Multidisciplinary Research Academic Journal (MDRAJ)
Vol 7. Issue 2, December 2022, 15-24
ISSN: l-2467-4699
ISSN: e-2467-4834
https://www.openlu.org/research/

Influence of Agricultural Productivity on Sustainable Livelihood of Farmers in Kalungu Local Council, Uganda

Stephen Oloo Nyanjwa[1]
oloosteven9@gmail.com

Abstract

The purpose of the study was to analyse the influence of agricultural productivity on sustainable livelihood of the people in Kalungu Local Council, Uganda. The sample size of 115 respondents was selected. The researcher used both quantitative and qualitative methods of research. Descriptive (observational) research design was used to estimate the relationship between the variables accurately. The findings discovered that majority of the respondents walk for 3 hours and travel for 3 kilometres from their farms and with a market population of below 100 people. Majority of the respondents cultivate less than 1 acre of land with yields between 101-499 kilograms. The majority (54%) grow two types of crop. Radio is a major source of market information (55%). The respondents had 3-5 children (49%), take 3 meals a day (68%) and with an average income of below 100,000 (Ugh) (32%). Market access had a mean of 3.86 and 55(48%) agree that there are no good roads for vehicles to access the farm. Farming practice was rated adequate, that farmers use local farm equipment, used local seeds and breeds. It was concluded that agricultural productivity influences the sustainable livelihood of the people in Local Council, Uganda. Agricultural productivity, if fully exploited, can lead to economic growth. Ugandans should be encouraged to produce, not only for the family consumption but also for the market.

Keywords: Natural capital, social capital, human capital, physical capital, financial capital, farming practices, and market access.

Résumé

Le but de l'étude était d'analyser l'influence de la productivité agricole sur les moyens de subsistance durables des habitants du conseil local de Kalungu, en Ouganda. La taille de l'échantillon était de 115 répondants sélectionnés en utilisant des méthodes de recherche quantitatives et qualitatives. Une conception de recherche descriptive (observationnelle) était utilisée pour estimer avec précision la relation entre les variables. Les résultats ont révélé que la majorité des répondants marchent pendant 3 heures et parcourent 3 kilomètres depuis leurs fermes et avec une population marchande inférieure à 100 personnes. La majorité des répondants cultivent moins de 1 acre de terre avec des rendements entre 101 et 499 kilogrammes de produits. La majorité (54%) cultivent deux

[1] *Nyanjwa Stephen Oloo, Department of Humanitarian & Development Studies at Central Luzon State University - Bugema University Campus*

types de cultures. La radio est la source majeure d'information sur le marché (55%). Les personnes interrogées avaient 3 à 5 enfants (49%), prenaient 3 repas par jour (68%) et avaient un revenu moyen inférieur à 100 000 (Ugh) (32%). L'accès au marché avait une moyenne de 3,86 et 55 (48%) conviennent qu'il n'y a pas de bonnes routes pour que les véhicules accèdent à la ferme. Les pratiques agricoles ont une moyenne de 3,29 jugées adéquates, c que les agriculteurs utilisent du matériel agricole local, des semences et des races locales. Il a été conclu que la productivité agricole influence les moyens de subsistance durables des habitants du conseil local, en Ouganda. La productivité agricole, si elle est pleinement exploitée, peut conduire à la croissance économique. Les Ougandais devraient être encouragés à produire, non seulement pour la consommation familiale mais aussi pour le marché.

Mots clés : Capital naturel, capital social, capital humain, capital physique, capital financier, pratiques agricoles et accès au marché.

Introduction

Agriculture has changed dramatically, especially since the end of World War II. Food and fibre productivity soared due to new technologies, mechanization, increased chemical use, specialization and government policies that favoured maximizing production. These changes allowed fewer farmers with reduced labour demands to produce the majority of the food and fibre in the United States (Chaney, et. al. 2009).

According to Muhwezi (2005), the African continent is rich in human and natural resources. Of some 900 million people, over 75% live in rural areas, including small towns and villages. These rural populations depend heavily, although not exclusively, on the production and use of natural resources for their livelihoods. This high level of reliance on natural resources remains through at least the next generation. Agriculture is not only a key to both rural and urban food security and to household livelihoods, but is also a major contributor to the export economy and thus to foreign exchange earnings. It is the most important source of employment in most countries of the region. He further asserts that African farmers pursue a wide range of crop and livestock production and marketing enterprises, with considerable diversity across and within the major agro-ecological zones. Unlike many other regions of the world, African food crop production and food security is based on a multitude of farming systems. These farming systems are strongly influenced by the prevailing market conditions, which include market access both locally and globally (Muhwezi, 2005).

Agricultural productivity has grown rapidly where improved varieties and fertilizers have been widely adopted, but not where adoption has lagged. Especially in Sub-Saharan Africa, market failures continue to be dangerous for seed and fertilizer because of high transaction costs, significant risks and the small size of markets (which prevents the realization of scale economies). The recent renewed interest in input subsidies to overcome market failures needs to focus on sustainable solutions to market failures. The practice of mixed cropping, shifting cultivation, incompletely harvested crops; continuous planting and/or harvesting, still exist to a large extent (NEPAD, 2008).

According to international standards, DENIVA (2006) reports that Uganda still ranks amongst the twenty poorest countries in the world in terms of Gross National Product (GNP) per capita, with over 50% of the population living below the poverty line. These impacts are particularly prevalent in rural areas, where the economy tends to be dominated by low productivity subsistence agriculture. Rural Ugandans have seen very little real growth in

crop production over the last decade due to lack of access to agricultural inputs and financial services, declining soil fertility, poor infrastructure, lack of critical information and communication, and the inability to access large markets.

Ugandan farmers work independently of each other. They individually produce only small quantities of crops and have little access to credit. Bibagambah (2001) identifies '*the lack of opaque trading practices and general mistrust among market participants* as a significant restraint in the agricultural sector. The problem seems to have been caused by the many years of civil war in Uganda and, more recently, the failure of many banks, particularly those operating mostly in rural areas.

Agriculture is a sector of the economy that can lead to substantial economic growth if fully exploited. However, the society and governments have undermined this. The full realization of potential in this sector is hampered by subsistence farming, lack of capital investments, high yielding vulnerability and infrastructural poverty which are the necessary supporting systems like market, roads and extension advice, (Bibagambah, 2001). If the above factors are put in place, then the sector can realize a substantial boost in people's livelihood standards. A survey of Uganda revealed that the area is agriculturally productive. Nonetheless, a large section of the potential land is underdeveloped and unutilized with few homes rearing domestic animals. Little study has ever been undertaken to unearth the underlying factors behind underdevelopment, school going children scavenging, poor tilling and proper utilization of the Agriculture potential zone for better sustainable livelihood of Uganda residence. Therefore, the study sought to find out the influence of agricultural productivity on sustainable livelihood in Kalungu Local Council, Uganda.

Review of literature

Agricultural Productivity and Human Capital

Uganda's economy is predominantly agrarian; 36% of the GDP, 81% of the employed labour force, and 31% of export earnings are derived from the agricultural sector. A total of 6,810,000 ha (16,828,000 acres), or one-third of the land area, is under cultivation. Subsistence production remains the pattern; 70% of the area under cultivation is used to produce locally consumed food crops. The monetary value of market crops is exceeded by the estimated value of subsistence agriculture. Cassava, sweet potatoes, and bananas are the major food crops. (World Bank Report, 2005).

This includes assets embodied in people's knowledge and abilities, such as education, experience (measured by primary livelihood strategy), sex, training, and the quantity of labour. These affect farmers' abilities to make land management decisions. For example, due to imperfect labour markets, households that are well endowed with family labour are more likely to use labour intensive land management practices. Since education of all household members may matter, and not only the education of the household head, and since there may be differences in impacts of female as opposed to male education on agricultural activities, the level education of men and women in the household separately compared.

Social Capital

Social capital is an important explanatory variable for performance of different nations as well as improved livelihoods of people in different communities. Social capital as a resource is deep-rooted and can be produced through social relations and networks. The most dominant idea is that social capital is rooted in society represented by mutual trust, solidarity, and participation in associations. The more the degree of social capital in the

community, the healthier, safer and happier the community could become (Rooy, 2001). According to Ali (2002), social capital is increasingly recognized as an intervening factor in the process of social learning and information exchange. It reduces the uncertainty about the reliability of information, which is likely to be given a higher value if it comes from trusted people. He added that social capital facilitates the willingness and cooperation to share information, thereby revealing the implicit information that would be difficult to exchange.

Natural Capital

Land is the main natural capital considered in this research. It includes the amount of land owned, the quality of the land – measured as topsoil depth, the stock of macronutrients (nitrogen, phosphorus, and potassium) and average slope, and the presence of prior land investments on plot. (Ssali, 2002) claims that most past studies consider land as only farm size since measuring land quality is difficult and expensive. Studies in this review, has clearly shown that the level of land ownership and probably the form of ownership predominant in Buganda is a big set back to the exploitation of agriculture.

Physical Capital

Physical capital includes the value of farm buildings, equipment and other durable commodities like a number of livestock. As with natural capital, these assets may have mixed impacts on land management. Ownership of marketable assets in general increases the household's ability to finance investments and purchase of inputs, which favours the use of purchased inputs such as inorganic fertilizer.

Financial Capital

This is household liquid financial assets and access to credit. Access to financial capital is measured by whether farmers participate in rural credit and savings organizations. Limited access to credit has been cited by many studies as one of the constraints to improved land management (Sharma & Buchernrieder, 2002).

Farming Practices

According to Glover *et al.,* (2007), many scientists, farmers, and businesses have debated how to make agriculture sustainable. One of the many practices includes growing a diverse number of perennial crops in a single field, each of which would grow in separate season so as not to compete with each other for natural resources. This system would result in increased resistance to diseases and decreased effects of erosion and loss of nutrients in soil. Nitrogen fixation from legumes, for example, used in conjunction with plants that rely on nitrate from soil for growth, helps to allow the land to be reused annually. Legumes will grow for a season and replenish the soil with ammonium and nitrate, and the next season other plants can be seeded and grown in the field in preparation for harvest. Consequently, the use of low yielding technologies has resulted in low productivity, low incomes, low saving, low farming investments, and poverty, which is, associated with poor livelihood standards (Bibagambah, 2001).

Market Access

The geographic survey of households is linked to geographic information on indicators of market access and population density. Most Ugandans derive their livelihood from subsistence farming. However, agricultural productivity is declining, the natural resource base is being tainted, and Ugandan products are not competitive in regional and

international markets. Consequently, smallholder farmers have no financial power. They have no linkage to markets, no single or group bargaining power to fair market prices. This reveals that the farmers have not reached a level of benefiting from commercialized agriculture to eradicate poverty, a situation that exacerbates their low-income level (DENIVA Report, 2006).

Sustainable Livelihood

Sustainability rests on the principle of meeting the needs of the present without compromising the ability of future generations to meet their own needs. Therefore, stewardship of both natural and human resources is of prime importance. The achievement of sustainable livelihood depends on the exploitation of local resources to meet people's basic needs. Meeting of these needs is not a creation of the government but creation of sustainable enterprises at the local level. Sustainable livelihoods by nature have to be created largely at the local level, with local resources and local production

Income and Wellbeing

Sustainable income provides a family with more than a basic requirement of survival. Families with sustainable income can improve their living standards over time, actively participate in their communities, build strong support systems and contribute to their local economy (Helliwell & Born, 2009). Sustainable living standards constitute material wellbeing and are susceptible to the measurement of income which entails the qualities of income one needs to purchase required goods and services for decent survival. There are twelve indicators needed to measure it; health including demographic conditions, food and nutrition, education including literacy and skills, condition of work, aggregate consumption and saving, transportation, housing, including household facilities and Social Security.

Research design and methodology

The researcher used both quantitative and qualitative methods of research. Descriptive (observational) research design was used to estimate the relationship between the variables accurately. Quantitative method involved the calculation of frequencies and percentages, mean and standard deviation while qualitative method involved interviews. To adequately realize the study's objectives, a descriptive study was done to provide factors influencing agricultural productivity on sustainable livelihood of the people in Uganda.

The primary source of data was the household farmers from the local community and community leaders who are the decision-makers in the area. Systematic sampling was used together with simple random sampling procedure to ensure proportional representation, whereby houses were selected randomly in every territory and the questionnaires drawn systematically from one home to the other and sample size calculated according to formula by Fisher (2002). The self-administered questionnaire was used to collect the data, and data was analyzed through Statistical Package for the Social Scientists (SPSS).

Result and discussion

The objective was to find out the influence of agricultural productivity on sustainable livelihood of the people in Uganda. The study focussed on time taken to travel from the farm to the market, distance to the market and the population of the market. Most respondents take 3 hours 53(46%) walk to the market and travel for 3 kilometres 33(29%) depending on where the farms are located. In a further study of the market population, it was discovered

that the biggest group of the market had a population of below 100 43(38.7%). Most farms are situated far away from the road, contributing to long hours of travelling, hence increasing the unit cost of farm production.

Table 1 *Time, distance and population of the market*

Items analysed	Freq.	Percent (%)
Time taken to the market		
Less than 1 hour	17	14.8
1 hour	22	19.1
2 hour	23	20.0
3 hours	53	46.1
Total	115	100.0
Average mean	2.91	SD=1.19
Distance in kilometres to the nearest market		
6+ Km	4	3.5
5 km	6	5.3
1 km	9	8.0
2 km	16	14.2
4 km	18	15.9
<1 km	27	23.9
3 km	33	29.2
Total	113	100.0
Average mean	3.35	SD=1.71
Market population		
500-999	18	16.2
1000 and above	23	20.7
101-499	27	24.3
Below 100	43	38.7
Total	111	100.0
Average mean	2.19	SD=1.16

The study described the size of land under cultivation and yield in kilograms. This was undertaken to establish the respondents' capacity to produce, grow more food for their sustainability. It was observed that the biggest group of the respondents cultivate less than 1 acre of land 37(33%), with a yield of 101-499 kilograms 46(41%). A further interview revealed that the respondents use local tools like hand hoes, slasher and pangas. This means that despite fertile land and poor tools, output continues to remain below average.

Table 2 *Size of land cultivated and yields (kgs)*

Items analysed	Freq.	Percent (%)
Size of land Cultivated (acres)		
5.1 and above	2	1.8
4.1- 5.0	11	9.9
3.1- 4.0	16	14.4
2.1- 3.0	20	18.0
1.1-2.0	25	22.5
< 1.00	37	33.3
Total	115	100.0
Mean average	2.50	1.43
Yield (kgs)		
1000 -1499	4	3.6
1500 and above	5	4.5
500 - 999	27	24.3
Below 100	29	26.1
101-499	46	41.4
Total	111	100.0
Average Mean	2.19	SD= 1.01

As regards farming practices and source of market information for better yields, the result show that majority of the respondents 60(54%) grow two types of crop on the same acreage and listen to the radio 63(55%) for market information.

Table 3 *Mixed cropping and source of market information*

Items analysed	**Freq.**	**Percent (%)**
Crops grown		
Four	3	2.7
One	11	9.9
Three	37	33.3
Two	60	54.1
Total	115	100.0
Source of market information		
Others	1	.9
TV	3	2.6
None	3	2.6
Friends	45	39.1
Radio	63	54.8
Total	115	100.0

As per the number of children and meals taken, it was established that majority of the respondents had 3-5 children 56(49%) and further they take 3 meals in a day 79(69%).

Table 4 *Number of children and meals taken*

Items analysed	Freq.	Percent (%)
Number of children		
6-8	11	9.6
0-2	48	41.7
3-5	56	48.7
Total	115	100.0
Number of meals		
4	1	.9
1	2	1.7
2	33	28.7
3	79	68.7
Total	115	100.0

The average income of the respondents was discovered to be below 100,000 (Ugh.) from the farm produce 37(32%). This means that the respondent's income from the farm is not adequate to sustain their livelihood.

Table 5: Average income (Ugh)

Items analysed	Freq.	Percent (%)
Income		
1,000,000- 1,499,000	6	5.2
2,000, 000 and above	19	16.5
500,000-999,000	23	20.0
101,000-499,000	30	26.1
< 100,000	37	32.2
Total	115	100.0

The review of this literature has brought out clearly the way market mechanisms either imposed by the government or the western developed countries impede the exploitation of agriculture in Uganda. It has also brought out a clear picture of how and why the local poor farmers are exploited by the meagre prices set by non-market friendly mechanism all for their disadvantage. However, the gap that seemed looming was to find out first whether in a case where there is no intermediary, why are farmers still getting problems of market and what factors influence agricultural productivity on sustainable livelihood of the people in Uganda? This is because the conditions may not be the same in every setting, a problem in one area may not be a problem in another.

Conclusion

Based on the finding, the following conclusions were formulated that farmers travel long distances to the market, raising the cost of farm production with most of these markets having low turnout. The majority of the farmers do not own land titles. They practice mixed cropping and get low yields due to poor farming methods. Since yield per acreage is very low, the respondents' resort to household food production and purchase food from the market to subsidize for what they do not produce. With low income, farmers eat low nutritional foods and value quantity instead of quality. This has affected their sustainable livelihood.

Constraints during COVID-19 let the researcher face restrictions on the mobility of people across borders and lockdowns contributed to labour shortages for agricultural sectors in many countries. Disruptions from the farm were, in some cases causing excesses to accumulate, putting pressure on storage facilities and increasing food losses for perishables, these effects put a strain on farm incomes. The COVID-19 pandemic may also affect the availability of key intermediate inputs for farmers.

Recommendations

Based on the finding, the following recommendations are being proposed, Agricultural productivity, if fully exploited, will bring economic growth and better living standards.

- Quality seeds should be made available since most people cannot afford quality seeds and therefore need hybrid seeds.
- The government should provide good roads in the region, making the area inaccessible and increasing the cost of farm produce.
- Farming methods should be improved and new techniques should be available to people who lack knowledge and skill.
- The use of fertilizer and access to credit services should be facilitated to boost their income and active supervision of the farm.
- Sensitization seminars on newly improved technologies and appropriate land use should be carried out to empower people with knowledge and skills.
- Kalungu Local Council should go beyond subsistence agriculture, producing food mainly for family consumption and should be encouraged to produce more for the market.

References

Ali R., (2002)**.** Social capital, knowledge, and the international growth of technology-based new firms. *International Business Review* 1: pp. 279–304.

Bibagambah, J. (2001). *African Quest for Economic Development*: Uganda Experience. Kampala. Fountain Publisher.

Chaney, D., Melvin R. G., & Bradford**,** E. (2009). *UC Sustainable Agriculture Research and Education Program.* University of California, Davis.

Development Network of Indigenous Voluntary Associations, DEVINA Report (2006).

Fisher, A, & Forest, J. (2002). *Designing HIV/AIDS intervention studies an operational research handbook*. USA. Population council.

Glover, *et al.* (2007). Future Farming: Return to Roots? Retrieved from http://www.landinstitute.org/pages/Glover-et-al-2007-Sci-Am.pdf *Scientific American*

Helliwell, J. & Born, P. (2009). Community. Cutdown August 4th , 2009

Muhwezi, B. J. (2005). *Uganda Policy Review Newsletter. Social Economic Trends*. Vol. 4. Uganda Bureau of Statistics.

New Partnership for Africa's Development (NEPAD) (2008).

Rooy, W. (2001). *Livelihood, Environment and Growth Linkages in Uganda.* A Spatial Framework for Policy Analysis*. CGIAR Annual General Meeting at the World Bank http://www.ifpri.org/events/conferences/2001]*

Sharma, M. G. Buchernrieder. 2002. Impact of microfinance on food security and poverty alleviation. In: Zeller, M., R. Meyer (eds). The Triangle of microfinance, Johns Hopkins University Press, Baltimore: 221-240.

Ssali, H. (2002). Soil organic matter in Uganda and its relationship to major farming systems. *A resource paper for the project on policies for improved land management*.

The World Bank Report (2005).