FACTORS CONTRIBUTING TO ADOPTION OF SUNFLOWER FARMING INNOVATIONS IN MLALI WARD, MVOMERO DISTRICT, MOROGORO REGION – TANZANIA

BY

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INTRODUCTION

- **Agriculture in Tanzania**

In Tanzania the agricultural sector is key to economic development (Majule, 2008). Agriculture is the foundation of the Tanzanian economy. It accounts for about half of the national income, three quarters of merchandise exports and is source of food in addition to provision of employment opportunities to about 80% of Tanzanians.

INTRO Cont…….

Agriculture has linkages with the non-farm sector through forward linkages to agro-processing, consumption and export; provides raw materials to industries and a market for manufactured goods. Tanzania produces approximately 97% of its food requirement. Production of food crops varies from year to year according to the amount of rainfall received (PADEP, 2010).

INTRO Cont…….

- It is estimated that about 70% of Tanzania's cultivated land is by use of hand hoe as a major tool to till the land, 20% of the cultivated land is by use of oxen and only 10% is by use of tractor. Inputs are not widely used in agricultural production (PADEP, 2010).

CHALLENGES FACING AGRICULTURE IN TZ.

- In Tanzania agriculture is faced with a number of challenges including ineffective extension services, inadequate use of improved seeds, fertilizers and unreliable rains which may result in low crop productivity.

CHALLENGES Cont……

Liberio (2009) reports that some of the factors for low agricultural growth are; (i) low farm produce price compared to production costs and world market prices, (ii) inadequate agro-processing facilities to add value and shelf life to farm produce, (iii) weak cooperative unions which fail to organise farmers to form strong farming entity,

CHALLENGES Cont……

(iv) absence of rural financial institutions to address farmers' credit needs on loan terms, (v) low utilization of appropriate technologies which leads to low agricultural productivity per given inputs and, (vi) weak research – extension – farmer linkage which reduces spread of new agricultural technologies and information/knowledge from research experts to farmers

CHALLENGES Cont……

In addition, poor rural transportation and infrastructure make many areas of product inaccessible to input and output market, thus contributing to late input delivery. Poor infrastructure and transportation also have made rural areas inaccessible to agricultural innovations including improved seeds, fertilizers, fungicides, pesticides, agricultural machinery and agricultural education.

PUBLIC PRIVATE PARTNERSHIP IN AGRICULTURAL SECTOR

Agricultural development has been in the domain of government/public funding for a long period of time. However macro-economic reforms have and continue to have had significant impact on the agricultural sector. The economic reforms have led to the opening up of the sector to private investment in production and processing, input importation and distribution and agricultural marketing.

PUBLIC PRIVATE PARTNERSHIP IN AGRICULTURAL SECTOR Cont…….

Most production, processing and marketing functions have been assigned to the private sector. The Government has retained regulatory and public support functions or facilitation role (PADEP, 2010).

ADOPTION OF AGRICULTURAL TECHNOLOGIES IN TANZANIA

- **Concepts of Adoption and Innovation**

Dasgupta (1989) the term adoption is the continued use of a recommended idea or practice by individuals or groups over a reasonable long period. Rogers and Shoemaker (1995) define adoption as a decision to make full use of new ideas as the best course of action available. van den Ban and Hawkins (1996) also define technology adoption as a decision to apply an innovation and to continue to use it.

concepts of innovation and adoption cont…….

Archibugi *et al*. (1994) define innovation as successful creation, development, and marketing of new goods or successful application of new techniques or ways of working that improve the effectiveness of an individual and organization.

Rogers (1995) defines an innovation as an idea, practice, or object that is perceived as new by an individual or any other unit of adoption.

ADOPTION OF AGRICULTURAL TECHNOLOGIES IN TANZANIA Cont……

Tanzania's government created the Tanzania National Science Research Council in 1968. The council aimed at promoting scientific research of which agriculture was among the important areas to be researched on in order to generate improved agricultural technologies (Shao, 1994).

ADOPTION OF AGRICULTURAL TECHNOLOGIES IN TANZANIA Cont……

Technology adoption by agricultural producers is an essential prerequisite for economic prosperity in both developed and less developed countries. In many less developed countries, considerable resources have been devoted to providing technical assistance and education to agricultural producers.

OBJECTIVES OF THE STUDY

- **General objective**

To investigate factors contributing to adoption of sunflower farming innovations by smallholder farmers at the household level in Mlali ward.

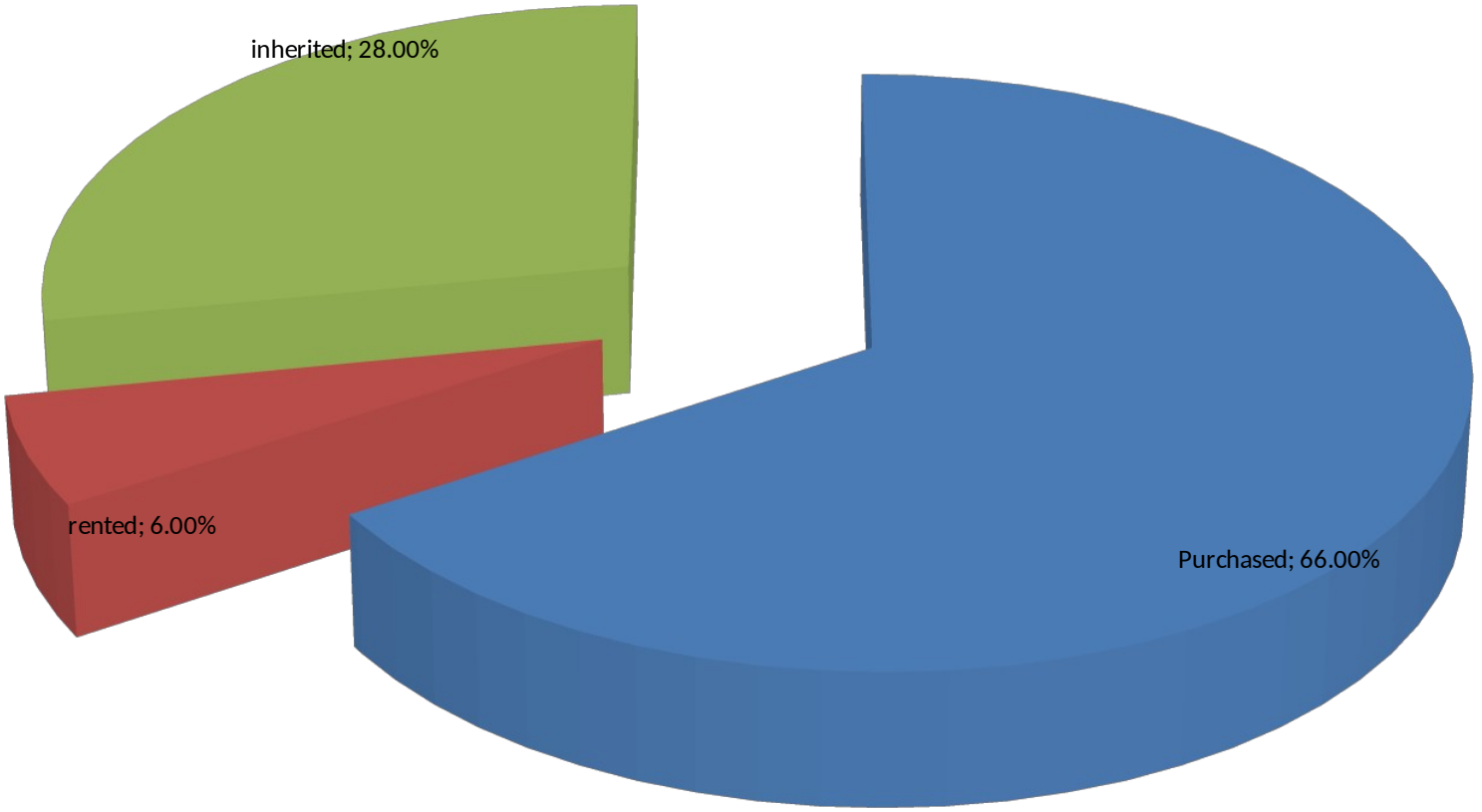
OBJECTIVES OF THE STUDY Cont……

Specific objectives

1. To identify smallholder farmers who produce sunflower in the study area.
2. To measure adoption level of sunflower farming innovations.
3. To identify factors influencing the adoption of sunflower farming innovations.
4. To gauge socio-economic contributions of sunflower crop to smallholder farmers in the ward.

RESULTS OF THE STUDY

Mode of land acquisition

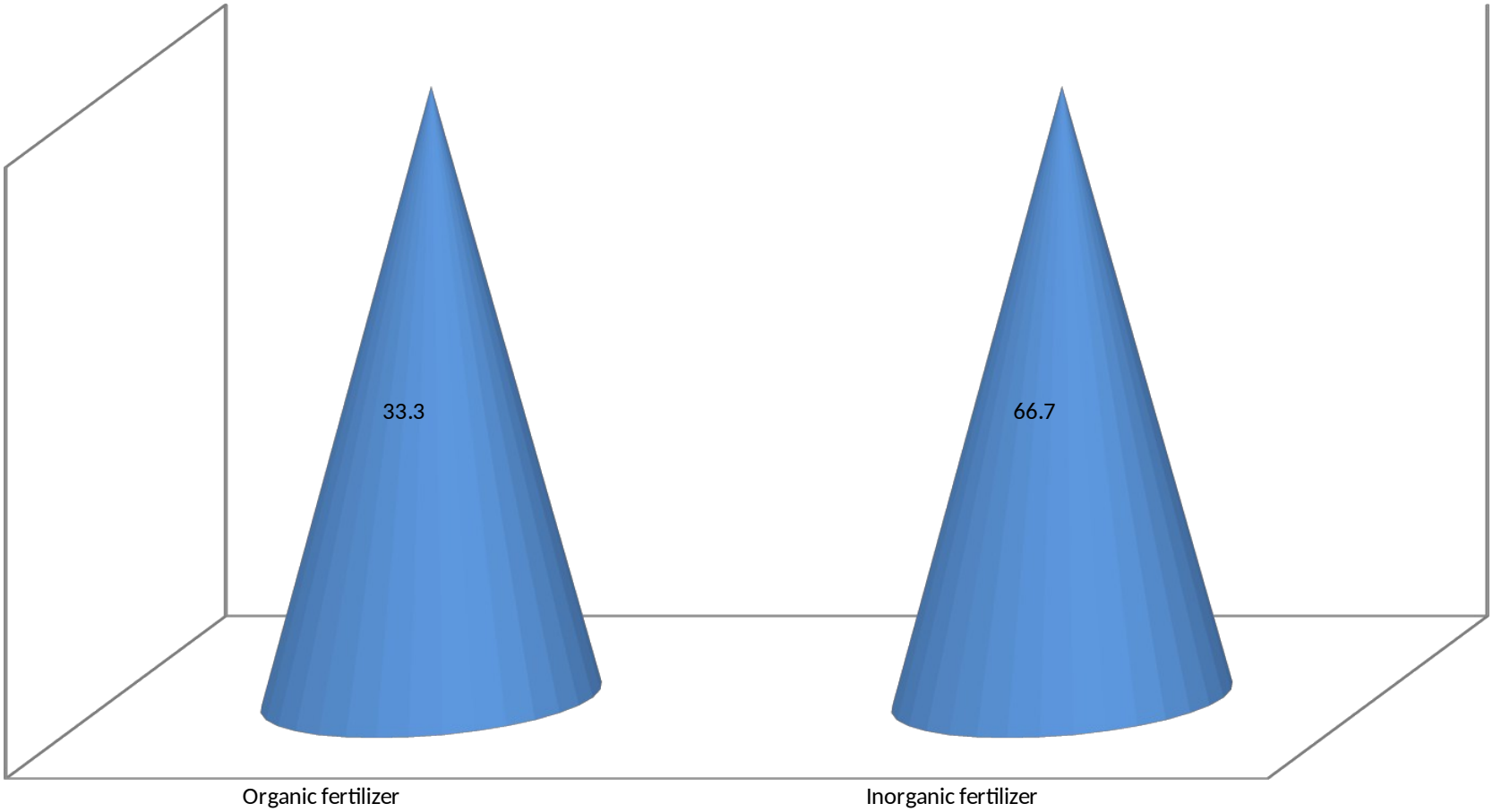


Total area cultivated with sunflower by farmers per season

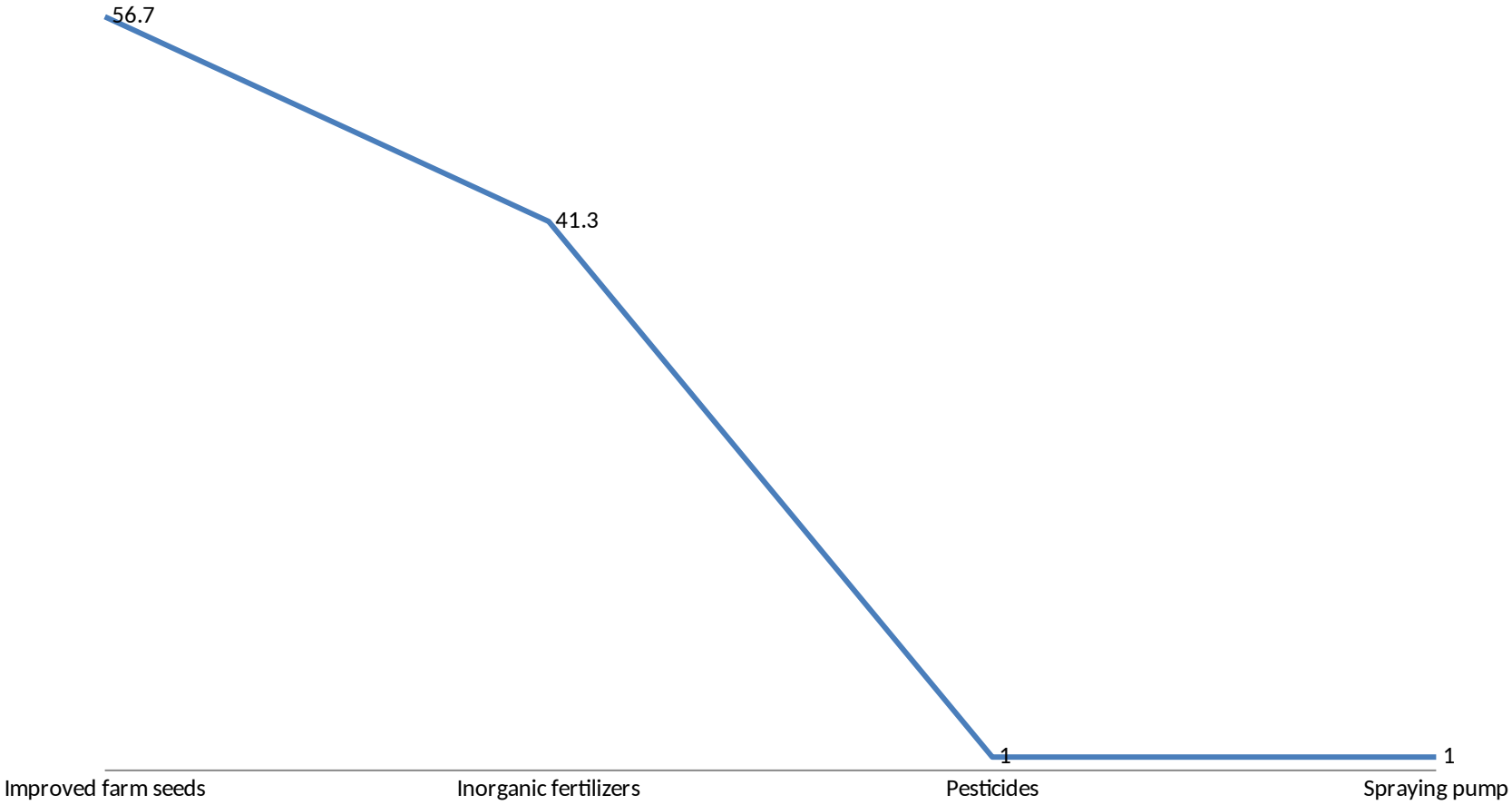
Mean area cultivated = 1.5 ha, Range = 0.2 ha to 3.6 ha

Area cultivated (ha)	Number	Percent
0.2	9	9.0
0.4	34	34.0
0.6	13	13.0
0.8	26	26.0
1.0	4	4.0
1.2	4	4.0
1.6	5	5.0
2.0	3	3.0
3.2	1	1.0
3.6	1	1.0
Total	100	100.0

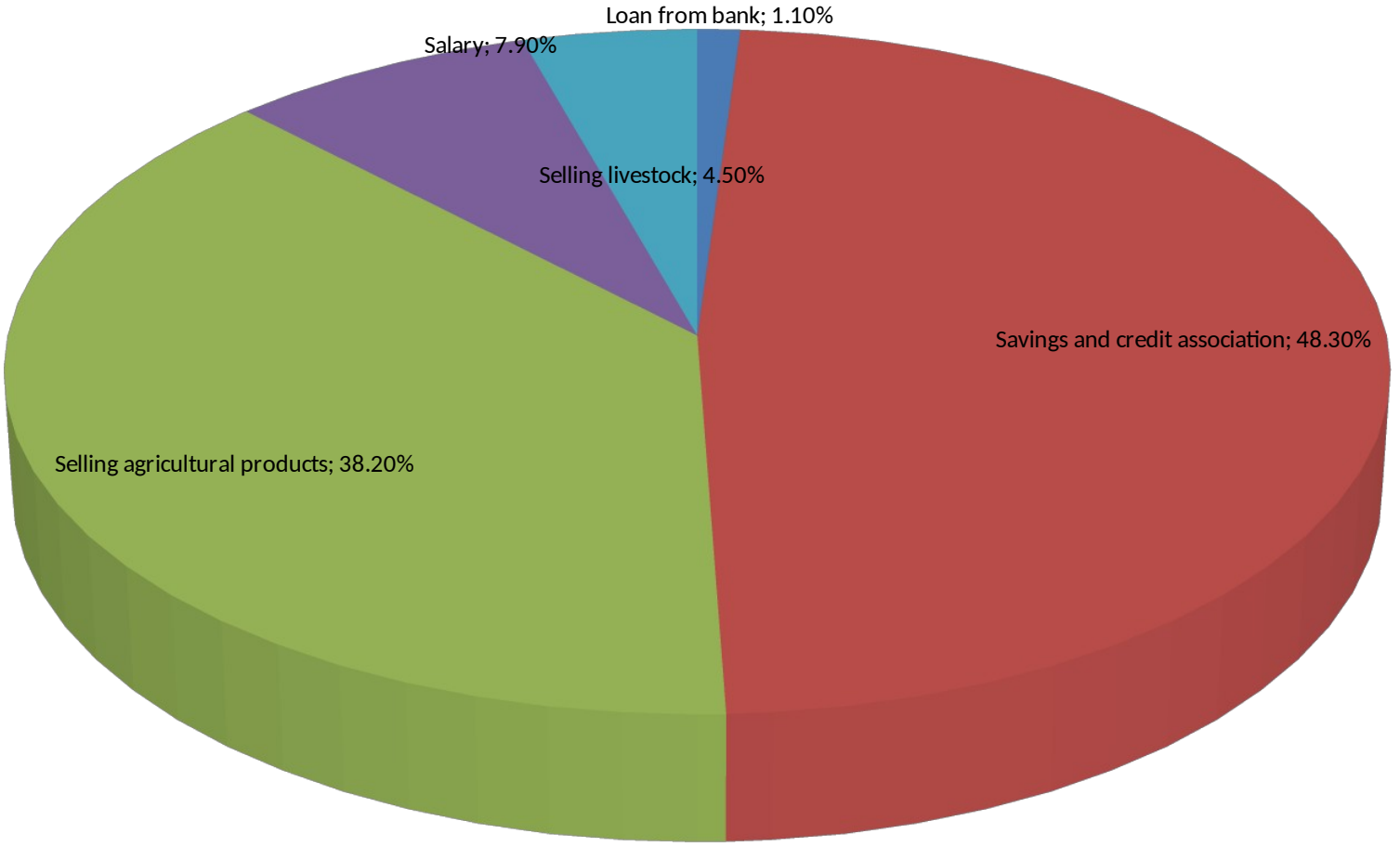
Fertilizer application



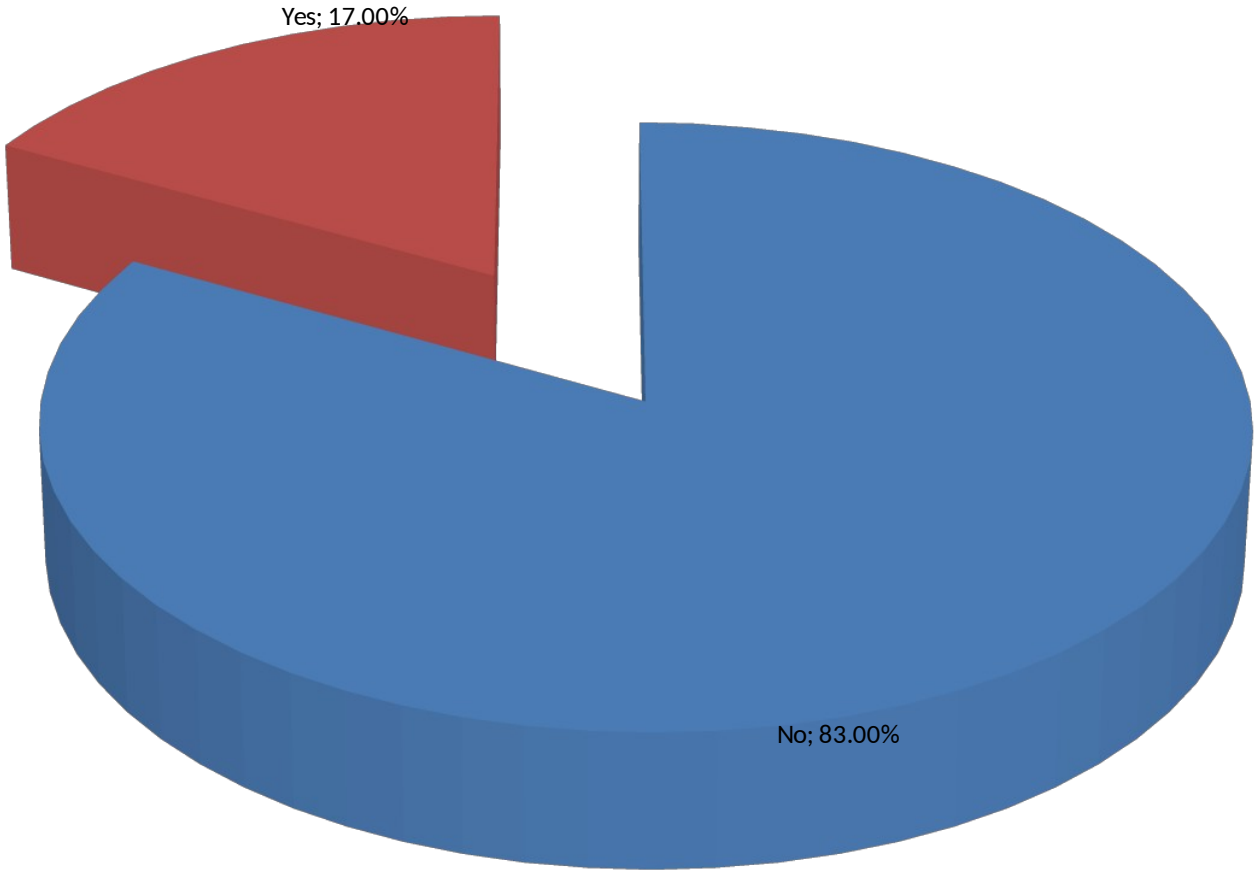
Types of inputs bought



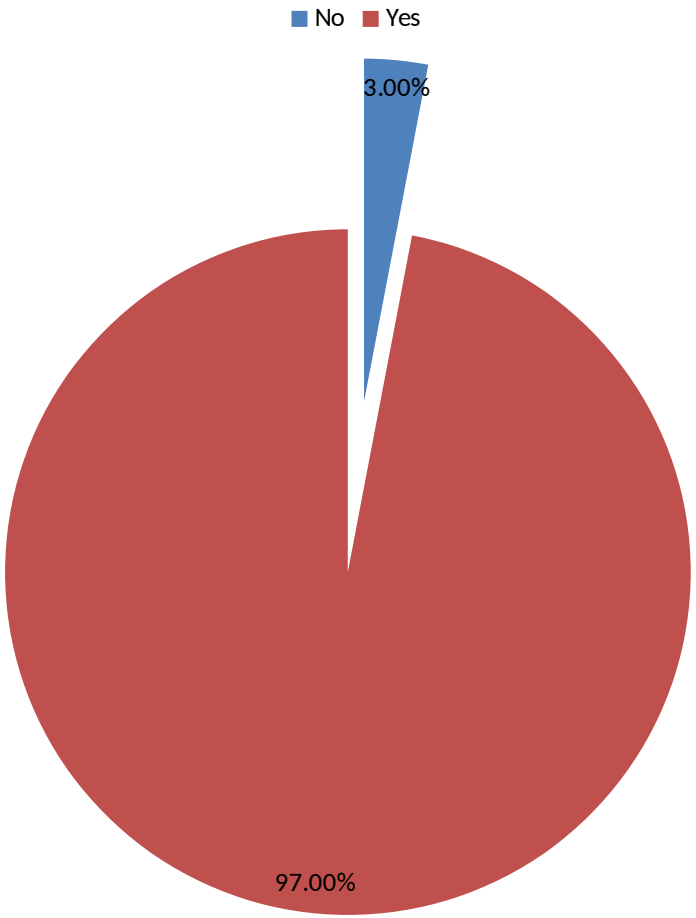
Respondents' source of fund



Farm irrigation

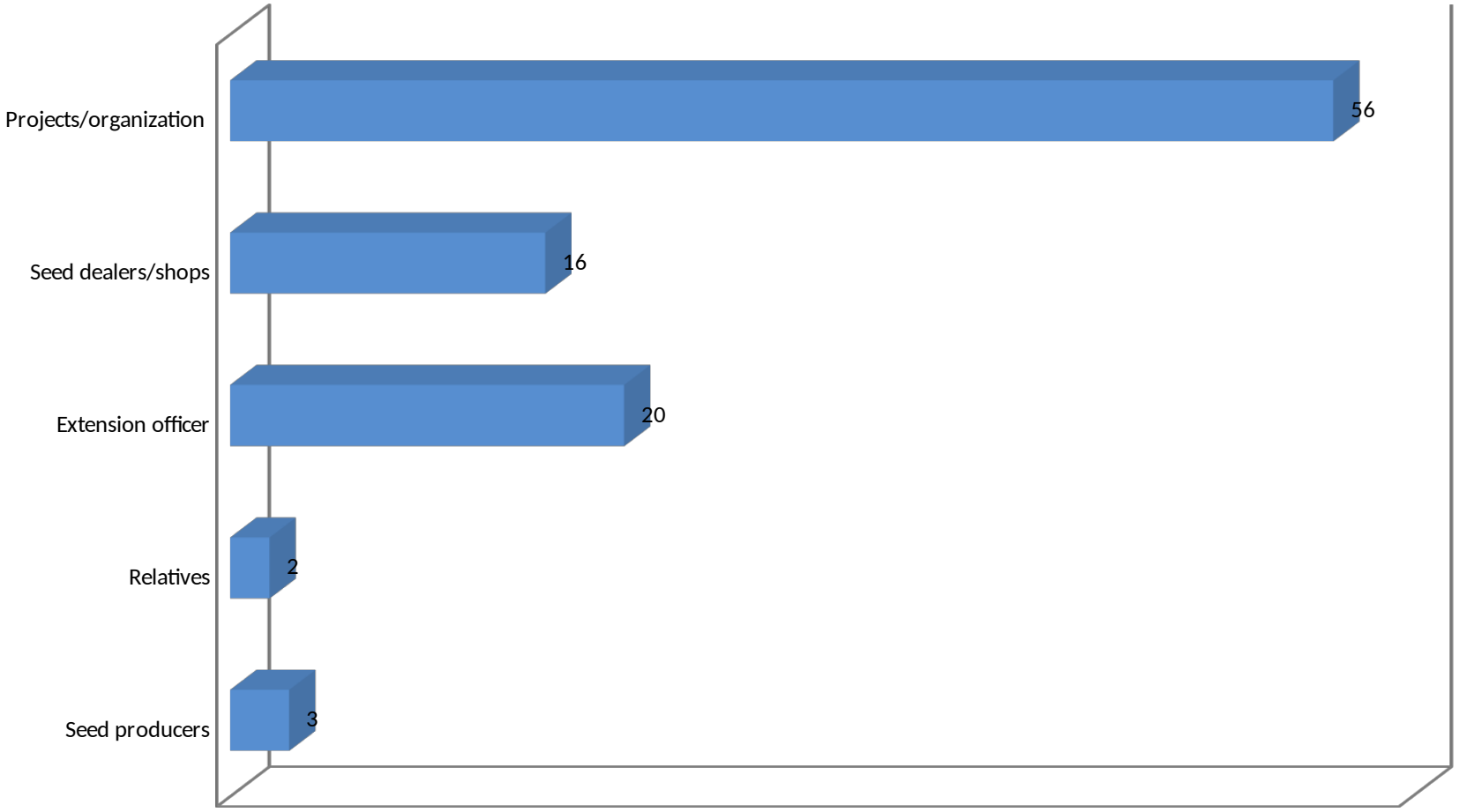


Use of improved seeds

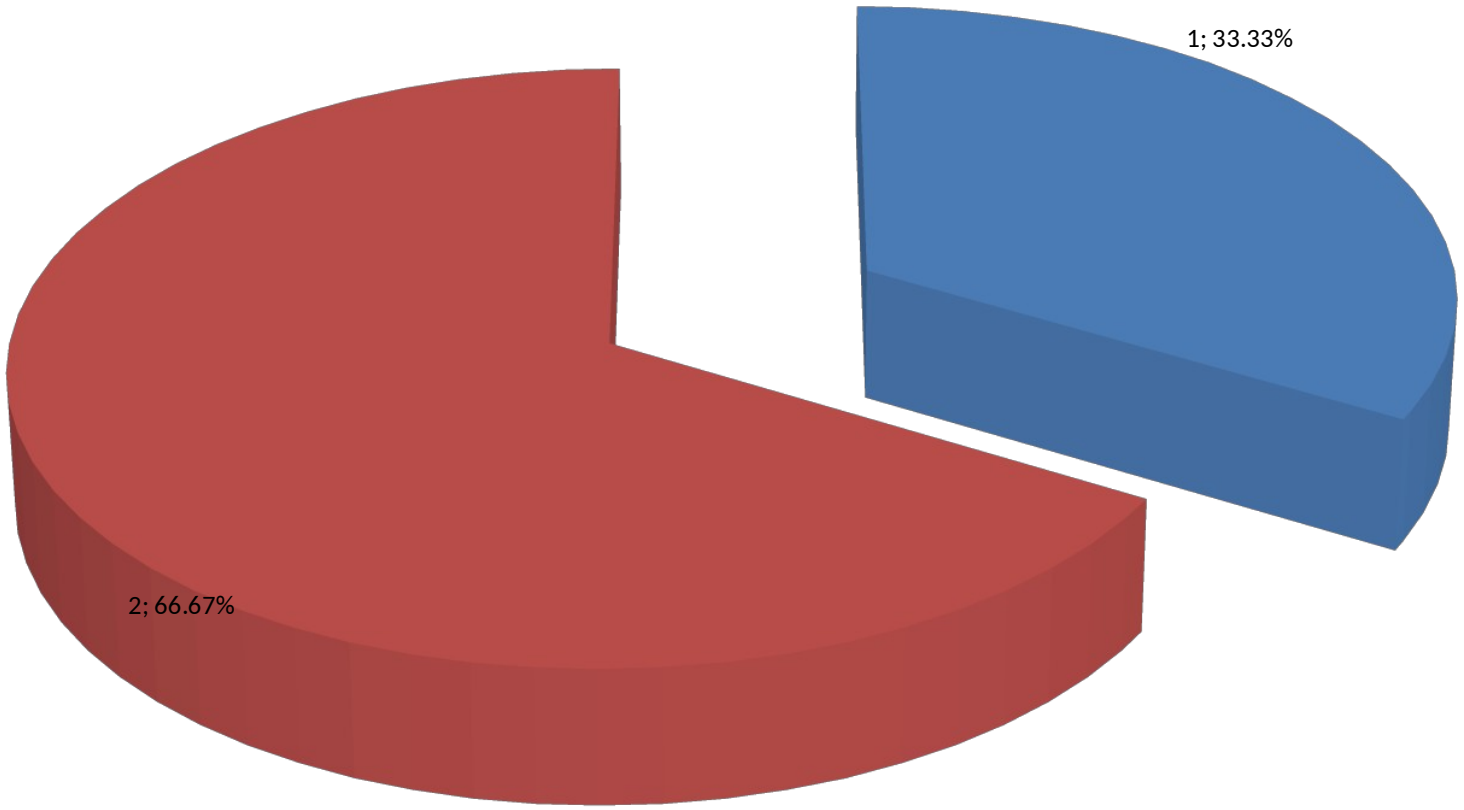


Use of Improved seeds Cont....

Sources of getting improved seeds

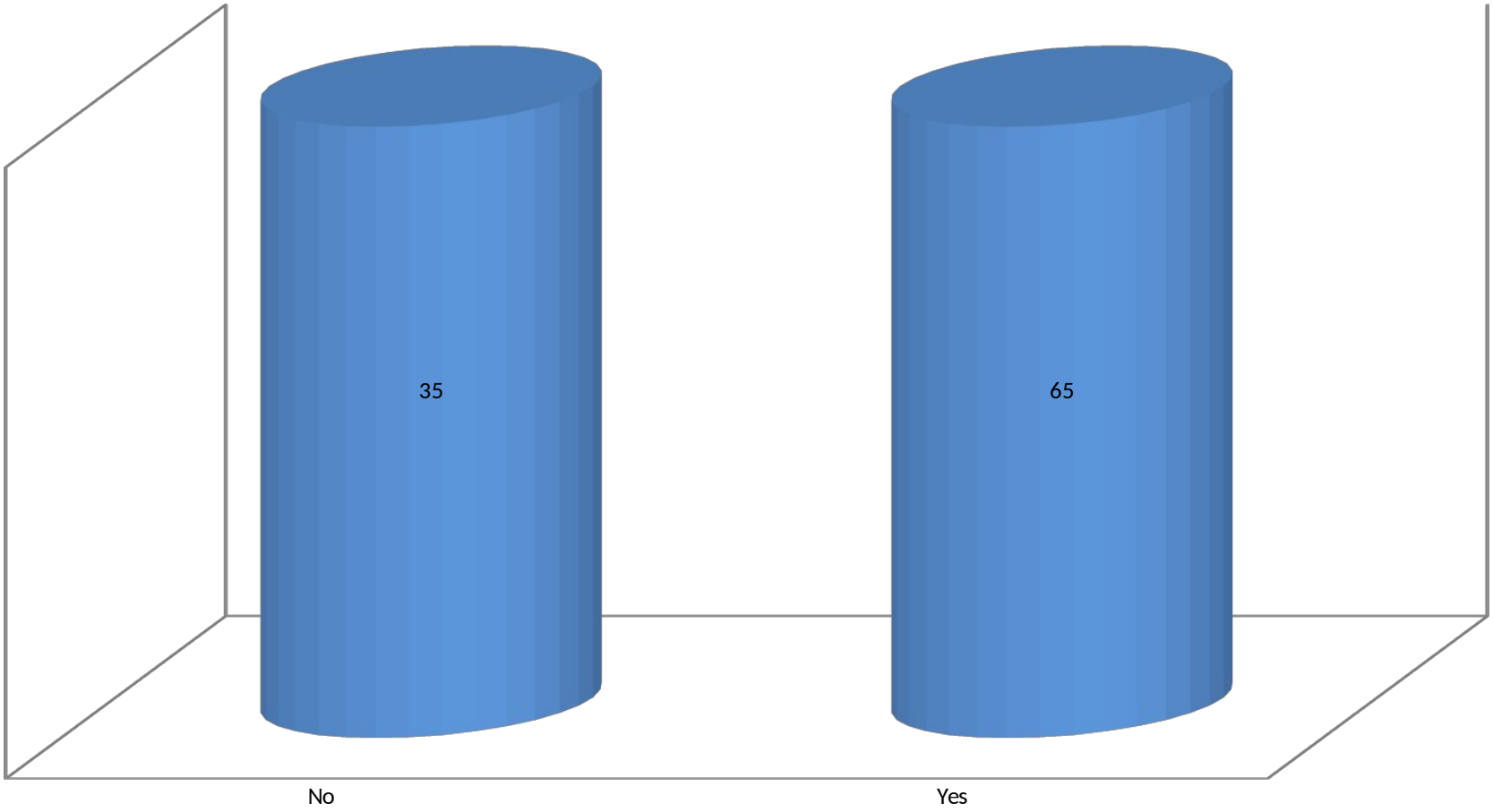


Number of weeding per season

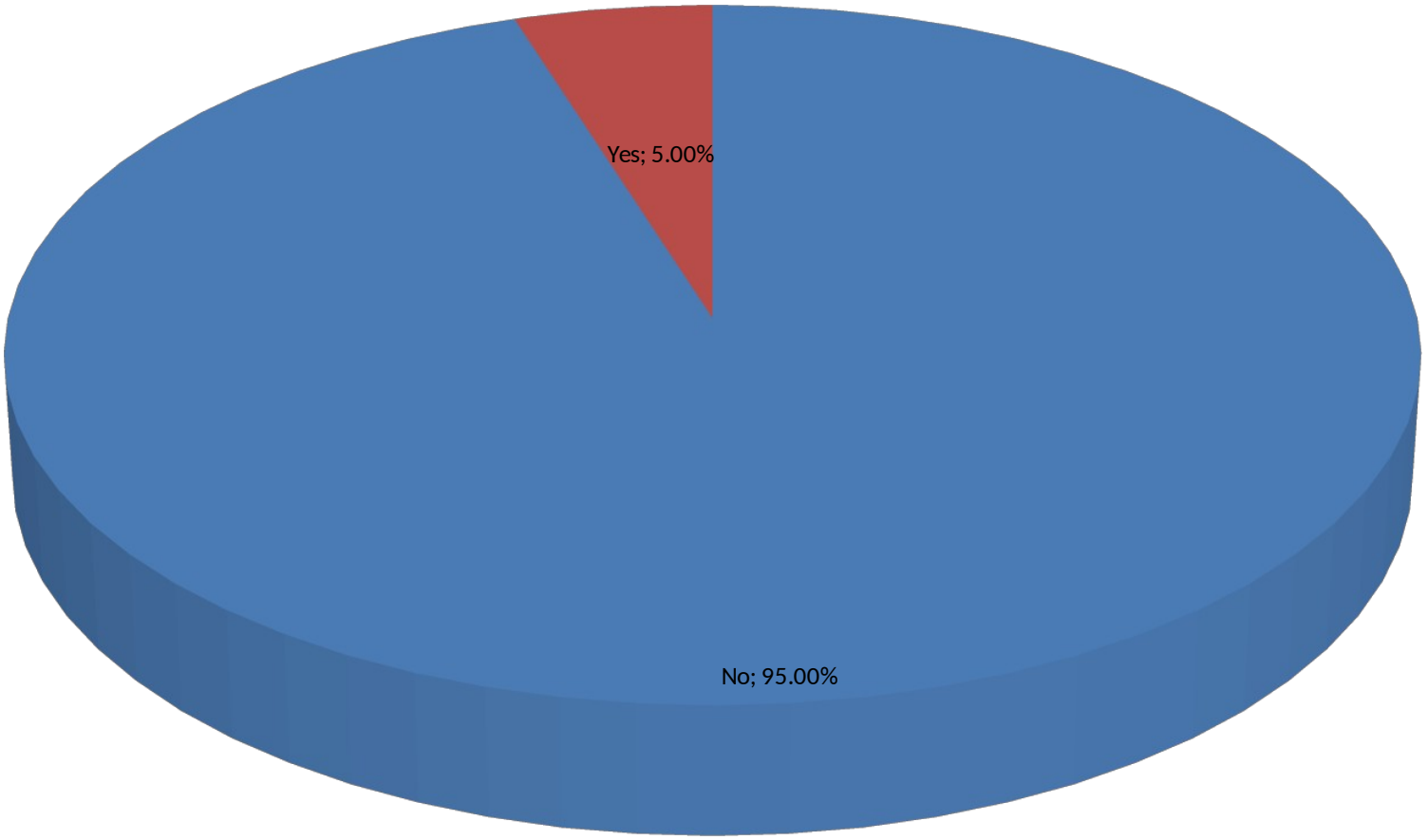


Weeding

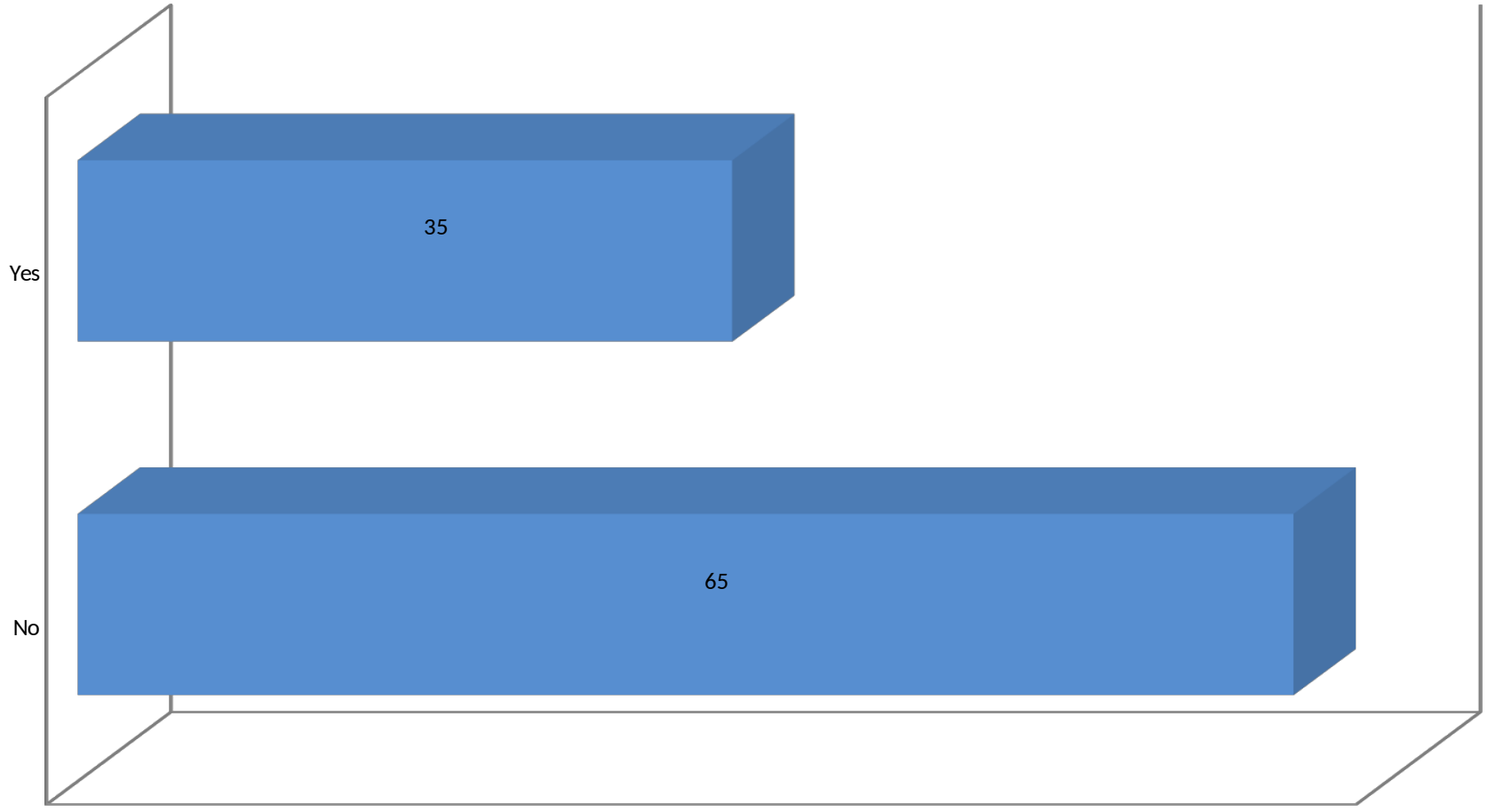
Use of recommended spacing (60 cm by 45 cm to single strand and 75 cm by 60 cm to double strand)



Use of pesticides



Access to sunflower processing machine



Predictors influencing the adoption of sunflower farming innovations

		Standardized Coefficients		
Independent variables (X)	Std. Error (e_t)	Beta (β)	t	Sig.
Constant	.055		8.408	.000
Respondent's age (years)	.001	-.065	-1.070	.286
Sex of respondent	.015	-.065	-1.259	.209
Respondent's education level	.012	.125	2.086	.038*
Respondent's marital status	.012	-.059	-1.084	.279
Family size	.004	-.209	-3.289	.001*
Farming experience	.006	.447	7.543	.001*
Availability of sunflower market	.029	.157	3.208	.001*
Livestock ownership	.013	.084	1.735	084
Frequency of contacting extension officer	.008	.357	6.042	001*

Predictors influencing the adoption Cont……..

- Results revealed that respondent's education level, family size, farming experience, availability of sunflower market, and frequency of contacting extension officer significantly influenced the adoption of sunflower farming innovations at $p \leq 0.05$.
- However, sex of respondent, respondent's age (years), respondent's marital status, and livestock ownership did not significantly influence the adoption of sunflower farming innovations at $p \leq 0.05$.

Contact with Extension Officer

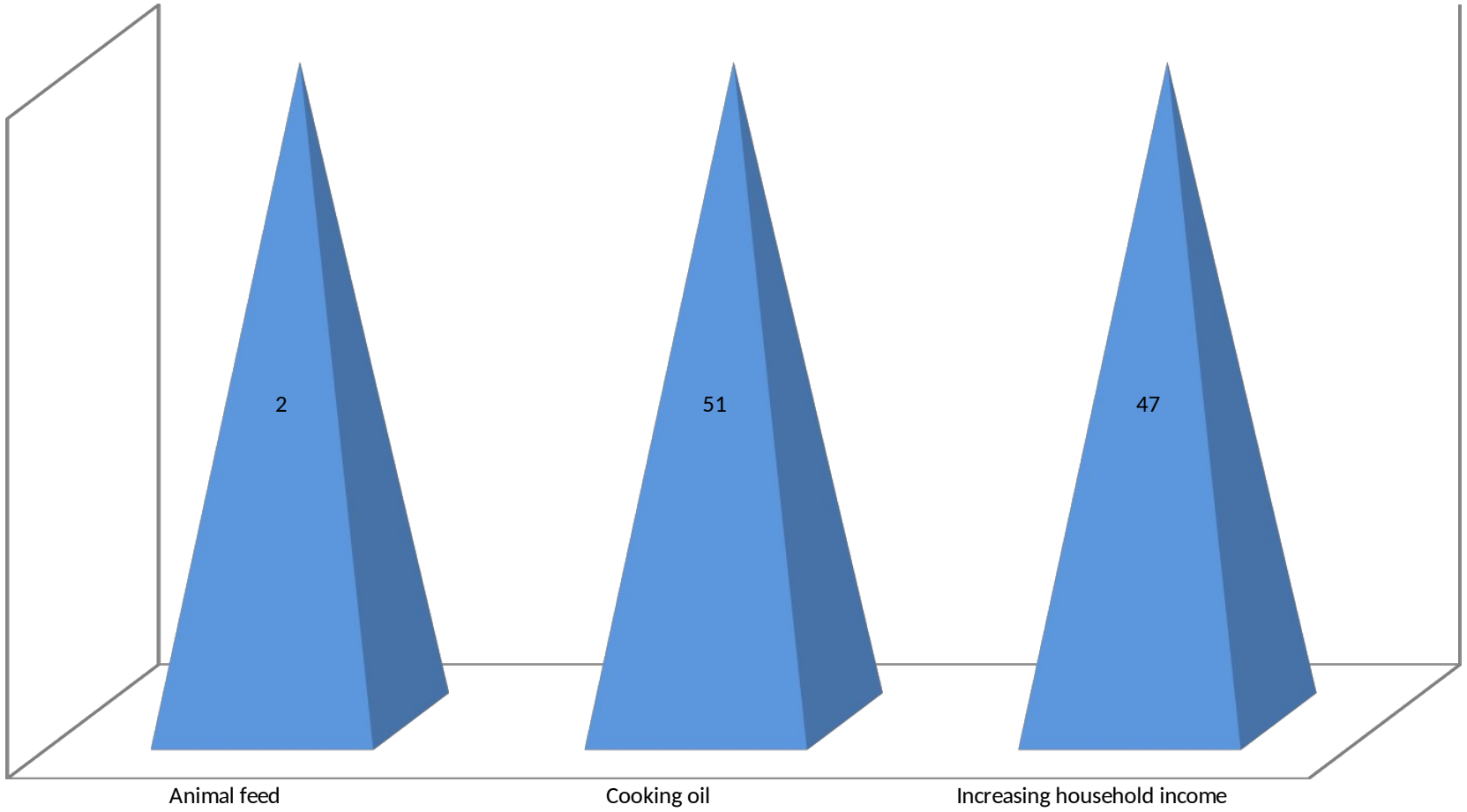
Contact with Extension Officer Cont.....

Farming Experience

Farming Experience Cont.....

Market for sunflower

Benefits of sunflower production



CONCLUSIONS

It is evident that sunflower farming contributes to socio-economy of smallholder farmers, it is important in contributing substantial portion of oil which is of high quality, sunflower contributes to animal feed which is either used directly by the smallholder or sold to earn cash for household use.

CONCLUSIONS Cont….

- Agriculture is a potential sector that needs a boost in productivity by improving agricultural technologies and support from favourable socio-economic policy environment, as well as efficient institutional support services because there is need to accelerate technology uptake to address declining farm production being experienced by smallholder farmers.

RECOMMENDATIONS

- Farming Technologies produced should be affordable to farmers based on farmers scarce resources.
- Extension services should be properly linked with farmers especially those smallholder sunflower producers by involving them in experimentation of innovations.

RECOMMENDATIONS Cont……

- Farmers should be encouraged to form an association of sunflower producers which will help them to find market for their products at profitable rate.
- Effective introduction of on-farm seed production should be enhanced to enable farmers produce on-farm seeds within their community in order to alleviate seed shortage.

RECOMMENDATIONS Cont……

- Government should make sure rural transportation and infrastructures are improved to make them passable.
- Establishment of rural financial institutions to address farmers' credit needs on loan terms with low interest rate.
- Popularization of adaptive, high yielding, and disease and insect resistant crop varieties.

THE END

THANK YOU FOR LISTENING