التي يمتلكها المزارع، الحصول علي الخدمات التي يقدمها المشروع، المشاركة في النشاطات التنموية بالمشروع، الانتاج الكلي من القمح، و تبني التقانات الزراعية لإنتاج القمح والدخل الإجمالي من إنتاج القمح. تم إختيار مائة وخمسين من المزارعين لتكوين عينة منتظمة عشوائية للدراسة من اجمالي ٨٨٥ مزارع يعملون في مجال إنتاج القمح في السبع مشاريع و هي الجموعية، العسيلات، ود رملي، الخوجلاب، دبك والتكينة، السروراب وعبد الله كدمور وجميعها تقع في ولاية الخرطوم. و تم جمع البيانات الأولية للدراسة من خلال استخدام المقابلات الشخصية، و إستبانات منظمة بالاضافة للملاحظة الشخصية. واستخدمت الحزمة الإحصائية للعلوم الإجتماعية في تحليل البيانات لتصميم جداول للتوزيع التكراري و النسب المئوية، و لإجراء اختبار (ت)، وتحليل الارتباط و تحليل الانحدار لإختبار فروض البحث المضمنة في الأنموذج التسببي الذي تأسس عليه البحث، و يشكل تحليل الانحدار الإجراء الرئيسي لتطبيق تحليل المسار.

و أظهر تحليل المقارن للمشاريع السبعة أن مشروع الجموعية نجح في تحقيق مستوى أكبر من تبني الحزم التكنولوجية الموصى بها لإنتاج القمح. ويعزى ذلك إلى المستوى العالي لتوفير خدمات الإرشاد و لهم

تجربة طويلة في إنتاج القمح لمعظم المزارعين المشاركين. على أساس هذه النتائج، خرجت الدراسة بمجموعة من التوصيات:

توصيات لوزارة الزراعة والثروة الحيوانية والري - ولاية الخرطوم: من المستحسن أن تقدم الوزارة الدعم الإدارة العامة لنقل التقنية و الإرشاد لتعزيز قدرات الموظفين و تشجيع مشاركة أكبر من قبل المزارعين في برامج الإرشاد الزراعي. من المستحسن أن تعتمد وزارة الزراعة على السياسات التي تشجع على تجميع موارد الأرض لتكوين وحدات زراعية أكبر قادرة على تبني الحزم وإعداد الأرض المحسنة. وكذلك وزارة الزراعة تتبنى سياسات تسهيل الحصول إلى مدخلات الإنتاج. وايضا إدارة الإرشاد تزيد من معدل مشاركة المزارعين في التخطيط والتنفيذ والمتابعة وتقييم البرامج الإرشادية.

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