

ASSESSING THE FACTORS INFLUENCING INPUT USE BY MAIZE SMALLHOLDER
FARMERS IN KAMUDA SUB COUNTY, SOROTI DISTRICT

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DECLARATION

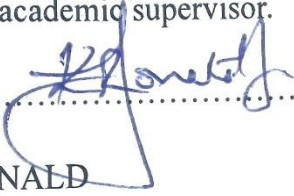

This study is original and has not been published for any other degree award to any other university before.

Signature..........Date..........

ENGWENU JOB

APPROVAL

This special report has been submitted to the Department of Agribusiness and Extension with the approval of the academic supervisor.

Signature.......... Date..........

DR. KABBIRI RONALD

DEDICATION

To my beloved parents, Opio David and Amoding Rose, I dedicate this work, grateful for their unwavering encouragement and direction that has fuelled my determination. I also extend my heartfelt gratitude to my family, whose encouragement and love have been my rock throughout this journey. Special thanks to my dear friend, Aceng Dilish, for being a constant source of inspiration and comfort. Additionally, I express deepest appreciation to my academic supervisor, Dr. Kabbiri Ronald, Mr. Ochom Geoffrey, and Mr. Oguli Francis, whose expert guidance, wisdom, and teaching have shaped my character.

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LIST OF ACRONYMS

AAS	African Agricultural Survey
AFS	Agroforestry system
GDP	Gross Domestic Product
GOU	Government of Uganda
FAO	Food Agriculture Organization
IBM	Integrated Pest Management
NARO	National Agricultural Research Organization
NDP	National Development Plan
MAAIF	Ministry of Agriculture, Animal industry and Fisheries
PMA	Plan for Modernization of Agriculture
PV	Predictor Value
SPSS	Statistical Package for the Social Sciences
SSA	Sub-Saharan Africa
UBOS	Uganda Bureau of Statistics

ABSTRACT

Globally, maize production has reached unprecedented levels, exceeding 1 billion metric tons yearly, and now accounts for 86% of total cereal output, cementing its status as the most widely produced and consumed staple cereal. Despite the contribution, In Uganda, maize production has remained stagnant with consumption demand above domestic supply in many areas of the country. This makes it important to analyse the socio-economic and institutional factors that influence input use for increased productivity among smallholder farmers of Kamuda sub county. A sample of 133 farmers was randomly selected and analyzed using SPSS 20. Descriptive findings showed that most farmers were actively farming, had small plots, were youthful, female, married, and educated up to primary level. Regression analysis identified significant relationships between improved maize use and socio-economic factors, including family ties, age, marital status, maize prices, credit, income sources, and infrastructure policies.

CHAPTER ONE

1.0 Introduction

1.1 Background

Globally, maize production has reached remarkable heights, capturing 86% of the cereal market and breaking the 1 billion metric ton barrier annually, a testament to its widespread adoption.(Danile, 2023). In Sub Saharan Africa and Latin America, maize production, consumption and international trade examine the changing trends in Global Supply and Demand about 40% (Work Bank, 2022). Uganda's National Development Plan II (NPA, 2020) recognizes maize as a strategic commodity, crucial for food security, nutrition, and economic growth. Small-scale farmers primarily cultivate maize for subsistence and income generation, while its export potential has gained significance in recent years.

The African Agricultural Survey (2020) reports that 52% of farmers planted maize in the first season, increasing to 57% in the second season. Uganda's 2020 maize production totaled around 3.5 million MT, cultivated on approximately 2.0 million hectares.

This, however, is all fuelled by proper input use, which is still challenge in Uganda leading to decline in maize production. According to, (2023) it shows that Input utilization in maize production still remains low, where by only 12% of the famers use all the inputs country wide. In addition, 25% of households use improved maize seeds. African Agricultural Survey, (2020).

However, in the area of study, the commonly used local maize varieties is local yellow maize and local white maize, Improved maize varieties is Longe varieties. However, the study was based on improved maize seeds that is to say Longe varieties. Although many efforts have been put in place for instance combination of technology advances is done to increase yields. (Njogu, 2019), there is need to analyse factors influencing the use of inputs that is why my research was based on solving factors that influence input use in Kamuda Sub County.

1.2 Problem statement

For many decades, the agricultural sector remains the largest provider of Gross Domestic Product (GDP), contributing 20% to 50% to developing countries and 15% to 30% to developed countries (World Bank Group, 2024). Despite the contribution, In Uganda, maize production has remained stagnant with consumption demand above domestic supply in many areas of the country like in Kamuda sub county.

Reference

- Alig, R. J., White, F. C., & Murray, B. C. (1988). Economic factors influencing land use changes in the south-central United States. *Research Paper - Southeastern Forest Experiment Station, USDA Forest Service, No. SE-272*, 23 pp.
- Buyinza, J., Nuberg, I. K., Muthuri, C. W., & Denton, M. D. (2020). Assessing smallholder farmers ' motivation to adopt agroforestry using a multi-group structural equation modeling approach. *Agroforestry Systems*, 2. <https://doi.org/10.1007/s10457-020-00541-2>
- Fadeyi, O. A., Ariyawardana, A., & Aziz, A. A. (2022). Factors influencing technology adoption among smallholder farmers: a systematic review in Africa. *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, 123(1), 13–30. <https://doi.org/10.17170/kobra-202201195569>
- Gichangi, A., Birachi, E., Wambua, S., Kavoi, J., Karanja, D., Muriithi, F., & Mutua, M. (2019). Factors influencing smallholder farmers' inputs use in major bean production corridors in Kenya. *Journal of Agriculture and Food Sciences*, 17(1). <https://doi.org/10.4314/jafs.v17i1.11>
- Giller, K. E., Andersson, J. A., Corbeels, M., Kirkegaard, J., Mortensen, D., Erenstein, O., & Vanlauwe, B. (2015). *Beyond conservation agriculture*. 6(October). <https://doi.org/10.3389/fpls.2015.00870>
- Komolafe, A., Adegboyega, S., Anifowose, Y., Akinluyi, F., & Awoniran, D. (2014). Air pollution and climate change in Lagos, Nigeria: Needs for proactive approaches to risk management and adaptation. *American Journal of Environmental Sciences*, 10412423, 412–423. <https://doi.org/10.3844/ajessp.2014.412.423>
- Kyampeire, B. (2012). *LOCAL COMMUNITY PARTICIPATION AND THE ADOPTION OF AGRICULTURAL TECHNOLOGY IN KAYUNGA DISTRICT, UGANDA*.
- Meijer, S. S. (2014). *International Journal of Agricultural Sustainability The role of knowledge , attitudes and perceptions in the uptake of agricultural and agroforestry innovations among smallholder farmers in sub-Saharan Africa*. May.

<https://doi.org/10.1080/14735903.2014.912493>

- Alig, R. J., White, F. C., & Murray, B. C. (1988). Economic factors influencing land use changes in the south-central United States. *Research Paper - Southeastern Forest Experiment Station, USDA Forest Service, No. SE-272*, 23 pp.
- Buyinza, J., Nuberg, I. K., Muthuri, C. W., & Denton, M. D. (2020). Assessing smallholder farmers' motivation to adopt agroforestry using a multi-group structural equation modeling approach. *Agroforestry Systems*, 2. <https://doi.org/10.1007/s10457-020-00541-2>
- Fadeyi, O. A., Ariyawardana, A., & Aziz, A. A. (2022). Factors influencing technology adoption among smallholder farmers: a systematic review in Africa. *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, 123(1), 13–30. <https://doi.org/10.17170/kobra-202201195569>
- Gichangi, A., Birachi, E., Wambua, S., Kavoi, J., Karanja, D., Muriithi, F., & Mutua, M. (2019). Factors influencing smallholder farmers' inputs use in major bean production corridors in Kenya. *Journal of Agriculture and Food Sciences*, 17(1). <https://doi.org/10.4314/jafs.v17i1.11>
- Giller, K. E., Andersson, J. A., Corbeels, M., Kirkegaard, J., Mortensen, D., Erenstein, O., & Vanlauwe, B. (2015). *Beyond conservation agriculture*. 6(October). <https://doi.org/10.3389/fpls.2015.00870>
- Komolafe, A., Adegboyega, S., Anifowose, Y., Akinluyi, F., & Awoniran, D. (2014). Air pollution and climate change in Lagos, Nigeria: Needs for proactive approaches to risk management and adaptation. *American Journal of Environmental Sciences*, 10412423, 412–423. <https://doi.org/10.3844/ajessp.2014.412.423>
- Kyampeire, B. (2012). *LOCAL COMMUNITY PARTICIPATION AND THE ADOPTION OF AGRICULTURAL TECHNOLOGY IN KAYUNGA DISTRICT, UGANDA*.
- Meijer, S. S. (2014). *International Journal of Agricultural Sustainability The role of knowledge, attitudes and perceptions in the uptake of agricultural and agroforestry innovations among smallholder farmers in sub-Saharan Africa*. May. <https://doi.org/10.1080/14735903.2014.912493>