

**AGRICULTURAL SERVICE DELIVERY BY NAADS UNDER
DECENTRALISED GOVERNANCE IN ARUA
DISTRICT, UGANDA.**

A Thesis

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Master of Development Studies

By:


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September, 2011



DECLARATION A

I Mustafa do declare that this thesis is my original work that has not been presented for publication in anywhere, or for any award in any university, college or institution.
Statements from other peoples work have been duly acknowledged


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DEDICATION

I dedicate this book to my mother, aunt and to my sisters and brothers and my lovely wife, who have all worked tirelessly in this academic achievement. To All my friends and relatives who have helped me in my academic struggle.

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ACRONYMS OR ABBREVIATIONS

NAADS	National Agricultural Advisory Services
GOU	Government of Uganda
PMA	Plan for Modernization of Agriculture
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
FAO	Food and Agricultural Organization
MFPED	Ministry of Finance, Planning and Economic Development
UNHS	Uganda National Housing Survey
UPPAP	Uganda Participatory Poverty Assessment Process
UNDP	United Nations Development Programme
RDC	Resident District Commissioner
CAO	Chief Administrative Officer
GDP	Gross domestic product per capita
NARO	National agricultural research organization
LGDP	Local government development project
DNC	District NAADS coordinators
SCN	Sub-county NAADS coordinators
TPC	Technical planning committee
RCS	Resistance council committee
SFF	Sub-county farmer fora
CBFs	Community based facilitator
CBOs	Community based organizations
LG	local government

ABSTRACT

Decentralized service delivery has led to transfer of powers, functions, and responsibilities for planning and implementation of agricultural extension services from the MAAIF (Ministry of Agriculture Animal Industries and Fisheries) to district local governments. However, the aim of this study was to assess relationship between decentralized governance and agricultural production by NAADS in Arua district. The methodology used was descriptive Research design, Data collected included; demographic features of the key respondents, decentralization and improvement of agricultural production, gender distribution and factors that determine their participation, and benefits of women participation in NAADS.

However, a total of 115 questionnaires were distributed and 6 NAADS coordinators were interviewed. Six Sub-counties were purposively selected according to the date joined to NAADS programme and the distance away from the district which samples are distributed through stratified technique. The study used interview guides, Focus Group Discussions (FGDs) and observation to collect data. Data was analyzed through STATA/SPSS software's.

The findings indicated that decentralization has significantly improved agricultural yields per acre. Which means that sub-county level; farmers had benefited more from the advisory services through provision of inputs. The study also found that women did not take part in decision-making process of NAADS programme activities since most of the key positions are taken by men. However, it was found out that NAADS had registered some achievements. Farmers acquired skills through training which has empowered them to translate NAADS knowledge on their own. And working in groups has strengthened their relationships and sharing of ideas. These are some of the areas where the benefits of NAADS were realized.

The study recommended that there is need to introduce women in top hierarchy management positions including; Sub-county chief, LC3 chairperson, NAADS coordinators and the extension service providers, and pay attention to the continue change of policy and empower farmers to benefit from NAADS effectively as well as increasing the number of extension service workers at district and Sub-county level.

CHAPTER ONE

THE PROBLEM AND ITS SCOPE

Background of the study

Decentralization is a devolution of power from center to local government sub unit's however, is a complex phenomenon involving many geographic entities, societal actors and social sectors. The geographic entities include the international, national, sub-national and local.

Decentralization, or decentralized governance, refers to the restructuring or reorganization of authority so that there is a system of co-responsibility between institutions of governance at the central, regional and local levels according to the principle of subsidiarity, thus increasing the overall quality and effectiveness of the system of governance, while increasing the authority and capacities of sub-national levels (UNDP, 1999).

Decentralization is expected to contribute to key elements of good governance, such as increasing people's opportunities for participation in economic, social and political decisions; assisting in developing people's capacities; and enhancing government responsiveness, transparency and accountability. Further, Most of the agricultural sectors in less developed countries have undergone a series of reforms that aim at positioning the role of the market as the leading force to promote optimal resource allocation among the various economic activities (Diaz, 2009).

Uganda serves as a good example of decentralization in Africa due to its innovative institutional and economic reforms which have been made to improve agricultural service delivery. Ndegwa and Levy (2004) ranked Uganda as the second most decentralized country in Africa. Decentralization in Uganda has brought tremendous achievements and progress in socio-economic and political landscape of the country. This process has led to substantial support of agricultural and other services, whereby the establishment of local council units promoted significantly agricultural production and commercialization of agriculture in rural areas.

The agricultural sector contributes 43% to the Gross Domestic Product (GDP), provides employment to over 80% of the workforce in rural areas, and is a main source of foreign exchange earnings (85% of export earnings). Yet, land and labor productivity is low and the incidence of poverty, especially in rural areas, is high. Nearly one-half of the population lives below the poverty level and faces food insecurity. The challenges of food insecurity and poverty are compounded by the health crisis (HIV/AIDS) and environmental degradation that Uganda is facing.

To transform its agriculture, the government of Uganda (GOU) introduced a number of agricultural policies which include; Plan for modernization of agriculture (PMA) which has become the blueprint to guide GOU's efforts towards agricultural development and transformation. The agricultural sector requires a significant transformation aimed at increasing crop yields and household incomes. Such transformation cannot be achieved without provision of agricultural advisory services to the farmers.

This study explores provision of agricultural advisory services by NAADS under decentralized local government of Arua district and examined potentials problems suffered by farmers in rural areas of arua district in terms of low skills, credit availability agricultural inputs and other value additions in their agricultural practices.

Statement of the Problem

Decentralized service delivery has led to transfer powers, functions, and responsibilities for planning and implementation of agricultural extension services from the MAAIF (Ministry of Agriculture Animal Industries and Fisheries) to district local governments. The decentralized service delivery is perceived to have enhanced participation of local communities in planning and implementation of programs, and ensured closer staff supervision for increased agricultural production through improvement of farmer skills, informal education, provision for farm inputs etc (Kibwika and Semana, 1998).

In context of Arua district, most farms are small in size and production is mainly for subsistence, plus very little modest excess for sale and low literacy levels. Most farm sizes are below 1 ha. Over 70% of landholdings are less than 1 hector. Moreover, the ability of both poor men and women farmers to improve crop production and productivity is severely constrained by the lack of modern production inputs (information technology and practices) and supportive services such as Education, Technical training, Technology Development, organized Markets, Credit facilities and even Health Care which particularly hamper both men and women's use of production resources. Rural farmers have resorted to their own local ways of collecting information and are adopting coping strategies to satisfy their need for food production requirements.

The national agricultural advisory service (NAADS) under decentralization is one of five components of PMA policy. This was started with the aim to increase agricultural production through

provision of agricultural advisory services under decentralized system of governance. The mission of NAADS is "increased farmer access to information, knowledge, and technology through effective, efficient, sustainable and decentralized extension with increased private sector involvement in line with government policy". The nature of Arua farmers however limits the achievement of NAADS objectives and goals as well as the entire decentralized agricultural service delivery.

Purpose of the Study

The purpose of this study was to assess performance of agricultural service delivery by NAADS under decentralized governance in Arua district for the period of 2001 to 2010.

Research Objectives

General objective

The main aim of this research was to assess the relationship between decentralization of governance and agricultural services by NAADS.

Specific Objectives

The study specifically aimed at:

1. To examine gender representation at district and sub-county level.
2. To assess the relationship between decentralization of governance and improvement of agricultural production in Arua District.

3. To establish the availability of agricultural services towards sustainable improvement of agricultural production under decentralized governments.
4. To examine performance of NAADS in relation to performance of agricultural production.

Research Questions

The study was guided by the following three questions;

1. What is the representation of gender at district and Sub-county level?
2. Is there any relationship between decentralization of governance and improvement of agricultural production?
3. What is the performance of NAADS towards improvement of agricultural productivity?

Scope of the Study

Geographical Scope

The study of decentralized service delivery and improvement of agricultural production by NAADS program was conducted in five Sub-counties and one division (Oli division) out of 22 sub counties of Arua District, West Nile region which geographically lies between latitude 20 30'N and 30 50'N and longitude 300 30'E and 310 30'E in the North Western part of Uganda, it is bordered by the Republic of Sudan in the North West, Yumbe District in the North East, Democratic Republic of Congo in the West, Nebbi District in the South, and Gulu District in the East. Arua town which is the Administrative and commercial headquarters of the district is 520 kilometres away from Kampala, Uganda's capital city. The district is made up of 22 sub-counties and one urban council namely, Arua municipal council.

Theoretical Scope

Theoretically the study has covered the relationship between decentralization of governance and agricultural production by NAADS in terms of productivity through farmer empowerment, market participation, incidence or intensity of adoption of information, technology, method of financing and the delivery of appropriate advisory and technical services for different types of farmers.

Significantly, the study has narrated the impact of NAADS on various indicators associated with the objectives of the program, including; empowerment to organize and demand and manage advisory services; Perception of the availability and delivery of advisory services; incidence and intensity of adoption of improved technologies and practices; Agricultural productivity; Market participation; and income, assets, food and nutrition security, and welfare.

Content Scope

The study covered accessibility of farmers to agricultural information, acquisition of agricultural knowledge and skills, access to improved technologies and their adoption. Farmer production and productivity, participation of NAADS beneficiaries in decision making during procurement process which all under decentralized governance.

Significance of the Study

The results of this study are likely to bring about a positive impact on societies in the following ways:

Findings of the study will be used to improve delivery of agricultural services under decentralized governance at District level.

The study will also provide to policy makers, local government practitioners and other stakeholders with recommendations which can be used to achieve effective agricultural services delivery and improvement of productivities.

The study will provide researchers background information in the area of study.

Operational Definitions of the Key Terms

Decentralization: entails the transfer of planning, decision making and administrative authority from the central to local governments.

National Agricultural Advisory Services: is a decentralized agricultural extension programme, to provide a decentralized, farmer-owned and private sector extension system contributing to the realization of the agricultural objectives.

Agricultural Production: In context of this research, agricultural production is the process of growing/ rearing animals in the practice or science of farming and the main target is to be sold in a form of large quantities to generate profit.

Farmer group: a group of individual farmers or an association with common particular farming interest.

Advisory Service Provider: a person or a body contracted to provide advisory services.

Independent Variable

Dependent Variable

Decentralized governance through NAADS

- Advisory services
- Training
- Provision of Seeds, fertilizers and agro-inputs
- Marketing
- providing credit opportunities
- Education

Improvement of Agricultural production:

- increased output
- Increment of income
- High agricultural yields
- increases agro-products prices
- promotion of technologies
- Availability of operating costs and investment opportunities
- increase of stocks/ enterprises

Participation

- Training
- Finance management
- Linkage to markets
- Bids evaluation
- Awarding contracts

intervening variable

- Better relationships between beneficiaries and service providers
- Water availability
- Access to advisory services
- Political and security issues
- Natural disasters

Constructed

Figure 1

The conceptual framework entails how independent variable influences dependent variable by analyzing in terms of NAADS activities which provides advisory services through training, provision of agro-inputs, technologies for modernization of agriculture. And also offering

marketing opportunities for different enterprises for agricultural products

On the other hand, the conceptual framework also embarks on the effect of independent variable in terms for increasing agricultural inputs, agro-yields, income, and provision of appropriate technologies, increase agricultural stocks and market opportunities. However, intervening variables was better relationship, access to advisory services, political, security and natural disasters which researcher was not interested to manipulate. Therefore, this conceptualizes briefly the relationship between decentralized governance and improvement of agricultural production by NAADS.

Concepts, Opinions, Ideas from Authors/Experts

DECENTRALISATION AND CIVIL SERVICE REFORM

In 1992, Uganda adopted the decentralization policy that sought to establish a system of governance underpinned by strong local governments. Subsequent constitutional and legal reforms established districts and the sub-counties as key pillars of local governments through which effective service delivery and local governance is to be attained. Decentralization has led transfer of power, planning and decision-making from the center to local government sub units. So that it is the transfer of functions, responsibilities, authorities, planning and implementation of agricultural extension services from the ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to district local governments.

According to Boex et al (2006), Agriculture, in its broadest sense, constitutes a major opportunity for improving the well-being of the developing economies, where the majority of people still live in rural areas. To extent that agricultural extension and livestock development focus on supporting agricultural production by poor subsistence farmers and small-holders, the link between agricultural programs and poverty reduction is often even more direct than in the cases of education and health care. The dissemination of technical know-how to small farmers, improve or subsidized access to seed and fertilizer support for irrigation schemes, improved market access, or the provision of veterinary services for livestock owners provides a benefits that is directly proportional to the increases in production that result from these interventions, to extent that agricultural extension and support programs are effective increasing agricultural production, these programs directly increase the earning potential of poor rural households.

In context of agricultural development, the basic aim of decentralization is to improve the level efficiency by assuring that the extension services that are provided respond to local needs. Indeed, decentralization facilitates the use of local knowledge, local participation and ownership by utilizing local resources. Furthermore, decentralization has the potential to enhance transparency and accountability in the delivery of agricultural services, allowing local governments and community groups to more closely monitor service providers in order to reduce shirking by extension workers and to ensure that extension services are actually delivered.

Agricultural Advisory Services

Decentralization has led to transfer of powers, functions and responsibilities for planning and implementation of agricultural extension services from the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) to district local governments.

However, MAAIF was left with the role of planning and policy formulation, regulatory functions, technical backstopping and training, setting standards and monitoring performance of the agricultural sector, and managing funds of selected projects. Extension workers at district level were put under the direction of the local District Governments (Friis-Hansen and Kisauzi, 2004; Mangheni, 1999). In 1998, the directorate of extension in the MAAIF was abolished, central staffing was reduced by some 80% and the major responsibility for supporting field level extension was transferred to the National Agricultural Research Organization (NARO).

Moreover, in the same year, in a move contrary to downsizing, restructuring, and contracting out/privatization objectives at the time, central government introduced a plan to employ up to three graduate specialists per sub-county with salaries paid by the central government as conditional grants while the districts and sub-counties were expected to cater for operational expenses (Crowder and Anderson, 2002).

In addition to this, in 2001, Uganda embarked on a process of transforming its public extension system in conformity with the rest of its economic transformations. Under the NAADS Act (2001), the public extension system was gradually phased out and replaced by a contract

privatized system implemented by a new statutory semi-autonomous body - the National Agricultural Advisory Services (NAADS) – under the MAAIF implemented within a broader policy framework of a multi-sectoral Plan for Modernization of Agriculture (PMA), decentralization, liberalization and privatization (Mangheni, 2007).

Since agriculture is the major dominant contributing sector in the country, this study takes a closer look at the agricultural extension services towards improvement of agricultural transformation in Arua district by analyzing its access and impacts on income and capacity of farmers to demand for agricultural extension services. Therefore, the NAADS program offers demand-driven agricultural extension services and initial assessment has shown that the program significantly increased agricultural productivity and income (Nkonya, et al., 2008; Benin, et al., 2008).

On the other hand, farmers benefit from the technical skills of the extension agents. The synergy and complementarity of functions resulting from this arrangement may be more efficient and effective than either sector working in isolation. However, one limitation to the sustainability and replicability of this model is the fluid and location specific nature of these coalitions which to a large extent depend on local networks, available staff capacity and organizational needs (Bashaasha, Mangheni, & Nkonyo, 2008).

PMA (Plan for Modernization for Agriculture)

The Plan for the Modernisation of Agriculture (PMA) is a government planning framework, aiming to eradicate poverty by transforming subsistence agriculture to commercial agriculture.

However, it is supported by a small Secretariat (which provides technical and analytical support), and has a Steering Committee (Chaired by the PS, Ministry of Finance, Planning and Economic Development and supported by various subcommittees). It has responsibility for overseeing the implementation of all the seven pillars of the PMA, including NAADS, but the PMA does not sit on the NAADS Board and has no executive powers vis-à-vis the NAADS programme (ITAD, 2008).

NAADS Program in Context

The parliamentary act (1997) and the government of Uganda formulated the NAADS program in 2001 to offer farming as a business. NAADS has managed to build farmer institutions and inculcated a sense of ownership in the stakeholders through its key principles of empowerment, decentralized implementation, commercialization and popular participation (Mwanje, 2006).

Agricultural advisory services make new knowledge available to farmers and assist them to develop their farming and management skills. This will foster agricultural productivities in Uganda and offer opportunities for markets and value additions that will promote agriculture. according to Chipeta (2003) noted that, the common framework for supporting pro-poor extension found that the limited power and voice of the poor in influencing services, markets and policies were the most vital constraints for poor farmers to be able to realize new agricultural opportunities.

NAADS secretariat (2002) argued that NAADS is a decentralized, farmer owned and private sector serviced extension system contributing to the realization of the agricultural sector objectives. It further notes that, the mission of NAADS was to increase farmer's access to information, credit facilities, education and technology through effective, efficient, sustainable and decentralized extension with increasing private sector involvement in lien with government policy.

NAADS ORGANISATION STRUCTURE

The institutional framework for NAADS set out in the NAADS organization act 2001 and as shown in ANNEX 2 comprises the following:

- Ministry responsible for agriculture
- Ministry responsible for finance, planning and economic development
- Ministry responsible for local government
- NAADS Board
- NAADS Secretariat
- District Local governments
- Sub-county local government
- Farmer fora and institutions
- Private sector service providers

Role of Ministry Responsible for Agriculture

The ministry responsible for agricultural sector has overall responsibility for supervision of NAADS through a NAADS Board established by an Act of Parliament (NAADS Act 2001).

The NAADS Board has an advisory role at national level and gives guidance on policy direction and strategies through a NAADS Secretariat.

The Secretariat is responsible for NAADS management and closely coordinates the Programme with the Ministries responsible for finance and local governments. The Ministry responsible for Agriculture remains accountable to the Parliament on matters related to NAADS.

Role of Ministry Responsible for Finance

The flow of funds and accountability in the NAADS Programme follows the arrangements laid down under the Poverty Action Fund (PAF), which is implemented and supervised by the Ministry responsible for finance. This fiscal supervisory arrangement will apply to NAADS. The NAADS Secretariat will aggregate plans of the farmer groups and submit them to the Ministry to trigger release of funds.

Role of Ministry Responsible for Local Government

Local governments in accordance with the Local Governments Act 1997 will implement NAADS activities. The Ministry responsible for local governments, through its Decentralization Secretariat and the Local Government Finance Commission, will ensure the integration of NAADS into the Local Government Development Project (LGDP) and all other local government capacity building initiatives in the Districts. Through this arrangement, the Districts and Sub-Counties will each undertake full responsibility to implement and supervise the operation of NAADS in partnership with farmer groups or Fora.

NAADS Board

The Board is the governing body of NAADS and is answerable to the Minister of MAAIF, with the NAADS Executive Director being the Secretary to the Board. Its broad role includes setting policies and strategies that guide management in the implementation of program activities, setting targets for the Secretariat and approving their work plans and budgets and supervising and supporting the Secretariat.

According to ITAD report in 2008, the current Board, which was inaugurated in 2002, comprises 15 Directors, ten of whom are practicing farmers who represent various farmer/private sector constituencies. The remaining five are representatives from public institutions, appointed by the Minister of MAAIF. The Board was put in place as an interim arrangement to allow for the finalization of processes leading to the formation of the National Farmers Forum. This latter body has taken considerable time to come into being, and as it is only a few months old is not yet fully operational.

Therefore, the NAADS Secretariat is the executive authority and engine of the program with responsibility for overall planning, technical guidance and oversight of NAADS operations. In the execution of its duties, the Secretariat is supervised by the NAADS Board, headed by an Executive Director and is immediately supported by three Managers (Finance and Administration Manager, Technical Services Manager and Planning and Monitoring and Evaluation Manager).

These four persons have managed the program from its trailblazing period of 6 districts and 24 sub-counties, to the current 79 districts and 712 sub-counties. The total technical staffing at the secretariat is nine. The implementation of the program on the ground

is the responsibility of the District NAADS Coordinators (one per District), the Sub County NAADS Coordinators and the LG technical staff, and the various farmer organizations established under the program and the contracted entities (e.g. the private Service Providers).

NAADS Secretariat

Most decisions and functions of routine management will be the responsibility of the appropriate Farmer Fora, Sub-County and District personnel. Therefore, the major tasks of the Secretariat will be to provide technical guidance and operational oversight, and to facilitate outreach and impact. To achieve this, the Secretariat will contract and supervise private professional firms to provide specialized services according to the needs prioritized by farmers.

In addition, using contracted services, the Secretariat will engage in activities of a regional and national scope and those of special public interest. For example, such activities will include adaptive research trials, technology dissemination, social impact studies and policy-oriented research.

Local Government

The local government act (1997) defines local government as sub-national levels of government usually entrusted with authority to perform particular functions affecting a particular geographical jurisdiction. The management and control of NAADS resources under local government units will also attract analysis in this paper.

The NAADS program in the districts and sub-counties is implemented through existing local government (LG) structures. The parish, districts and sub-county councils each have a number of roles respective of each level. These include policy, assessment and general oversight and supervision of counterpart financial contributions and assessment of NAADS' performance.

The key LG stakeholders include:

- Production Departments
- Technical Planning Committees
- Contract committees

In each district, the program finances the post of District NAADS Coordinator (DNC) which is a contracted (i.e. non substantive) position, responsible to the Secretariat, but with technical and administrative liaison with the District Production Coordinator. At Sub-county level, a full-time member of the SC technical team is nominated as the NAADS Sub-County Coordinator (SNC). This person receives no salary increment, but is provided with transport (motorcycle) and various job related allowances.

According to the study conducted by David (2007) revealed that, NAADS program directly linked with the sub-county department of production as well as the community development department. And that the sub-county NAADS co-coordinator was a member of sub-county's technical planning committee (TPC) where all technical staffs are. Accordingly, results further showed that there is cordial working relationship between the two local government levels that is the sub-county and the district.

Farmer Organizations

The farmer based institutions set up under NAADS are fundamental to the success of the program and form an organizational structure for the empowerment of the farming community to create a "decentralized, farmer owned extension service".

The Farmer organizations include: Farmer Groups; Farmer Fora (at SC, district and national level); Parish Coordination Committees; Procurement Committees and higher level farmer entities for improving marketing and other value added activities.

On the other hand, as recent study showed that agricultural productivity of farmers with access to NAADS was 25% greater than those who do not (Nkonya, et al., 2008). Studies have also shown that investment in agricultural extension has high returns. For example, Fan and Zhang (2008) showed that the benefit-cost ratio of agricultural research and extension in Uganda was 12.4 while Benin, et al (2008) reported a benefit-cost ratio ranging from 4.5 to 4.9 for expenditure on NAADS.

The high returns agricultural extension investment has been reported in other countries. Lopez (2005) observed that agricultural extension is among the public investments with high returns. A review of social rate of returns to research and agricultural extension from 95 developing countries showed that returns to agricultural extension was about 80 percent (Alston et al. 2000). The study also revealed that farmers with access to agricultural extension realize higher agricultural productivity than those with no or limited access.

On the other side of the coin, the demand for soil fertility was largely organic fertilizer since farmers who reported to use inorganic fertilizer were less than 15%. While the results of the weak demand for improved soil fertility management practices raise concern on the sustainability of the program, since low demand and adoption of improved soil fertility technologies and practices would lead to soil fertility mining and in turn lead to lower productivity in the long-run, there are a few explanations for observing them. The most compelling is that farmers do not demand these technologies because they are not profitable or are not consistent with their constraints (Nkonya et al, 2009).

Consistent with Benin et al. (2007), who observed that advisory services under the NAADS program were predominantly focused on production technologies, NAADS program did not have a significant impact on demand for advisory services related to post-production technologies (i.e., post-harvest and agricultural marketing). The low demand may be due to low productivity (and production) levels, which needs to be increased before any substantial uptake of post-production technologies can be made.

But the capacity of the NAADS program to provide such services may be still limited, as providers of marketing information systems, for example, are very few and they face poor market information (Ramirez and Quarry 2004).

Service Providers

Service providers are individual or corporate bodies (consultancy firms, professional companies, academic institutions, and parastatal agencies) contracted to deliver advisory services. Service providers

must have capacity to enter legal contractual obligations. All service providers will be engaged on a contractual basis to foster accountability and quality service delivery. Service providers will register with the NAADS Board in accordance with Section 31 of the NAADS Act 2001. The functions of service providers will be:

- To advise and provide information, knowledge and skills to farmers on improved methods of farming and agricultural development.
- To advise and provide information to farmers on marketing and trading activities, input supply, storage and product processing.
- To report to the Sub-County Farmer Forum Executive Committee on the performance of agriculture in general, and on the performance of the farmer groups in the specific areas of operation.
- To arrange and perform advisory, research and development support services in response to the demands of farmers.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter presents an outlay of the study design and how is apply. The chapter involves Research design, Research population, Sample size, Sampling procedure, Research instrument, validity and Reliability of the study, Data gathering procedures, Data analysis and Ethical considerations as well as encountered limitation of the study.

Research Design

The study used descriptive Research design to assess the relationship between decentralized governance and improvement of agricultural production by NAADS programme. The study was basically descriptive survey that utilized interviews, focus group discussions and questionnaires among the various target groups who were the staff of; NAADS, farmer fora, farmer organizations and District production department and sub county staff from county to parish level.

Research Population

According to national census survey in 2002, the population of selected five sub counties in Arua District was 141,133 with an annual population growth rate of about 4%. The projected population as at 2011 is about 146,778. This was the parent population of the study. In addition, researcher sampled respondents from the Chief administrative officers, NAADS coordinators and directors of production department, personnel of farmer fora, farmer committee, procurement committee's members and politicians (LC3 &LC5) of Arua District.

Distribution of the Study Population

Table 3.1: The Table below Shows Population Category

County	Sub-county	population	Sample size per sub county	Date joined to NAADS program
Arua municipality	Oli division	28,950	16	2001
Ayivu	Pajulu	34,728	30	2001
Madi-okolo	Ogoko	13,744	14	2002
Vurra	Vurra	31,872	24	2001
Terego	Aii-vu	29,603	18	2002
Vurra	Beleafe	15,755	15	2002
Total	6 sub counties	109,947	117	

Sample Size

For descriptive research, it is common to sample from 0 to 20% of the population, although this range may change with size of population studied. However, as a rule, the larger the sample, the more consistent and accurate is the estimation of parameters in question (Amin, 2005). The research targeted specifically five Sub-counties out of 22 Sub-counties and one municipal division in Arua District, which was chosen, based on amount of funds received from NAADS for the period under review and date joined NAADS.

The study used a sample size of 120 respondents drawn from the use of statistics formula at 9% level of precision ($n = \left(\frac{(Z_{\alpha/2})^2 pq}{L^2} \right)$ (Amin, 2005), representing a population of 45,686 of Arua District.

The study also focused on people working in the local government councils, farmer organizations and NAADS coordinators of the piloted Sub-counties. The additional respondents purposively sampled and their numbers were; chief administrative officer for 1 in each Sub-county while district NAADS coordinator, SC NAADS coordinator, director district production department, selected numbers of farmer fora, were 1, 6, 6, 1, 103 respectively the one hundred and three represented for farmer groups in overall five piloted Sub-counties and one municipal division of Arua district.

Sampling Procedures

The sampling procedure was stratified purposive sampling. Samples were made according to the date SC joined NAADS programme. Thus, 26%, 15%, 21%, 13%, 12% and 14% of the

samples represented by Pajulu, Aii-Vu, Vurra, Beleafa, Ogogo and Oli division respectively. Therefore, generations were used basing on information generated from purposive sampled from respondents.

Research Instrument

In collecting reliable data, the researcher employed questionnaires which contained close ended questions. Interview guide were also used in the field as the researcher conducted focus group discussions. The selections of these tools were guided by the nature of data to be collected, the time available as well as by the objectives of the study. The overall aim of this study was to examine the relationship between decentralized governance and improvement of agricultural production by NAADS programme.

The researcher was mainly concerned with view, opinions, perceptions, feelings and attitudes of the respondents.

Validity and Reliability of the Instrument

To ensure the validity of the questionnaires and interview guides, the researcher presented them to five academic experts including the supervisor. Four of these approved the validity of the instruments.

Content validity index (CVI) = (number of judges declared item valid/total number of items) = $4/5=0.8$

According to Amin(2005), for the instrument to be accepted as valid, the average index should be 0.7 or above, which confirms ours to be valid because its 0.8 which above 0.7.

To establish the reliability of the questionnaire, the researcher gave out six questionnaires to six respondents for pre-testing

purposes, which they filled and collected by the researcher. One week after, the same questionnaire was again given to the same six respondents; and the response were basically same. This helped to reveal by the researcher that the questionnaire instrument was reliable.

Data Gathering Procedures

The researcher got an introductory letter from the School of Postgraduate Studies and Research. The research took about three months.

The researcher has embarked on collecting data from the concerned sectors by distributing questionnaires, conducted interviews, and focus group discussions (FGDs). After collection of raw data, the researcher has organized, sort out and started data analysis which also needs time to consider. In analyzing the data, the researcher used exclusively statistical packages and in particular SPSS and STATA altogether, so that the information may easily become conducive to readers and researchers hitherto.

Having done the organization and analysis of the data, the researched has written up the first draft and then the final for submission. After the in-depth supervision and corrections from the supervisor, the researcher would be ready to defend his topic. On that level, the researcher would have written up the work for binding and submit to the respective and concerned offices.

Data Analysis

Data analysis started with coding, and sorting of data. According to Amin (2005), coding is the process of assigning numbers, symbols or words to classify responses into a limited number of categories that are appropriate to the research problem.

The researcher used statistical techniques of data analysis. SPSS/STATA was used in the analysis process of quantitative data on the basis of this statistical formula ($n = \left(\frac{(Z_{\alpha/2})^2 pq}{L^2} \right)$)

On the other hand, qualitative data was subjected to thematic analysis.

Ethical Considerations

In social science research ethical considerations is the prime factor to pay attention and take care of it during data collection, organizing and data analysis. During field work the researcher paid attention to these considerations. Information was handled ethically with full protection of employee integrity.

The researcher was also willingly near to the respondents to correct for any inconveniences. For qualitative data, interview was carried out through comprehensive approach with unambiguous wording. Face to face approach has been considered to have clear understanding with the respondents to be interviewed.

Limitations of the Study

The study carried out in short time to generate conclusions was based on whole NAADS program implementation in six sub-counties under Arua District.

The study was number of limitations. The region is far lag behind than other provinces of the republic of Uganda in terms of infrastructure, basic social services and living standards. According to research target sites, five sub counties were outside of the district approximately about 40kms, so that the road network was very poor.

The researcher has made many visits in the NAADS coordinator to get permission, she was too busy. Nevertheless, the study was finally done though the researcher was delayed and alternatively the researcher has met with the town clerk to get permission. Many respondents asked the researcher for logistics because to them anything associated with research had to do with money and government.

Nevertheless, the limitations mentioned above did not render the study worthless. The respondents were convinced that the study was purely academic but not associated with money. Attempts were made to get data from many respondents as possible, written sources, documentary reviews and observations. Findings were worthwhile due to the use of qualitative instrument to carry out the study, and the advantage of different data sources, data collection methods, and the trust in the sources.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Introduction

This chapter entails presentation, interpretation and analysis of research findings. These have been dissected into five themes. Analysis of demographic features of the respondents, relationship between decentralization and agricultural production, Participation among key stakeholders (Beneficiaries), activities of NAADS coordinators, decentralized service delivery in five sub-counties and one division under Arua District.

Presentations of Research Question One: Demographic Features

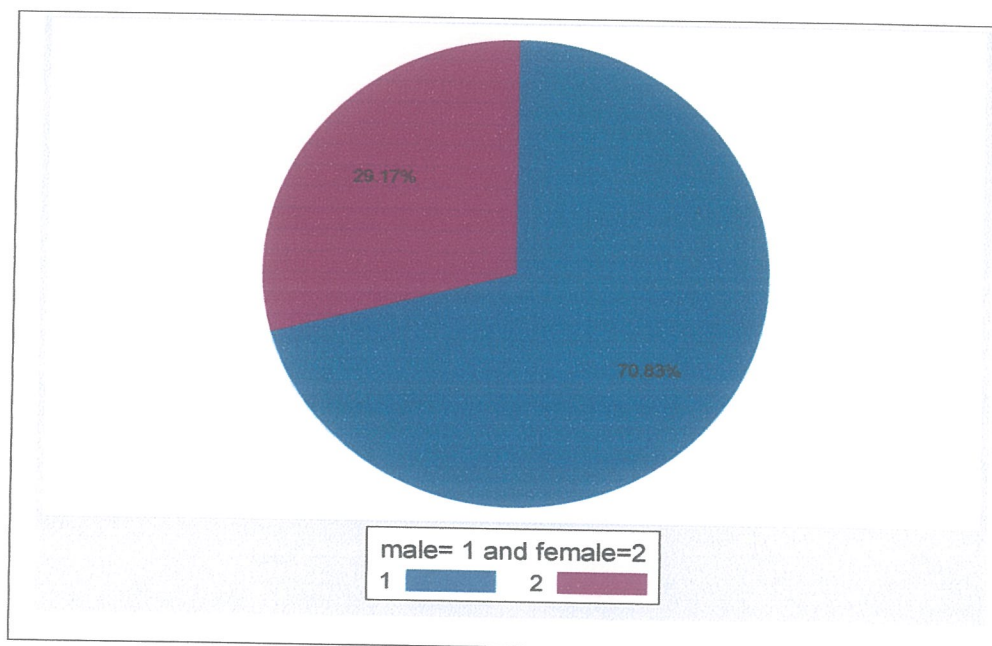


Figure 4.1 Shows Gender of the respondents

The researcher was interested in studying the gender dimensions of respondents in the area of study. The researcher found out that majority of the target groups in terms of politicians, NAADS coordinators and beneficiaries were males.

A total of 70.83% of the target respondents were males while only 29.17% were females. In fact, those five Sub-counties (Aii-vu, Vurra, Beleafa, Ogogo, and Pajulu) and one town division (Oli River) under Arua district which I have sampled, males dominated in top higher ranking positions. There was only one woman holding in the position of District NAADS coordinator but in the other top higher ranking management positions i.e. Sub-county chief, LC3 chairperson, NAADS coordinators and other extension service providers were dominated by men.

However, this study revealed that, levels of women participation are very low in Arua Administrative positions from district to sub-county levels. Even though decentralizations has significant promoted of a hierarchy of farmer institutions rooted village level farmer groups through NAADS program, but still the portion of women participation remained stagnant. The study findings were similar to those by David(2007), who found that, most farmers registered with NAADS program were females who had to attend trainings and workshops yet many of them were housewives who (given the African patrilineal).

Even though, women participation is very low in District and sub-county level, but on the contrary they have dominated in parish level; hence women were very many in village level whereby majority of farmers constitutes more women than men. This information reflects typical findings by Driciru (2008) in her study of women participation in

NAADS programme of Vurra sub-county. She pointed out that Farmer groups in NAADS appeared to be dominated by women. Although there were many men participating in NAADS activities in mixed groups, the overall impression was that men were more active in group activities.

To successfully decentralize a national extension system, both shareholders will need to understand what is involved and have a role in the process. To clarify the process, it is essential to differentiate between the functions of providing and producing public goods and services and both gender dimensions should be equally involved.

In addition to this, table below (4.1) illustrates cross tabulation of age category and gender, it further analyses distributions of age with respect of the gender of the respondents. This implies that the average age category was 21-30 as shown in the table. Which means that the older the person the more she/he in top positions. Predominantly, younger aged people practices subsistence farming while the age between 31-40 and 41-50 were Sub-county chiefs and LC3 chairpersons respectively, while farmers constitute ages varying from 16-20, 21-30 and 31-40.

However, the study also revealed that the sample population was predominantly engaged in rural farming. Most women compared to men were rural farmers. The study findings were similar to those of Truitt, (1996) who indicated that women play important roles in rural economies in Latin America and Caribbean and the world over. In addition, women constitute a bigger number of the labour employed in non-traditional agricultural export compared to men Samanta (1994).

Approximately, 80% of agricultural work in Africa is performed by women as indicated by Tadaro (1995). There were 5 males compared to 2 females engaged in self employment. In trade there were more males. Many of the farmers interviewed were happy that farming had turned into a business and in fact they were very happy for the activities carried by NAADS programme.

Moreover, Women are eager to participate in NAADS; although there are still cultural impediments that hinder women's participation in NAADS. This statement significant supports the findings found by muwonge (2007) which stated that, the case in Kasawo and Kisoko sub-counties, women are expected to perform farm as well as household cores and in some cases refused by their husbands to participate in community participation activities including NAADS.

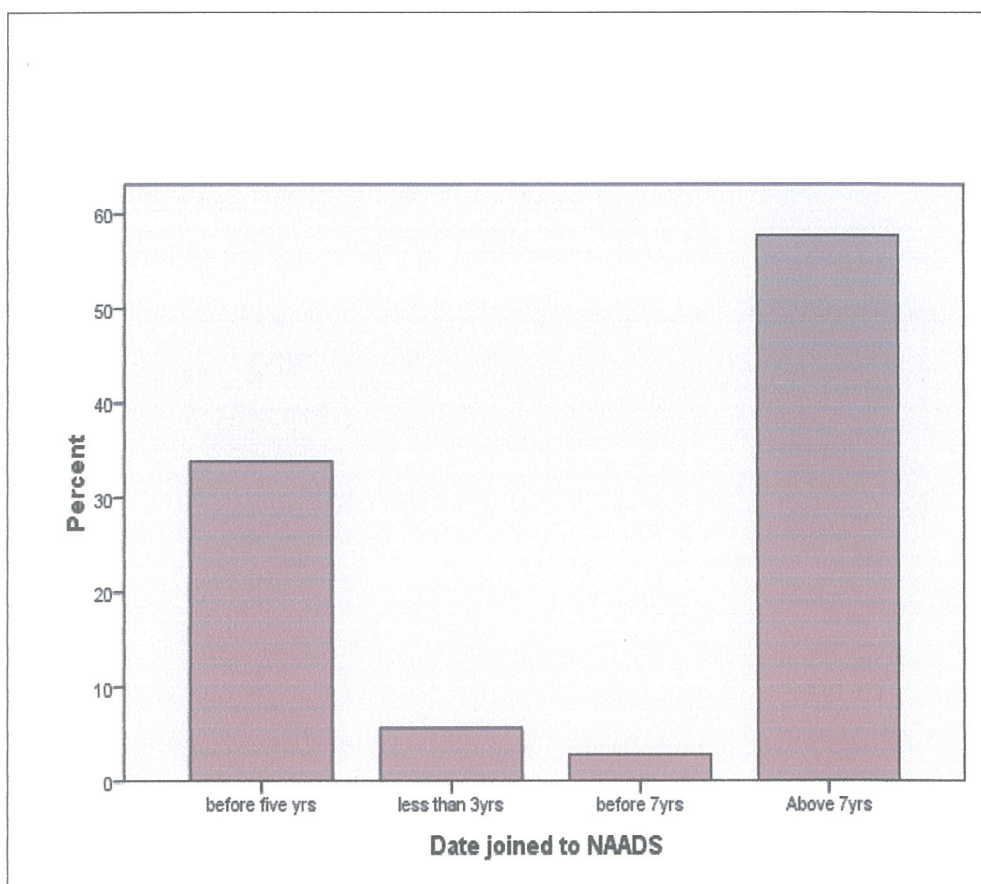


Figure 4.2: Date Joined by Sub-counties to NAADS Programme

Accordingly, a total of 71(58%) agreed that, they joined NAADS programme above seven years pertaining the progress of NAADS. In fact, most of the sampled Sub-counties in Arua district joined NAADS programme seven years before, which makes them accountable and give a sense of experience.

However, none of the sub-counties have joined NAADS programme less than three years since the NAADS pilot districts at inception were Arua, Kabale, Kibaale, Mukono, Soroti, and Tororo Within each of the initial districts. This makes Arua district to perform

well in decentralized extension service delivery. Hence, the implication of this study denotes us all sub-counties under arua district was not joined to NAADS programme at the same time; however, they joined at different time intervals depending on the demand of farmer groups. In fact the earliest members of NAADS are higher productive in terms of production per acre, skills promotion and the farming system than newly joined NAADS, where by recent joined are far lag behind than others.

Presentations of Research Question Two: Decentralization and Improvement of Agricultural Production

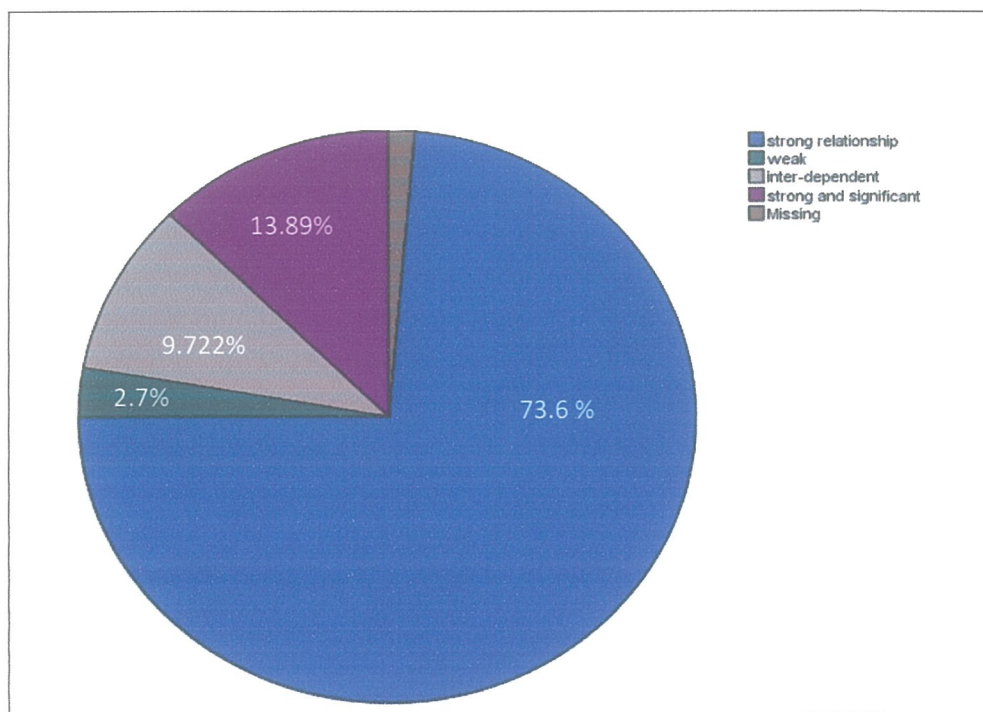


Figure 4.3: Decentralization and Agric Prod.

A total of 73.61% have agreed that the relationship between decentralization and agricultural improvement is strong, 13.89%

agreed that it had a strong and significant relationship and the remaining 9.722%, and also agreed there was inter-dependent. While only 9.7% considered the relationship to be weak.

The implications of this are that decentralized agricultural extension services has significantly promoted agricultural production per acre in terms of knowledge, access to advisory services, technology, decision-making process, evaluation of contracting bids and transparency communication among the different stakeholders of agricultural sector.

Furthermore, on a positive note, decentralization is also perceived to have enhanced participation of local communities in planning and implementation of programs, and ensured closer staff supervision (Kibwika and Semana, 1998).

Another reform was what Crowder and Anderson (2002) referred to as "contracting in". Under this arrangement, public extension staff who are often under-utilized due to lack of operational funds are contracted or seconded to national and international NGOs to offer services in areas targeted by the respective NGO. The NGO therefore provides operational funds, travel allowances, per diem, and in some cases salary supplements to augment the low civil servant wages of the extension staff. This arrangement potentially benefits both the institutions involved and the farmers.

The public extension staff enjoys better working conditions and terms of service, while the public extension institutions as a whole benefits through increased mobility for its staff, training of its staff in planning, organizing and supervising local development activities,

participatory community based approaches and improved production practices. The NGO is able to utilize already salaried government employees, which are more cost effective, and to tap the often scarce technical expertise in the rural areas.

Farmers on the other hand benefit from the technical skills of the extension agents. The synergy and complementarity of functions resulting from this arrangement may be more efficient and effective than either sector working in isolation.

In addition to this, the study also revealed that private extension service providers who operate either as individuals or firms were contracted by sub-county farmer's fora to deliver enterprise specific services to specific groups of farmers over a period of 3 to 6 months. In order to foster farmer articulation of needs, ownership and control over the program, NAADS through the farmer institution development process facilitated establishment of farmer's fora from parish to district level.

In fact, this has increased farmers perceptions and farmer felt a sense of ownership for being doing evaluation of varieties of bids. Even though there are some drawbacks resulted from this farmer-centered procurement process, where some farmers are not knowledgeable and may therefore contract unsuitable bids, that do not support and fit their agricultural related needs and this may eventually reduces production level.

Decentralized advisory services in terms of agricultural productivities

Table 4.2: Decentralized Advisory Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	agric inputs	8	11.1	11.3	11.3
	access to markets	7	9.7	9.9	21.1
	Opportunities	14	19.4	19.7	40.8
	private firms	7	9.7	9.9	50.7
	accountability and transparency	21	29.2	29.6	80.3
	Credit	3	4.2	4.2	84.5
	advisory services	11	15.3	15.5	100.0
	Total	71	98.6	100.0	
Missing	System	1	1.4		
Total		72	100.0		

The first step in Uganda's decentralization process was the enactment of the 1987 Resistance Council/Committees (RCs) Statute no. 9 that legalized RCs and gave them powers in their areas of jurisdiction at the local level (Asiimwe, 1989).

Thereafter, the government embarked on an effective implementation programme of decentralization with the enacting of the 1993 Resistance Council Statute (Lubanga, 1996). The decentralization policy was later enshrined in Uganda's Constitution of 1995 and was legalized by the Local Government Act, 1997 which established the district level Local Council (LCV), municipality (LCIV) and sub county / division / town council (LCIII) as corporate bodies of

local governments and devolved to them far reaching powers and responsibilities in such areas as finances, legislation, political, planning and personnel matters.

However, this section discusses the effect of decentralization on improvement of agricultural yield per acre through decentralized extension system (NAADS). Hence, 29.6% of the respondents have agreed that, decentralization has improved significantly accountability and transparency, while 19.7%, 15.5%, 13.3%, 9.9% and 4.2% have agreed decentralization has promoted opportunities and agronomy value additions, advisory services, agricultural inputs, increased access to markets and credit facilities respectively. The finding of the study reveals most of the respondents have agreed (29.7%) decentralization fights corruption through accountability and transparency.

In addition to this, the findings also pointed at similar figures that local governments may be an appropriate unit for service delivery implementation if they have adequate capacity and are accountable to the local population. In line with increased administrative and fiscal decentralization, sub-counties receive over 75 percent of the financial allocation of the total NAADS budget (Muwonge, 2007).

His study further revealed the sub-county funds are earmarked to NAADS activities including contracting of PSPs, technology development, and capacity building in participatory planning, monitoring and evaluation.

Moreover, the formation of farmers' groups, the establishment of democratic voting processes to elect farmers' representatives at the

sub-county farmers' forum (SFF), and the participatory approaches to selection of viable and profitable enterprises to invest in, increases the empowerment of farmers. In 2005, a total of 13,202 farmer groups were registered in the NAADS program and engaged in enterprise development and promotion (Republic of Uganda, 2004a). The enterprises selected are usually farmer-group specific and thus one would expect variation in enterprises selected within a participating sub-county.

Enterprise choice ranges from improved crop varieties to high breed animal rearing to aquaculture to bee keeping, among others. The farmers' representatives and farmers' groups are expected to ensure that the PSPs are accountable and deliver according to the contractual obligations. The premise is that if farmers adopt the better methods of farming, better agricultural outcomes such as high crop yields, quality animal products, technology access and adoption, use of fertilizers, manure and pesticides, better marketing and farmer organizational skills-will result. This gives summaries for implications of decentralization in terms of enhancing agricultural productivities.

For better understanding, the findings of the study also are shown on graph 4.4 which shows percentages for levels of NAADS programme that farmer groups participate in during NAADS implementation.

Structure for Participation

Farmers

Decentralization by NAADS has promoted significance the role of farmers in advisory service delivery process

Table 4.4 Role of Farmers Groups

Role	Agree	Disagree	Neutral	Total
monthly	23(32.4%)	29(40.7%)	19(27%)	71(100%)
reporting on activities	22(31%)	40(56.3)	09(12.5%)	71(100%)
Evaluation of activities	01(1.4%)	48(66.7%)	01(1.4%)	71(100%)
Verification of contracts	28(35.4%)	38(53.5%)	05(11.1%)	71(100%)
Attending meetings & workshops	71(100%)	00(0%)	00(0%)	71(100%)
Total	145(40.85)	107(30.14%)	34(9.58%)	355(100%)

Table 4.4 above, present's respondent views about the roles played by farmer groups in the NAADS fraternity where 71 respondents were reached.

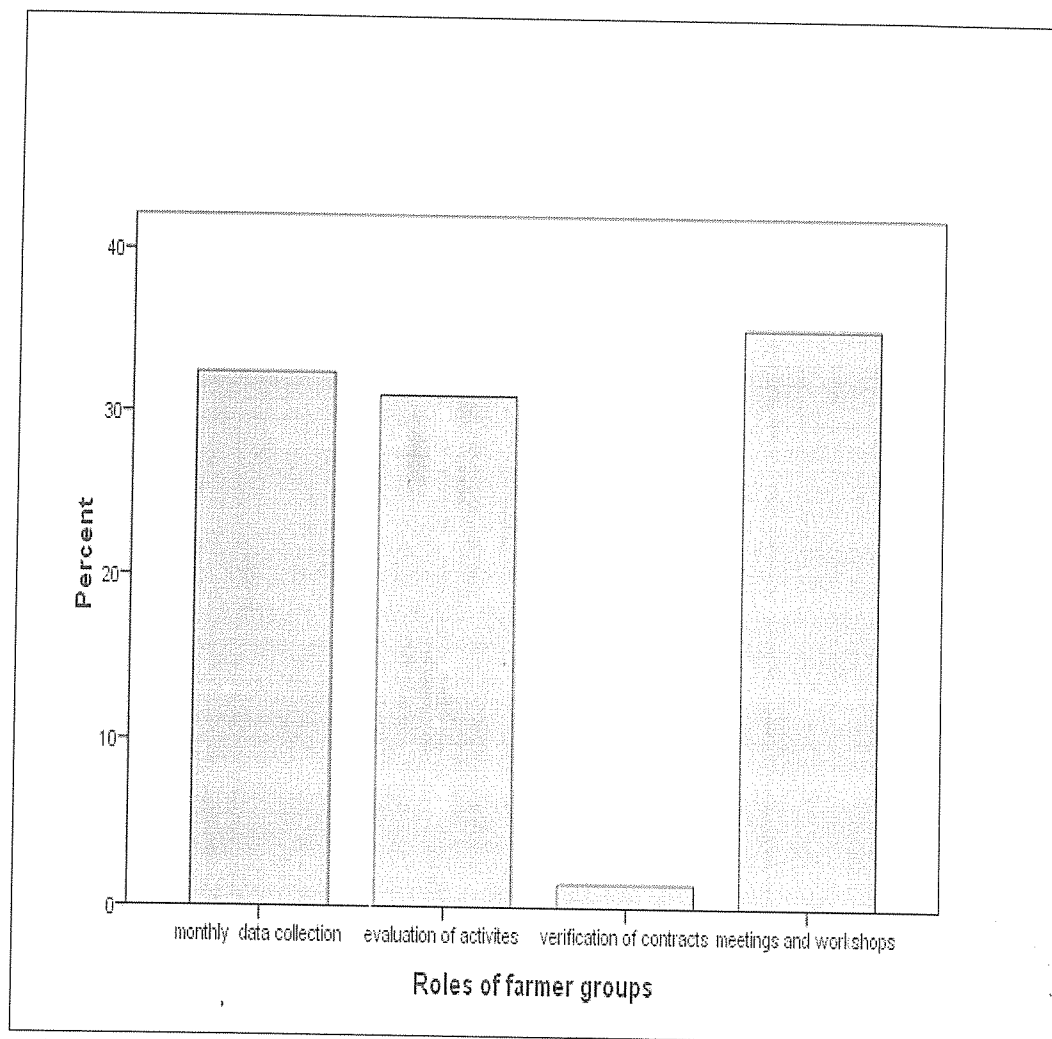


Figure 4.4: Roles of Farmer Groups in NAADS Programme

Accordingly, only 23(32.4%) agreed that they collect monthly data pertaining the progress and failures registered and route them to be subsequent level for on-ward transmission. A total of 29(40.7%) disagreed, while 19(27%) remained neutral.

Only twenty-three (31%) respondents agreed to the fact that farmer groups do report on activities they perform in their individual holdings. That usually such reporting is intended to attract the attention of higher authorities to intervene where need to in terms of vaccines, fertilizers plus other pieces of advice. A total of 40(56.3%) disagreed while 9(12.5%) remained neutral probably because none of them were not new entrants. Only 01(1.4%) agreed to the fact that farmer groups do evaluate activities.

Majority of 48(66.7%) disagreed on the contention that, evaluation was too technical for them; only 01(1.4) remained neutral. As pertains to verification of contracts, a total of 28(35.4%) respondents agreed while 68 disagreed. Their contention was that such a role is played by the sub-county structures. Only 01(1.4%) remained neutral because they never comprehended what verification implies.

At least all the 72(100%) respondents agreed that they attend meetings and workshops though these were not sufficient to meet growing demands in the field especially workshops were yet insufficient in the whole sub-counties.

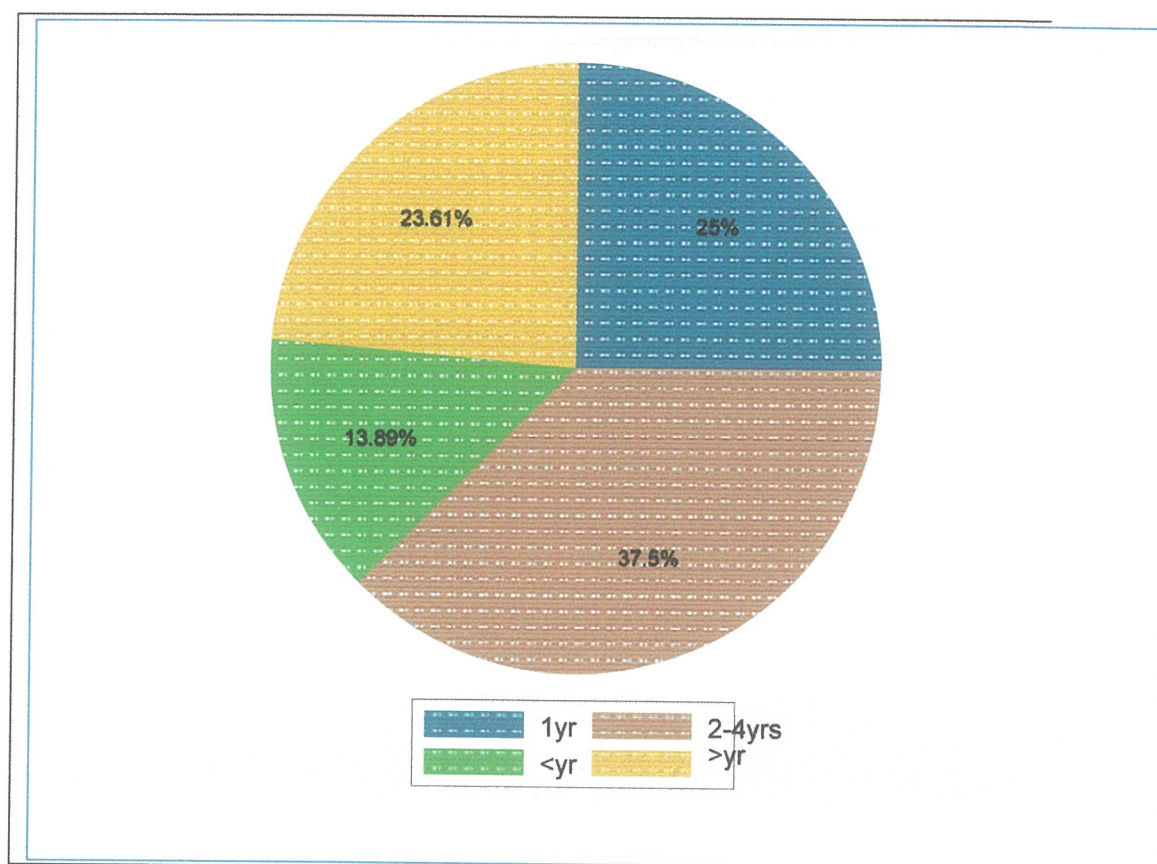


Figure 4.5: Number of Years in Membership with NAADS Group

Thirty seven percent (37.5%) of the respondents agreed that they have been in NAADS group 2-4 years, while 25% had been in NAADS for one year, and only 23.6% and 13.9% had spent in more than a year and less than a year respectively.

However, the study revealed that, majority of the key NAADS stakeholders had been in a full membership in NAADS for almost 2-4 years, that is for two years.

However, the implication of the study would be, the longer number of years being membership in NAADS program the better performance of farmer groups or farmer fora. Furthermore, one of the key principles of NAADS is farmer empowerment. Empowerment is a cognitive state characterized by a sense of perceived control and

competence, and internalization of the goals and objectives of the organization or group by their members (Menon 1999, 2001).

The perceived control and internalization of the goals and objectives were measured by asking farmer groups (or community members where there was no farmer group) how they perceived their ability to participate in decision making on matters related to the group (or community) activities and how well they participated in developing the bylaws and constitution of the farmer group (or community).

Presentations of Research Question Three: Benefits of NAADS
Table 4.5: Benefits Registered by NAADS Programme

BNAADS	Frequency	Percent	Cumulative percent
Knowledge and information	25	34.72	13.72
Economic empowerment	14	19.44	54.17
Networking with other organization	5	6.94	61.11
Access to inputs	12	16.67	77.78
Access to markets	1	1.39	79.17
Transparency in management	15	20.83	100.00
Total	72	100	100

A total of 72(34.72%) of the respondents agreed that, benefits registered from NAADS activities was knowledge and information. While 20.83% of the target respondents also agreed NAADS has registered to transparency in management, 19.44% agreed NAADS

registered to economic empowerment and only 16.67% of the respondents have also agreed that, NAADS registered access to inputs. This implies that, majority of the respondents figured NAADS registered to knowledge and information.

In addition to this, communication and information strategy indicated that there was an information system developed and operationalise by NAADS. NAADS had aimed to distribute translated information materials which could be well understood by farmers in their local languages on advisory service at various levels especially at district and sub-count levels.

It aimed at empowering rural poor farmers to seek agricultural information and communication. However, this strategy did not work out well to address farmer's needs as it was intended. The study revealed that 50 posters were only put at the sub-county offices and many farmers especially women would not have access to it. Very few farmers who happen to come for meetings at the sub-county would only have the chance to read these posters.

More so the study results support the findings of past studies, which mean information was said to be provided by community Based Facilitators (CBFs) and service providers. However, it was realized that most service providers did not do their work. Farmers complained that NAADS did not have a follow up mechanism for agricultural advisory work (Driciru, 2008). The service providers taught the farmers once and never returned to them, cited in FOWODE report, (New vision, Tuesday, July, 2007). In the same report, it was also noted that some of the service providers were not residents of the areas where they operated. Some of them were sub- contracting their work to

unqualified people. If NAADS is to make impact in the lives of poor people, how then does it use unqualified service providers.

For further details, the results of the study can also be shown on graph.

NAADS Beneficiaries at Family Level

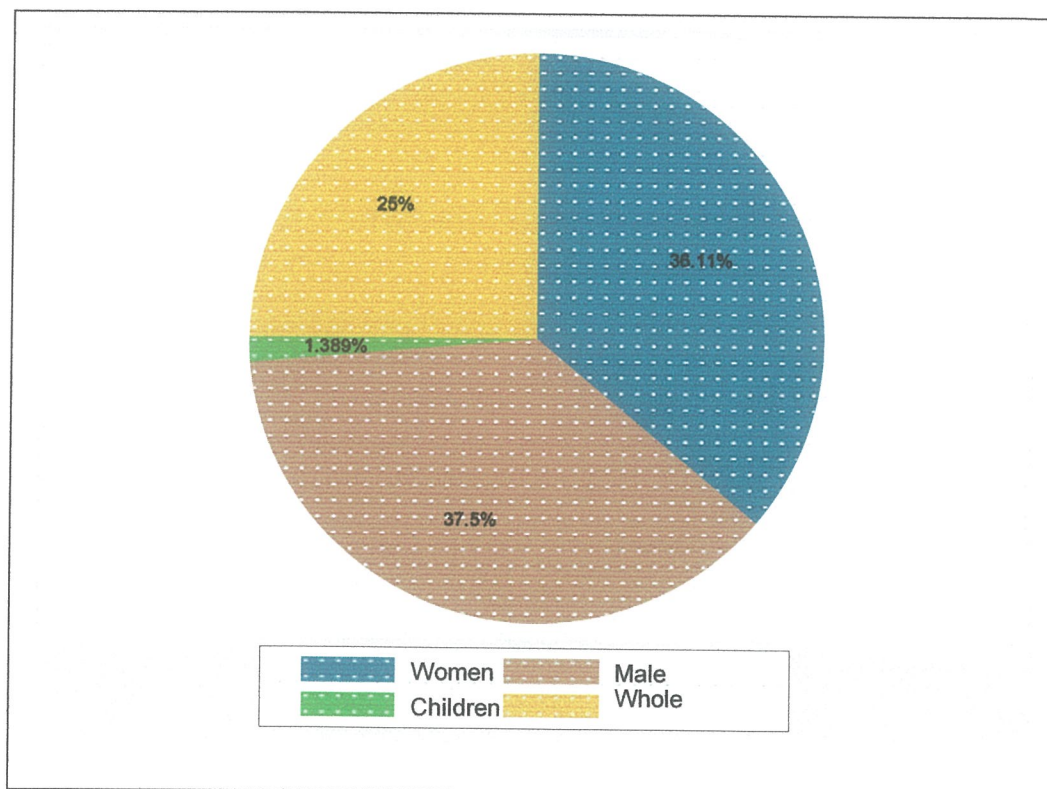


Figure 4.5: NAADS Beneficiaries.

The second schedule of the local government's acts (1997) identifies the devolutionary powers, functions and responsibilities to popularly elected local governments. Such devolution of power is aimed at improving service delivery by shifting responsibility for policy

implementation to the local beneficiaries in a bid to develop, broaden and deepen political and administrative competence in the management of public affairs; to democratize society by promoting inclusive, representative and gender sensitive decision-making; to alleviate poverty through collaborative efforts between central and local governments, donors, NGOs, CBOs and other stakeholders (republic of Uganda,1994).

According to the graph (4.4) of NAADS beneficiaries, there are slightly difference between men and women in terms of benefiting from NAADS activities. A total of (37.5%), (36.11%), (25%) and (1.389%) constitutes NAADS beneficiaries. Which makes majority of beneficiaries are men and women.

On the other hand, women benefited more compared to NAADS at inception period. Both gender dimensions involved enterprise selections even though predominantly by men. For instances; Enterprise development may be broadly interpreted as a process of creating or improving and expanding the operations of an organized effort intended to return a profit. The process includes among other things identification, development and promotion of those farming initiatives that can generate incomes for farmers and make production profitable.

The process of enterprise development or selection is linked to the overall participatory planning process. The following positive attributes are considered during enterprise development; profitability of the enterprise, availability of markets, financial outlay is low and the risks are low with their weights as 4, 3,2 and 1 respectively (NAADS, 2003).

Studies found out that many women had learnt to select and promote different enterprises like groundnut, pigs, goats, poultry and apiculture among others. Enterprises under NAADS had been fine-tuned and partnerships with private sector brought in line with the zoning policy. Examples included apiculture in West Nile region.

Moreover, this study found that, training in knowledge and skills were vital for the day-day management of the group and their project activity has been attained. More so, it has provided training in group dynamics, leadership skills, project proposal writing, community projects management, group fund mobilization, savings and record keeping.

In NAADS, training was a means of increasing agricultural production with the ultimate goal of improving household nutrition, incomes and general welfare of both men and women engaged in agricultural production (Driciru, 2008).

The Possible Gap between NAADS Implementers and Farmer Groups

Graph 4.6: Gab between NAADS Implementers and farmers groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low transparency	12	16.7	16.9	16.9
	late financial disbursement	27	37.5	38.0	54.9
	financial difficult	2	2.8	2.8	57.7
	Logistic	30	41.7	42.3	100.0
	Total	71	98.6	100.0	
Missing	System	1	1.4		
Total		72	100.0		

Majority of the respondents agreed the possible gap between NAADS implementers and farmer groups is logistic problems (41.7%), while 37.5% agreed on the late financial disbursement and only 16.7 stated low transparency levels. Surprisingly, the study found that, the critical problem in Arua administrative units from district to village level was logistic difficulties.

On the other hand, monitoring and reviews of plans and budgets of local governments were done both at the technical and political levels. In the former, the technical planning committee (TPC) was supposed to monitor and review the progress of the implementation of local government plans and notify the executive committee. The lowest level, ought to monitor the implementation of plans and budgets to ensure that they conform to what have been approved.

Moreover, NAADS programme was a decentralized, farmer owned and private sector serviced extension system contributing to the realization of the agricultural sector objectives. Interestingly, the same bureaucrats who had been implicated with corrupt tendencies and poor accountability seemed to be nearer to the "stimulant".

Significantly, this increases the gap between NAADS implementers and farmer groups. Farmer would be well informed with NAADS activities from sub-county to village level and actively involve in the execution process of NAADS programme.

This study revealed that, most of the constrained gaps arose from the logistics (41.7%) which meant the availability of transport facilities has not well and if they are there, they were very few and poor. For instances NAADS coordinators, LC3 chairpersons and Sub-county chiefs were not having vehicles and alternatively there were driving motorcycle, so that they might not carry out activities in the most effective and efficient way. As by many respondents also pointed out road networks and farmers education levels contributes much to the problem of gap exist between NAADS implementers and farmers groups.

In the table above elaborates the gap between farmer fora and NAADS implementers in terms of policy context and implementation design. The two over whelming factors are logistic and late financial disbursement. This meant farmers suffer a lot from the services delivery process, while on the other hand NAADS coordinators complaint about logistic problems for demanding vehicles to perform well.

Beneficiaries' Challenges against NAADS Programme

Since the inception of the programme there were number of challenges and hindrances such constraints include; low capacity buildings, poor education levels, hard farmers perceptions towards policy implementation and accessibility of markets to local produced agricultural products.

Table 4.7: Beneficiaries Challenges

Particulars	Frequency	Percent (%)	Cumulative percent
Low delivery of modern production inputs	37	51.39	51.39
Education through technical training	4	5.56	56.94
Technology development	14	19.44	76.39
Organized markets	4	5.56	81.94
Credit facilities	13	18.06	100
Total	72	100.00	100.00

Table (4.8) indicates that, a total of 37(51.39) agreed that beneficiaries faced challenges arising from the late delivery of modern production inputs, while a totals of 14(19.44%) and 13(18.06%) indicated that NAADS beneficiaries has faced technology development and credit facilities as the main challenges for accessing NAADS programme services delivery system.

However, on the implication of study centers, the majority of the respondents agreed on low delivery of modern production inputs as

a critical factor for the success of NAADS beneficiaries and attainment for NAADS objectives.

The study findings supports strongly the past studies conducted by Benin et al (2007) which has indicated that examining specific constraints facing farmer groups and communities in achieving their goals and objectives, shortage of capital and lack of credit facilities were cited as the main ones. Nearly one-half of all the groups or communities reported these. Due to low levels of resources by individual members, the groups are unable to raise the desired amount of capital from membership contributions to adequately support their activities

The table below elaborates in detail such constraints.

Table 4.8: main problems facing by farmer groups/communities (percentage reporting)

	NAADS sub-counties		Non-NAADS
	Trailblazing	Late	Sub-counties
Shortage of capital/lack of credit facilities	43.18	45.71	45.00
Lack of markets	2.27	5.71	0.00
Lack of access to information	0.00	2.86	0.00
Uncooperative group members	4.55	8.57	0.00
Scarcity of agricultural inputs	15.91	8.57	5.00
Lack of adequate farm land	11.36	2.86	15.00
Unfavorable weather patterns	2.27	0.00	20.00
Pests and diseases	0.00	2.86	10.00
Reduced labour	2.27	2.86	0.00

Source: Secondary Data (NAADS-IFPRI Survey data, 2005. Statistics are corrected for stratification, weighting and clustering of sample).

More so regarding other problems, there were differences across the three NAADS strata. For example, high prices, shortage of agricultural inputs and shortage of farmland were cited by groups in the trailblazing NAADS sub-counties as the next most constraining factors.

In the late NAADS sub-counties, high prices, shortage of agricultural inputs and uncooperative members were cited as the next most constraining factors; while unfavorable weather conditions, shortage of farmland and pests and diseases were cited by groups in the non-NAADS sub-counties. That weather and pests/diseases were not problematic in NAADS sub-counties is consistent with the results showing positive impacts of NAADS in promoting improved crop, soil fertility, and water management practices (Benin et al; 2007).

Surprisingly, lack of markets and lack of information and services were not seen as major constraining factors. This may be because production is still primarily for home consumption, although farmers do take advantage of buoyant local market conditions to market surpluses (OPM 2005).

These results support the findings of past studies showing a deterioration of extension services in Uganda (MAAIF 2000; Rivera 2001; Alonge 2004). In general, technologies and information are more available for crops than for livestock and least available for beekeeping and fish farming. This is not surprising and reflects the relative importance of the various enterprises in the livelihoods of households

Solutions put to solve Beneficiaries Challenges.

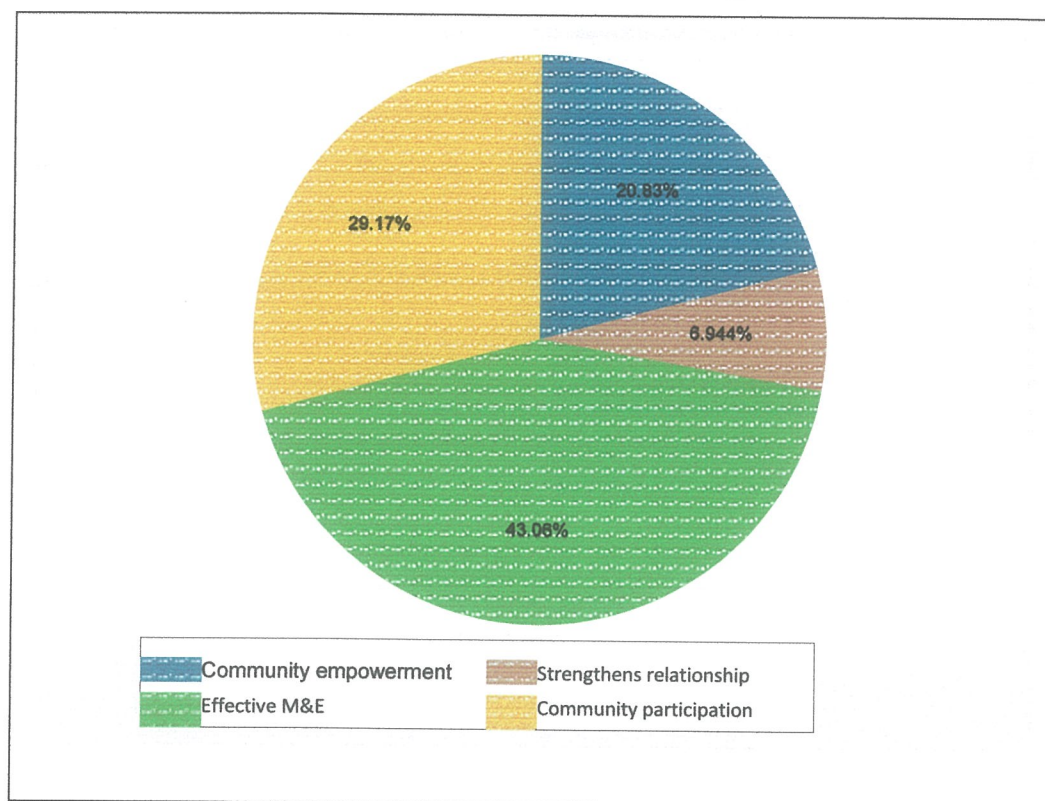


Figure 4.6: Proposed Solutions.

Regarding to the problematic constraints against NAADS beneficiaries, there were some differences among five sub-counties and town division sampled. For example, high prices, shortage of agricultural inputs and shortage of farmland were cited by most of the study respondents in each and every sub-county as the next most constraining factors.

However, in the late NAADS sub-counties, high prices, shortage of agricultural inputs and uncooperative members were cited as the next most constraining factors; while unfavorable weather conditions, shortage of farmland and pests and diseases were cited by groups in the non-NAADS sub-counties. That weather and pests/diseases were

not problematic in NAADS sub-counties is consistent with the results showing positive impacts of NAADS in promoting improved crop, soil fertility, and water management practices.

In addition to above mentioned problematic scenarios, the study has figured out, a total of (43.06%) agreed that those problems can be over come through effective monitoring and evaluation, while 29.17%, 20.83 and 6.944% agreed on the increase of community participation and empowering local communities respectively.

More so the findings of the study have shown that there is a need to establish effective monitoring and evaluation framework through the full participation of local communities. Secondly, community must be acknowledged in terms of providing them training, informal education and full community sensitization.

However, there are other implications of the study centers on acquisition of skills by NAADS primary stakeholders like; farmer forums and other target groups of NAADS programme. Participatory monitoring and evaluation should be necessary for effective utilization of NAADS resources and to achieve better outputs in the near future.

Activities that NAADS Farmer fora Perform in Arua District

Farmer transformation from Subsistence to Commercial level is a principal goal of NAADS and therefore a key baseline variable to establish. Using study findings of farm holdings on selected target groups, an attempt to categories farm holdings into subsistence, emergent, and commercial types was made, but was not conclusive.

Nevertheless, the results indicate that there is no farm holding which is purely subsistence.

Holdings in the sample, farmers produced mostly for subsistence, and at least a portion for sale to purchase of farm-household essential commodities.

However, in NAADS PhaseII, procurement process has been decentralized to farmer level to assure better accountability and transparency and select the appropriate enterprises. This adds on the roles of NAADS farmer for a which include; inviting bids, evaluate bids, award contracts, finance management, linkage to markets and training.

Further more, the response of the different respondents of the study are shown in the graph below. This gives the summary about activities under NAADS farmer fora performance from district to village levels. It indicates percentages of NAADS farmer fora activities via; inviting bids; evaluating bids, award contracts, financial management and provision of trainings.

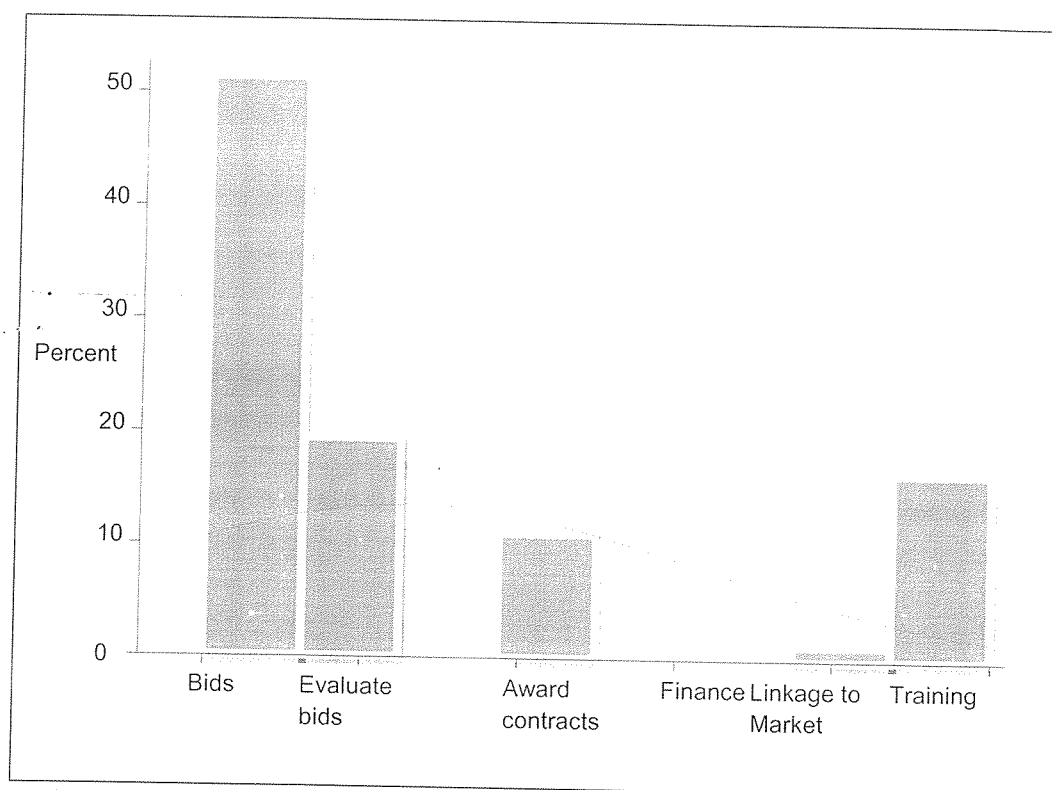


Figure 4.7: Activities that NAADS Farmer Fora Perform

According to the graph (4.8) shows that, a total of 51.39% agreed they invite bids, while only 19.44% and 16.67% revealed that they evaluate bids and provide training respectively.

Thus, the study implies that activities under NAADS farmer fora engage more in invitation of bids rather than finance management. Surprisingly, the percent of inviting bids is much higher than that of evaluation of bids. However, the study revealed majority of NAADS farmer group does invite bids, while additionally they also engage in evaluation of bids, awarding contracts, finance management, linkages to markets and provision of training for upgrading farmer capacities.

Kind of Agricultural Inputs

The steady decline in crop yields and profitability is attributed to lack of awareness of the value of the use of production inputs, especially improved planting materials, their inaccessibility or availability and their exorbitant prices.

Whereas inputs were reported to be readily available, the prices were perceived by farmers as staggering and unaffordable. Farmer perceptions about the high costs of inputs are again linked to the low total factor productivity and inadequate knowledge about the potential benefits of input use.

High input cost is also linked to inadequate competition among dealers, the exchange rate, and inefficient distribution system of farm inputs. However, while many inputs are readily available, there are cases of inadequate stocking and lack of specific inputs, especially those not frequently consumed.

However, the following table shows the recommended agricultural inputs used by Arua district and other sub-counties under the main district.

Table 4.9: Agricultural Inputs

Agricultural inputs	Frequency	Percent	Cumulative
Improved seeds	65	90.28	90.28
Improved fertilizers	5	6.94	97.22
Crop rotation	0	0	97.22
Sophisticated technology	5	2.78	100
Total	75	100.00	100.00

From the study, 90.28% of the respondents agreed strongly that they use improved seeds, while only small portion agreed on the use of improved fertilizers (6.944%) and technology (2.778%).

The findings reveal that, majority of farmer groups engage farming through the use of improved seeds.

In this study, majority of the respondents pointed out that improved seeds are supplied by enterprises and other private firms. While only few respondents rose it is supplied by NAADS coordinators. In fact, some of the farmer groups were reluctantly to express their opinions and kept silent during interview and focus group discussions but majority agreed they get improved seeds from local enterprises and other private firms eligible to supply hybrid seeds for commercial purposes.

Furthermore, this study did not support, the past studies which suggested that NAADS did not rigorously involve farmers in the enterprise selection process and therefore did not offer environment for the full participation of the resource poor farmers. NAADS involved farmers more in implementing programmes than providing for their participation in planning and/or evaluating the process or outcomes of the programme activities (Oleru et al, 2005).

This is similar to the case reported in Tanzania by Douglah and Sicilima (1997). Farmers' involvement in the choice of these enterprises may influence their capacity in the production of the enterprises. It brings into question the effectiveness of the approach and process NAADS used in establishing farmers' needs. It suggested that it is not enough to have one stop enterprise analysis with farmers.

In this regard, more rigorous consultation with farmers preferably at village level would likely provide a viable option for improving farmers' participation in identifying their needs, interests and addressing the needs. This should be done using a combination of tools such as interviews, Rapid Rural Appraisal, Participatory Rural appraisal, Observations rather than one stop meeting with farmers.

Core activities Conducted NAADS Program

The following table below summarizes major activities conducted under NAADS programme.

Table 4.10: Core Activities under NAADS

	Frequency	Percent	Valid Percent	Cumulative Percent
Training	3	42.9	42.9	42.9
invitation for bids	2	28.6	28.6	71.4
finance management	1	14.3	14.3	85.7
link farmers to markets	1	14.3	14.3	100.0
Total	7	100.0	100.0	

A total of 7(42.9%) of the selected NAADS coordinators agreed training as being the most important core activities under NAADS program, while 28.6% agreed that they invite bids for enterprises.

On the other hand, only 14.3%, the same figure/percent agreed finance management, and link farmers to markets.

However, the study revealed that, NAADS program offers training, finance management, link farmers to markets and likely invites bids for varieties of private enterprises. In addition to this, the implication of the results shows that conducting trainings is the key NAADS activities.

More so one of the features of the programme was participatory enterprise selection with farmers. The criteria NAADS/contracted firms introduced to farmers for identifying enterprises were price of the enterprise on market, market availability for the enterprise, durability/storage of the enterprise, farmers' knowledge on the enterprise, capital requirements and uncertainty/risks involved in producing the enterprise (NAADS, 2003). At the time of the study, the enterprises which NAADS was promoting in Arua District were goats, rice, pigeon pea, Cassava and groundnuts.

Similarly, the findings of study shows that, training is the most important thing under NAADS program, even though NAADS engages invitation for bids, finance management, link farmers to markets and many others. It is believed that NAADS has significantly contributed to the increment of agricultural productivities per acre. NAADS provided free of charge seedlings, advisory services and hand over procurement process to farmer level for transparency and accountability purposes.

One of the suggested challenges is here below:

a) Financial Difficulties

Discussions with the NAADS Coordinators in each of the six piloted Sub-counties under district revealed some of the challenges in implementing the NAADS process in Arua. A 57.1% of the NAADS

coordinators in piloted sub-counties agreed that, there are low funds which hinder the policy progress and breakage in continuity. While only 28.6% pointed at matters of human resource problems.

Furthermore, Sometimes the amount of money available is too low to satisfy all the contracts, thus the more technically qualified service providers opt out, leaving work to the less qualified.

b) Low Information Access

One of the major obstacles in upcountry offices is the low access to information. It is scattered in various offices and is not readily available. A resource centre at the district would be of great help.

c) Long Bidding Process

The process of contract award is also rather slow leading to delays or unsynchronized implementation of services. Many NAADS coordinators figured out, during procurement process there are many inconvenience arose from the farmers. Sometimes farmers are not accountable to select for best bids that can fit their needs. This leads numerous problems to farmer and halts farm productivities.

d) Inadequate Cohesion in Farmer Groups

They are mostly not well informed on the benefits of working together. Group mobilization is also inadequate often focusing on quick access to services or resources rather than on developing long-term mutually enhancing relationships and structures.

E) Political Interference

The decentralization of program planning, management and financial functions could help ensure that extension systems are more effective, efficient and responsive to the needs of the rural people. However, decentralization of a national agricultural extension system is an intricate process and requires not only strong commitments and careful planning, but it is also an enormous effort that demands the understanding and coordination of all parties involved to ensure successful implementation.

For example, Trinidad's efforts to decentralize its extension system illustrate some of the things that can go wrong, when key planning and management functions are not fully considered (Seepersad and Douglas, 2002).

The present study findings shows that 71.4% of the major problems arises from the interference of the central government whereby continues changes of policy guidelines is one of key challenges against realization for the objectives of NAADS programme. While only, 28.6% of problems arise from ineffectiveness of transparency and accountability.

Effectiveness and Efficiency of NAADS Program

In the interview held with NAADS coordinators, it was revealed that, since the inception of the program in 2001 by the government of the republic of Uganda, this has positive implications on agricultural development and has assured food security in the country.

However, one of piloted NAADS sub-counties indicated that the objectives of NAADS in phase two was to improve productivities and production through provision of high quality technology and also improving advisory services, changing the approach. Initially advisory services had been provided by government extension workers, which failed efficiency but now has been privatized, so now technology depends on what farmers chooses. There are two categories of farmers: market-oriented farmers, who grow food for commercial purposes and food security farmers who aims food to stay and to cover their daily life. Livestock and seeds are given to farmers.

Many NAADS coordinators pointed out that the major NAADS constraints are on procurement process. Some of the farmers are not educated and government has a lot of paper works including; analyzing, selecting the suppliers, making purchase orders, taking local purchase orders to suppliers, receiving and distributing of goods, these are tough tasks that arise from the procurement process and delays the procurement process.

More so some of the NAADS coordinators might not agreed the interference of central government. Some believe that, NAADS policy is a government policy, it has trial stages, they are trying what they never tried before. When government set some rules along the way they find that this is not working, so they change based on experience and lessons learnt for implementing from what have implemented. Typical example, NAADS phase1 all procurement was done at sub-county level. They were sub-county procurement committees; they were a lot of complaint, where a lot of money was been mismanaged. Indeed, changing policy is not

good, but if the prescriptions are not fit, the government may change it.

On the other hand, NAADS can be viable; if farmers are shown scientific ways of farming definitely it can be viable. There are many limitations of using such tractors; land scarcity is the major constraints to shift subsistence farming to commercial farming. A population trend is also a prospecting problem for the commercialization of agriculture.

In addition to this, apart from NAADS there are also some local and international non-governmental organizations who offer some advisory services even though it is not wide. They do not provide seeds but alternatively they provide training through workshops.

On the other side of the coin, farmers also believe, that they benefited well from NAADS program in terms of provision of advisory services and gaining access to information and education. Majority of farmers were much pleased with NAADS activities and in fact they were very happy how the program activities were carried out.

One of the farmer forum chairperson at Vurra sub-county stated;

"People have now understood advisory services; we receive two types of advisory related to crops and advisory services related to livestock. There are also some challenges ahead includes; negative attitudes of farmers. We demand still more advisory services to sensitize farmers at community level, encourage them to engage scientific farming to enhance production level per acre". (Farmer chairperson at Vurra Sub-county).

However, the findings of the study support past study findings in which Farmers revealed that NAADS had sensitized them on the use

of environment and natural resource conservation. That it had mobilized them to use indigenous ways of preventing soil erosion and conservation of natural resources. Because of NAADS programme there were indicators of improved conservation of resources especially soil.

Before the introduction of NAADS and other resource conservation partners like NEMA, Africa 2000 network, conservation practices had been abandoned. Now soil erosion and land degradation are being prevented using different methods learnt from NAADS (Driciru, 2008). However, some farmers still believed that the poor did not benefit from NAADS programme.

It has also been noted that, some farmers had expected free agricultural inputs and when these were not forthcoming most of them abandoned farmer groups. This partly explained why the most farmer groups in the piloted sub-counties where the research was carried out were dominated by women who implemented the enterprises selected in groups. More so, co-financing requirements reduced the number of farmers participating in farmer groups. The farmers who were unable to pay co-funding were not allowed to participate in NAADS programme.

Furthermore, the researcher has conducted Focus group discussions with farmer groups to understand beneficiaries' perceptions against NAADS activities.

Majority of the beneficiaries have noted that they are fully benefited from NAADS policy. However, most of fifteenth selected farmers during focus group discussions have agreed that, they are very happy to NAADS programme for the different advisory services they

Finally, NAADS beneficiaries agreed majority have benefited much from the implementation of NAADS policy. In fact, NAADS phase II has better outcome compared to NAADS phase I. This meant that the level of participation has increased from sub-county level to village level or farmer level, where farmers have done most of the procurement process. This has significantly promoted agricultural advisory services and production level per acre.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

In this chapter three sub-themes have been presented; findings, conclusions and recommendations for the aim of maintaining consistency, conformity and research validity. The chapter will assess the extent to which research objectives have been met by analyzing research questions.

Summary of Findings

The study was conducted with the aim of examining the relationship between decentralized governance and agricultural production by NAADS programme in Arua district for the period of 2001/2010.

It was established that, there is strong relationship between decentralization and improvement of agricultural production by NAADS program. Since the inception of the program, there was a tangible progress on agricultural productivity per acre. Decentralization became a catalyst for agricultural development and extension of agricultural extension services. The key important extension service program that decentralization has promoted is NAADS program which has a number of trial stages.

More so NAADS had reached farmers in remote villages. This was by group approach that allowed one service providers to reach many farmers. NAADS organized trainings and workshops for those in remote areas. Women were perceived as economic contributors rather

than economic dependants as was in the past. Farmers registered increased yields and that their social capital networks had improved significantly. All these were possible because of awareness and availability of agricultural information on knowledge and skills in modern farming methods NAADS had impacted in them.

Contributions of NAADS towards Increased Agricultural Production

The study has revealed that, NAADS policy has positive significant implications on agricultural productivities in terms of crop yields, knowledge contributions and participation on decision making. Therefore, there was direct participation among the beneficiaries in the NAADS programme. This was through farmer groups, parish coordination committee, Sub-county farmer forum, and the procurement committee and district farmer forum. It was however revealed that there was a participation in monitoring and evaluation, enterprise selection and development, market linkages, and finance management.

On the other hand, at district and Sub-county level the level of women participation were very low. Affirmative action in NAADS programme is still lacking. There were inequalities realized at all levels of district and Sub-county NAADS programme implementation and decision-making. Decision-making was mostly made by men because they were the main occupants of key executive positions in NAADS and Sub-county key positions. Because of high illiteracy levels, lack of confidence in public speaking and negotiation skills, women did not take part in managerial positions at district and Sub-county level.

However, it was realized that Sub-counties representatives and NAADS was dominated by males rather than females. NAADS had some constraints in the implementation due to the implementation gaps arises from the problems of farmer participation. Some farmers interested to acquire free agricultural inputs instead of getting advisory services.

Decentralized Advisory Services Improves Agricultural Production

The first step in Uganda's decentralization process was the enactment of the 1987 Resistance Council/Committees (RCs) Statute no. 9 that legalized RCs and gave them powers in their areas of jurisdiction at the local level.

Thereafter, the government embarked on an effective implementation programme of decentralization with the enacting of the 1993 Resistance Council Statute. The decentralization policy was later enshrined in Uganda's Constitution of 1995 and was legalized by the Local Government Act, 1997 which established the district level Local Council (LCV), municipality (LCIV) and sub county / division / town council (LCIII) as corporate bodies of local governments and devolved to them far reaching powers and responsibilities in such areas as finances, legislation, political, planning and personnel matters.

However, the study revealed that decentralization has promoted significantly agricultural yield per acre through decentralized extension system (NAADS). The study has further noted decentralization has improved significantly accountability and transparency, and opportunities and agronomy value additions, advisory services, agricultural inputs, increased access to markets and credit facilities.

The findings of the study revealed decentralization fights corruption through accountability and transparency.

However, there still some hindrances arising from the decentralization policy in agricultural sector. Farmers are not well sensitized to understand benefits of agricultural extension services. The inadequacy of extension services providers also created a big problem for the effective and efficiency of service provision.

Results revealed that, the process of decentralization of powers and authority (planning, Administrative, financial management as well as political) has been done. To this effect, the sub-county is the second level government in the district with a full council and technical staff.

It was also discovered that NAADS programme is directly linked with the Sub-county department of production as well as the community development department. And that sub-county NAADS coordinator was a member of the sub-county technical committee (TPC) where all technical staffs are.

Accordingly, results further showed that there is cordial working relationship between the two local government levels, that is, the Sub-county and district level. Through the sub-county service providers capacity was inadequately assessed before recommending any prospector bidder to the procurement committee.

Beneficiaries Challenges against NAADS Programme

Since the inception of the programme there were a number of challenges and hindrances that constrained effective implementation of the program, hence such difficulties includes; low capacity building, poor education levels, negative farmer attitudes towards policy implementation and accessibility of markets to local produced agricultural out puts.

Therefore, the study revealed that, low delivery of modern production inputs is main critical for the success and attainment for NAADS objectives. It is believed that NAADS has significantly contributed to the increment of agricultural productivities per acre. NAADS provides free of charge seedlings advisory services and extended procurement process to farmer level to make sure transparency and accountability.

On the other hand, some key challenges to NAADS implementation include; financial difficulties, low information access, long bidding process, inadequate cohesion in farmer groups and political interference. Majority of NAADS coordinators in piloted sub-counties agreed that, they complain low funds which hinder the policy progress and breakage in continuity. Sometimes the amount of money available is too low to satisfy all the contracts, thus the more technically qualified service providers opt out, leaving work to the less qualified. One of the major obstacles in upcountry offices is the low access to information. It is scattered in various offices and is not readily available. A resource centre at the district would be of great help.

However, the process of contract award is also rather slow leading to delays or unsynchronized implementation of services. Many NAADS coordinators figured out, during procurement process there are many inconvenience arose from the farmers. Some times farmers are not accountable to select for best bids that can fit their needs.

They are mostly not well informed on the benefits of working together. Group mobilization is also inadequate often focusing on quick access to services or resources rather than on developing long-term mutually enhancing relationships and structures.

Finally, the decentralization of program planning, management and financial functions could help ensure that extension systems are more effective, efficient and responsive to the needs of the rural people. However, decentralization of a national agricultural extension system is an intricate process and requires not only strong commitments and careful planning, but it is also an enormous effort that demands the understanding and coordination of all parties involved to ensure successful implementation.

Conclusion

Based on the above findings, the researcher made the following conclusions:

1. There is positive relationship between decentralized governance and agricultural productivities at Sub-county level. The findings show that, decentralization has resulted huge progress towards agricultural productivities and yields per acre. Farmers has benefited in terms for accessing advisory services provision agricultural inputs and other agronomy value additions.

Furthermore, decentralization has increased beneficiaries ownership and sense of responsiveness through transparency and accountability. Study results showed, decentralization has significantly promoted agricultural productivities per acre through NAADS programme in terms accessing full advisory services.

2. NAADS at Sub-county level positively contributed to agricultural production and productivity. With the introduction of NAADS, the production level at Sub-county has increased significantly compared to pre-NAADS policy. However, decentralization has enhanced agricultural productivities through NAADS programme. NAADS had promising outcomes or results for which it was recommended. Therefore for popular participation NAADS structures at Sub-county level need to be modified to include women in all aspects of decision-making concerning the activities of NAADS. NAADS programme should ensure effective coverage of women since it was designed not to target individual women but women group.
3. The study established however, that there are challenges faced with the decentralized governance and agricultural production by NAADS in Arua district. The challenges established were:
 - a) Financial difficulties: - majority of the piloted Sub-counties complained low funds which hindered policy progress and breakage in continuity, sometimes the amount of money available is too low to satisfy all the contracts.
 - b) Political interference:- the present study findings shows that most of the major problems arise from the

interference of the central government whereby continues changes of policy guidelines is one of the key challenges against realization of NAADS objectives.

- c) Inadequate cohesion of farmer groups:- group mobilization is also inadequate often focusing on quick

Recommendations

Based on the above conclusions the researcher made the following recommendations:

1. There is need to introduce women in top hierarchy management positions including; Sub-county chief, LC3 chairperson, NAADS coordinators and the extension service providers. The study results showed women were very less in number compared to men. Which meant men dominated top higher ranking positions and this has weakened the progress and performance of public sector workers and output of agricultural extension services (NAADS). And women should be given responsibility at all levels of say farmer for a executive at the sub-county, parish and group levels. Emphasize should be given to women especially at district level to take executive positions.
2. The government should pay attention for the frequent changes of policy guideline in order to assess the impact of the programme at farm output level.
3. Capacity building for farmers should emphasize adult functional literacy to enable farmers read and writes basic records on their farm activities, expenditures and incomes. It will also enable farmers demand for accountability and participation in

monitoring and evaluation of implementation of NAADS programme.

4. There is a big problem in the procurement process, farmers are not knowledgeable to negotiate and select the best bidders. So that there is need to empower farmers to be eligible to do selection process effectively. NAADS in collaboration with the sub-county official can fix this problem.
5. The number of services providers is less in most of the sub-counties; therefore, there is need to increase extension services providers to enable effective and efficiency service provision.

Suggestions for Further Research

The following are the recommended areas for further research;

1. The effect of male dominance in higher top ranking positions at district and sub-county levels.
2. The impact of education on understanding advisory services.
Why some farmers do not benefited well from NAADS activities?

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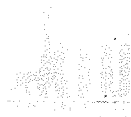
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APPENDIX I: Introductory letter



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Date: 29/01/2022

Dear Sir/Madam,

RE: REQUEST FOR MUSTAFA MUHAMMAD AGHAMED MDS MESTHUB DE TO CONDUCT RESEARCH IN YOUR ORGANIZATION

The above mentioned is a candidate, who is of Kampala International University pursuing a Master's Degree in Development Studies.

He is currently working as a research officer in the Ministry of Health, "Decentralized Service Delivery and Improvement in Health Services" project, through "PwIDS Program in Arua Municipality."

Your organization will be able to provide a lot of valuable information pertaining to his research project. The purpose of this letter is to request you to provide him with the pertinent information he may need.

Any information shared with him from your organization shall be treated with utmost confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,

A handwritten signature in black ink, appearing to read 'Rosoon Mwaniki'.

Dr. Rosoon Mwaniki
Associate Dean Social Sciences (SPGSR)

"Exploring the Heights"

APPENDIX II

RESEARCH INSTRUMENT

LIKERT SCALE QUESTIONNAIRES

I am, Mustafa Ahmed a student at Kampala international university perusing a degree master of development studies. This study aimed at the relationship between decentralized service delivery and improvement of agricultural production through NAADS program in Arua District.

The on-going study is meant for an academic purpose and therefore, feels at home to avail all necessary information since the ultimate target is not personal. Therefore, this questionnaire is intended for Civil servant respondents in nine sub counties in Arua district.

Thanks for yours maximum and timely cooperation.

Tick where applicable

a) Gender : Male

Female ☐

b) Age Brackets

16-20 ☐

41-50 ☐

21-30 ☐

51-65 ☐

31-40 ☐

C) Designation -----

Key Terms:

5- Strongly agree

4- Agree

3- Neither agree nor disagree

2- Disagree

1-Strongly disagree

Section A: Question 1-3 Covers Research Question 1

Please tick the appropriate code number.

S/n	1. When Arua/ your Sub county joined to NAADS	1	2	3
A1	Before five years			
A2	Less than three years			
A3	before seven years			
A4	Above seven years			
2. Is there significant relationship between decentralization and improvement in agricultural production?				
A5	Strong relationship			
A6	Weak			
A7	Inter-dependent			
A8	Strong and significant relationship			
3. To what extent does decentralized advisory services improve agricultural production?				
A9	Provision for agricultural inputs			
A10	Increases access to markets			
A11	Offers opportunities and agronomy value additions			
A12	Increases the role of private firms in service delivery			

A13	Strengthens accountability and transparency			
A14	Credit availability			
A15	Facilitates decision-making and quick response			
A16	Provides advisory services			

Section B: Question 3-10 covers Research Question 2

S/n	3. What levels of NAADS do you want to participate?	1	2	3
B1	Farmer group			
B2	Ward coordinating committee			
B3	Division farmer forum			
4. What role does your group /committee/forum perform?				
B4	Monthly data collection			
B5	Evaluation of activities			
B6	Verification of contracts			
B7	Meetings and workshops			
5. How long have you been a member of NAADS group?				
B8	One year			
B9	2-4 years			
B10	Less than a year			
B11	More than a year			
6. What benefits have you registered from NAADS activities?				
	Knowledge and information			
	Economic empowerment			
	Networking with other organizations			
	Access to inputs			
	Access to markets			
	Transparency in management			
7. At family level, who has benefited more from NAADS?				
	Women			
	Men			
	Children			
	Whole family			
8. What is the possible gap between NAADS implementers and farmer groups?				
	Lack of transparency			
	Late financial disbursement			
	Financial difficulties in terms of funding			

	Low accountability levels			
	Logistic problems			
9. What challenges do beneficiaries still face in spite of NAADS program?				
	Low delivery of modern production inputs			
	Education through technical training			
	Technology development			
	Organized markets			
	Credit facilities			
10. What strategies have put to overcome the above challenges?				
	Empowering local communities for mobilization of resources			
	Strengthening relationship between beneficiaries and NAADS implementers			
	Effective monitoring and evaluation framework			
	Encouragement of wide community participation			
11. What other activities do NAADS farmer fora perform in Arua municipa				
	Invite bids			
	Evaluate bids			
	Award contracts			
	Finance management			
	Linkages to markets			
	Training			
12. What kind of agricultural inputs do you use?				
	Improved seeds			
	Improved fertilizers			
	Crop rotation method to sustain soil fertility			
	Sophisticated technologies			
13. Who supplied the agricultural inputs in your area?				
	Enterprises			
	NAADS coordinators			
	Farmer For a			
	Individuals			
	Others			

Questionnaires for NAADS coordinators

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Thanks for yours maximum and timely cooperation.

Gender male ☐

female ☐

Section C: 12-18 covers Research Question 3

S/n	14. How long have you been in this position?	1	2	3	4	5
	0-2 years					
	2-4 years					
	Above 4 years					
15. What is the core activities conducted under NAADS program?						
	Training					
	Invitation for bids					
	Awarding contracts					
	Finance management					
	Link farmers to markets					
16. Who are the major partners under NAADS program?						
	Farmers					
	Civil society organizations					

	Local government						
	The central government						
	Private companies						
	Opinion leaders						
17. Who are the main beneficiaries of NAADS program?							
	Farmer groups						
	Extension workers						
	Local government						
	Local contractors						
18. What role does local government play in NAADS resource control?							
	Co-funding						
	NAADS annual work plans and budget integration						
	Registration of service provider						
	Internal audits						
19. What resource challenges do you face in the NAADS program?							
	Finance						
	Human resource						
	Infrastructures						
	Time						
20. What other challenges does your division face in the NAADS program?							
	planning						
	Integration of activities						
	Political interference						
	The environment						
	Transparency and accountability						

Thank you

APPENDIXIII

STRUCTURE OF NAADS AT DISTRICT LEVEL

Level	Personnel/institutions	Roles/Responsibilities
District	NAADS coordinator	<ul style="list-style-type: none"> • Technical guidance
		<ul style="list-style-type: none"> • Programme coordination and supervision in the district
	District farmer forum (composed of chairpersons SC FF, secretary for production LCV, district NAADS coordinator	<ul style="list-style-type: none"> • Decision making on all NAADS matters in the district.
Sub-county (LCII)	NAADS coordinator	<ul style="list-style-type: none"> • Compiles the sub-county NAADS budget
		<ul style="list-style-type: none"> • Gives technical guidance to procurement committee in the choice of service providers
		<ul style="list-style-type: none"> • Supervises, monitors and evaluates service providers
		<ul style="list-style-type: none"> • Collection of farmers contribution for NAADS activities
		<ul style="list-style-type: none"> • Counter signs sub-county chief and sub-accountant on NAADS bank account
	Sub-county farmer forum	<ul style="list-style-type: none"> • Takes decisions on behalf of sub-county farmers • Selects sub-county enterprises
	Contract committee	<ul style="list-style-type: none"> • Approves the short list for service providers
Parish (LCII)	Parish development	<ul style="list-style-type: none"> • Help farmers to identify their priorities
Village (LCI)	<ul style="list-style-type: none"> • Farmer groups 	<ul style="list-style-type: none"> • Participate in priority identification and group enterprises

