

**FACTORS INFLUENCING THE LOW ADOPTION OF NEW AGRICULTURAL
TECHNOLOGIES AMONG SMALL HOLDER FARMERS IN KASODO SUB COUNTY
PALLISA DISTRICT.**

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BU/UP/2019/1579

**A RESEARCH REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT OF THE AWARD OF THE BACHELOR'S DEGREE OF SCIENCE
AND EDUCATION OF BUSITEMA UNIVERSITY**

DECLARATION.

I, KIRYA MICHAEL here by declare that this research report is entirely written and organized by me and it has never been submitted by another person for any academic award to any institution of higher learning.

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APPROVAL

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Signature  Date 

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DEDICATION

I dedicate this research to my beloved parents Mr Bonyoko Sam and Mrs Ganda Majeri, brothers and all my friends for their endless support and always being there for me in terms of financial, moral and spiritual support towards the success of this research. May the Almighty bless them abundantly.

ACKNOWLEDGEMENT

First and foremost, I thank the Almighty God for giving me life, strength, knowledge and ability to carry out this research. Sincere appreciation goes to my supervisor for creating time within his busy schedule to guide me through my work, without forgetting all my lecturers at Busitema University Nagongera Campus for imparting me with knowledge and skills, your guidance enabled me to gain a clear understanding of various concepts and principles in this course from both theoretical and practical perspectives. I also acknowledge the contributions made by my BELOVED parents, (Mr Bonyoko Sam AND Mrs Ganda Majeri) Brothers and sisters for supporting me to pursue this course up to this level. Finally, I would like to thank my friends and course mates with whom we have struggled, exchanged views and ideas. May the Almighty God bless you all abundantly, Amen.

ABSTRACT

The purpose of this research was to examine the factors leading to the low adoption of the new agricultural technologies among small holder farmers in Kasodo sub-County Pallisa district. The study was based on the following objectives; to determine how extension services influence the low adoption of the new agricultural technology in Kasodo sub-county, to establish how credit facilities influence the low adoption of new agricultural technologies in Kasodo sub-County, to examine the influence of market facilities on the low adoption of new agricultural technologies in Kasodo sub-county. The study adopted a descriptive research design which included both qualitative and quantitative research approaches. The target population consisted of 30 small holder farmers from 6 villages. Interviews and questionnaires were used during data collection, data was analysed by use of descriptive and inferential statistics and presented in graphs and tables. Results of the study were; credit facilities do not influence adoption of the technologies among smallholder farmers, extension services influence the adoption of new agricultural technologies, market for the products influence the adoption of new agricultural technologies. The study had the following conclusions; Capital and credit facilities had no significant association on the adoption of agricultural technology. This implies that an increase in capital and credit facilities does not result to higher rate of agricultural technology adoption. Results also indicated that extension service is significant in the adoption of new technologies implying that the more extension services are conducted the likely the new technologies will be adopted, there was a positive association between market activities and conditions and adoption of agricultural technology. This implies that market activities influence the adoption of technology. Results revealed that market availability has a positive and significant relationship on the adoption of agricultural technology. The association between these two variables was marginally weak an indication of marketability of farmers' products not being effective as a result of poor infrastructure. The following recommendations were made; It is imperative for policy makers to ensure that a wider spectrum of smallholders are able to have access to credit in order to improve their adoption level of agricultural technology, Developers of new agricultural technology should try to understand the farmers need as well as their ability to adopt technology in order to develop technology that will suit them, there is need to increase access to credit facilities by the

government to the farmers, The government should also subsidise the prices of farm implements and equipment so that they are easily accessed by the farmers, needs assessment should be carried out by the extension workers before introducing new technologies so that they bring technologies that suit farmers requirements.

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List of Acronyms

FAO – Food and agriculture Organisations

IPM - Integrated pest management

FAOSTAT - Food and Agriculture Organization Corporate Statistical Database

IFPRI - International Food Policy Research Institute

AAEA - American agricultural economics association

NAADS - National Agricultural Advisory Services

NACOSTI - National commission for science technology and innovation

NALEP - National agricultural and livestock extension program

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter consists of the background of the study, statement of the problem, purpose of the study, objectives of the study, scope of the study and significance of the study. It will focus entirely on small holder farmers and how they can be economically empowered and the related information that will give a clear background to the study.

1.1 Background

The persistent change of the climate pattern creates the need of adopting new agricultural technologies as the agricultural sector is more prone to this change (Matata et al, 2010). Changes in the climate bring about unforeseen hazards in the livelihood of communities depending more on weather and climate (Al-Hassan and Poulton,2009; Athula and Scarborough, 2011).

It is becoming a problem to the world through rising temperatures, lower precipitation, regular droughts and scarcity of water (Adger et al, 2003;IPCC,2007). The major elements of food production like soil, water and biodiversity are negatively affected by climate change (FAO,2009). Farmers have been changing their agronomic practice so as to suit the changing climate. However, the old coping techniques are not enough for dealing with medium to long term effects of climate change (FAO,2009). Therefore, adoption of improved technologies is important to facilitate the climate change adaptation (Clements et al, 2011). It is also vital to know how and when these technologies are used by farmers and with what effects (Doss,2006). Knowledge of the factors that influence the adoption of a new technology is therefore important in the process of technology development and dissemination.

In the last decades, concerted efforts to increase food production resulted in small increments in world food output. The distribution of the increase was heavily skewed towards the more developed nations while the other regions of the world attained less than impressive increments.

Food output in Africa lags behind the rest of the world's production levels. In the last decade, the continents share of the world food production was 3.9% by comparison with Asia, North

REFERENCES

Adger, W.N., Huq, S., Brown, K., Conway, D., and Hulme, M. 2003. Adaptation to Climate Change in the Developing World. *Progress in Development Studies*, 3 (3), 179–195.

Alderson, Woe (1957), *Marketing Theory and Executive Action: A Functionalist Approach to Marketing Theory*.

Al-Hassan, R., and Poulton, C. 2009. Agriculture and Social Protection in Ghana. *Future Agricultures*. Working Paper No. 009.

Athula, S., and Scarborough, H. 2011. Coping with Climatic Variability by Rain-fed Farmers in Dry Zone, Sri Lanka: Towards Understanding Adaptation to Climate Change. Australian

Agricultural and Resource Economics Society (AARES), 55th Annual National Conference 8-11 February 2011, Melbourne, Victoria.

Bandiera, O. and Rasul, I. (2002). Social networks and technology adoption in north Mozambique. Discussion paper series. London UK, center for economic policy research.

Bonabana-wabbi J. (2002). assessing factors affecting adoption of agricultural technologies. The case of integrated pest management (IPM) in Kumi district. Thesis .East Africa.

Challa, Merga (2013). determining factors and impacts of modern agricultural technology adoption in in west college, Munich.

Clements, R., Hagggar, J., Quezada, A., and Torres, J. 2011. Technologies for Climate Change Adaptation– Agriculture Sector. X. Zhu (Ed.). UNEP Rios Centre, Roskilde.

Converse, Paul D. and Harvey W. Huegy (1952), *the Elements of Marketing*. Englewood Cliffs, NJ: Prentice Hall.

Cravens, David W., Gerald E. Hills, and Robert B. Woodruff (1980), *Marketing Decision Making: Concepts and Strategy*.

Doss, R.C. 2006. Analyzing Technology Adoption Using Micro Studies: Limitations, Challenges, and Opportunities for Improvement. *J. Agri. Econ.* 34, 207-219.

Eckhardt, N.A., Cominelli, E., Galbiati, M., and Tonelli, C. 2009. The Future of Science: Food and Water for Life. *Plant Cell*, 21, 368–372.

Feder, G E.R. Just and D.Zilberman.(1990).adoption of agricultural innovation in developing countries.

Feder, G. and Slade R. 1984. The Acquisition of Information and the Adoption of New Technology. *American J. Agri. Econ.*, 66, 312-320.

Food and Agriculture Organisation (FAO). 2009. Profile for Climate Change, Rome, Italy. P.28.

Foster, D and Rosenzweig, M.(1995).learning by doing and learning from others. Human capital and technical change in agriculture. *Journal of political economy*.pp1176-1209.

Giller, K. E., Witter, E. M., Corbeels, and Tittonell, P. 2009. Conservation Agriculture and Smallholder Farming in Africa: The heretics' view. *Field Crops Research*, 114, 23-34.

Goodwin B, and Mishra, A. (2002).farming efficiency and the determinants of multiple jobs holding by farm operators. *American journal of agricultural economics* 86(3) pp722-729.

Haper. J, Rister, M.Mjelde, J,Deress.Mand Way M, (1990). Factors influencing the adoption of insect management technology. *American journal of agricultural economics*. 72(4)pp. 997-1005

Jain R. Arora A. & Raju S. (2009). Anoval adoption index of selected agricultural technologies. Linkages with infrastructure and productivity pp109-120.

Kasriyasa.K, Dewi. A [2011] analysis of factors affecting adoption of integrated crop management farmer field school in swampy areas. International journal of flood and agricultural economics pp 29-38.

Loivinsohn, M. Sumbergj, Diagne. A. [2012] under what circumstances and conditions does adoption of technologies result in increased agricultural productivity? University of London sssMinistry of Agriculture Animal industry and Fisheries. 2010. Agriculture sector Development strategy and investment plan: 2010/11-2014/15, Entebbe.

Mohamed, K. and Temu, A. [2008]. Access to credit and its effect on the adoption of agricultural technologies: The case of Zanzibar. African Review of Money Finance and Banking: pp. 45-89

Muzari.W. Gatsi, W and Muvhunzi, S. [2012]. The impacts of technology adoption on smallholder agricultural productivity in sub-Saharan Africa.

Simtowe, F. and Zeller, M. [2006]. The impact of Access to credit on the Adoption of hybrid maize in Malawi: An empirical test of an Agricultural Household Model under credit market failure. MPRA paper No.45

Sserunkuma. D [2005]. The adoption and impact of improved maize and land management technologies in Uganda.

Wekesa, E, Mwangi. W, Verkuiji, H, Danta, K. Degroote, H [2003]. Adoption of maize technologies in the coastal lowlands of Kenya. Mexico