Research Application Summary

# Validation of the profitability of banana growing in Kamwezi sub-county, Kabale district, South Western Uganda

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## Abstract

Banana is an important food staple and source of cash income in most parts of Uganda, which do not experience serious drought. Uganda's production accounts for 20% of world's production providing income to rural families. As an industry banana has the potential to expand opportunities and income as production increases. However, the profitability of banana is dwindling due to a number of constraints. Therefore, this study was conducted to validate the profitability of banana growing in Kamwezi sub-county, Kabale district in South Western Uganda. Data were collected from 46 respondents using semi-structured questionnaires and interview guides. The findings revealed that farmers got 4957 bunches/ha of banana with the annual income of Uganda Shillings 7,303,368= million which was a very high profit compared to other major crops. The low yields of banana output were attributed to banana pests and diseases as well as competition from other enterprises such as livestock and annual crops. In addition, the major banana marketing constraints included poor transport, distance from the field and to market, inadequate market and inadequate labor for transporting bananas. Overall, the study has shown that banana growing is a profitable venture as long as farmers can access improved banana production technologies and improved marketing conditions.

Key words: Banana, constraints, profitability

## Résumé

La banane est un aliment de base important et une source de revenus monétaires dans la plupart des régions de l'Ouganda, qui ne connaissent pas de grave sécheresse. En Ouganda, sa production représente 20% de la production mondiale procurant un revenu aux familles rurales. Autant l'industrie bananière a le potentiel d'accroître les opportunités et les revenus que la production augmente. Toutefois, la rentabilité de la banane est en baisse en raison d'un certain nombre de contraintes. Par conséquent, cette étude a été menée afin de valider la rentabilité de la culture bananière dans le sous-comté de Kamwezi, district de Kabale. Les données ont été recueillies à l'aide des

questionnaires semi-structurés et des guides d'interview à partir de 46 répondants. Les résultats ont révélé que les agriculteurs ont reçu 4957 grappes de banane par hectare avec le revenu annuel de 7.303.368 = millions de shillings ougandais qui était un bénéfice très élevé par rapport à d'autres cultures principales. Les faibles rendements de la production de bananes ont été attribués aux ravageurs et aux maladies de bananes ainsi que la concurrence d'autres entreprises telles que le bétail et les récoltes annuelles. En outre, les contraintes majeures de commercialisation de la banane comprenaient le transport médiocre, la distance pour aller au champ et au marché, le marché inadéquat et le travail inadéquat pour le transport des bananes. Dans l'ensemble, l'étude a montré que la culture de banane est une entreprise rentable aussi longtemps que les agriculteurs puissent accéder les technologies améliorées de production de la banane et l'amélioration des conditions de commercialisation.

Mots clés: Banane, contraintes, rentabilité

## Background

Banana is a staple food in all parts of Uganda especially around the shores of Lake Victoria, Kigezi Highlands and slopes of Mt. Elgon which do not experience serious dry season. Per capita consumption of banana and income is 150-500kg and 220-460kg/year, respectively (Hartman, 1989). In Uganda, banana is considered the most important source of rural revenue and returns to family labor. According to Bagamba *et al.* (1994), and Embrechts *et al.* (1996), banana contributes 8-22% of the national agricultural revenue and provides employment to a considerable number of Ugandans. As an industry banana has the potential to expand opportunities and income as production increases (Zake *et al.*, 2000). Banana can be consumed after boiling and steaming. Dessert bananas are eaten ripe or roasted, while some ripe exotic banana varieties provide juice and can be fermented as beer or distilled into spirits. Elsewhere, the stalks and inflorescence of banana are eaten as vegetables (Sundra, 1996). In addition, the pseudostem and peels of banana are used as livestock feeds in the populated urban and peri urban areas (Mayhew, 1988; Zake, 2000). Banana is an environmentally friendly crop because of its structure and ratoon crop production prevent soil erosion and preserves soil structure (Mayhew, 1988; Rubaihayo, 1991; Mukiibi, 2001).

Like in other parts of Uganda, banana is grown for home consumption rather than for sale in Kamwezi Sub-County,

Kabale district. Consequently, the profitability of banana is greatly affected by a number of factors including climate change and variability, pests and diseases, inaccessibility to market and transport, inadequate labor, inaccessibility inputs, exploitation of farmers by middleman among others. Therefore, this study was conducted to validate the profitability of banana growing in Kamwezi Sub-County, Kabale district.

## Literature Summary

According to Kasenge *et al.* (1991), the importance of banana as a food crop in Uganda dropped between early 1970s and mid 1990s. Although, the area under banana production expanded, the yield per unit area dropped from 7.6t/ha to 5.7 t/ha, respectively. Yet, banana accounted for 68% of farm income and had a comparative advantage over other annual crops (Bagamba *et al*., 1994). However, the cash crop value of banana grown in highland Uganda dropped from 7% to 2 % in 1970 to 1990, respectively (Gold *et al.,* 1998). A cost benefit analysis revealed a lower benefit from banana in central compared to highland south western Uganda. According to Bagamba *et al.* (1994), the difference in cost benefit ratios for banana in in these two regions is attributed to differing yield coefficient rates, production constraints and amount of inputs used. Besides, only 27% of the output from banana was sold while the rest consumed on farm, which implied that banana in pure stands, was more profitable. In fact, previous studies showed that banana was more profitable than most annual crops like maize, beans, and cassava.

Although, synthetic fertiliser application increased banana yield by 30%, fertiliser use is low due to high prices, bulk packaging, lack of knowledge and labor for application as well as poor marketing (Piet Van Asten, 2010). However, Bagamba *et al.* (1994) had shown that the difference in plantation management, levels of inputs used and the effect on crop profitability were not clearly apparent. Accordingly, the major production constraints of banana include low soils fertility, costly inputs, moisture stress and lack of soil amendments. Distance to accessible roads, limited access to market information, land pressure, off farm income, fluctuation in farm gate prices and low prices were also reported to reduce profitability of banana (Bagamba, *et al*, 1994). In addition, Mugisha and Ngambeki, (1994) and Piet van Asten, (2010) asserted that the bulkiness and perishability of bananas, the remoteness of producing areas relative to big markets and scattered nature of small farms make the whole marketing machinery costly. Moreover, market

dues, labor costs for harvesting and assembling banana, loading and off loading, transportation costs, track hire and salary of the driver all have effect on the profitability of banana. For instance, transport costs alone were reported to contribute 90% of the total banana marketing cost (Ngambeki and Mugisha, 1994). Accordingly, the marketing margins of banana are the lowest at producer level where most of the cash benefits go to the middlemen (Aloysius and Gathiru, 1999).

## Study Description

A cross sectional survey using semi-structured questionnaires and interview guides were used to solicit information from key informants, opinion leaders, farmers and technical as well political leaderships in Kamwezi sub-county between December 2009 and January 2010. Three parishes of Kigara, Kibanda and Kashekye were selected out of the six parishes in Kamwezi sub-county for the study. From each selected parish, three villages were chosen on the basis of the intensity of banana production, size of banana plantations and accessibility to a road network. Respondents included model banana farmers and leading banana producers. In total, 46 respondents were interviewed. All the data collected were edited, coded,entered into excel spreadsheets and subjected to descriptive statistics of the SPSS computer programme.

## Research Application

A number of production constraints were reported to hinder banana production in the sub county (Table 1). The most common were pests and diseases and inadequate markets. Competition from other crops, poor transport and crop destruction by wind were the other important constraints.

**Table 1. Major production constraints on banana in Kamwezi sub-county, 2009/2010.**

| Constraints | Frequency (%) |
|---|---|
| Pests and diseases | 26 |
| Inadequate market | 16 |
| Wind | 11 |
| Poor transport | 11 |
| Inadequate labor | 7 |
| Distance to market | 8 |
| Distance from the field | 5 |
| Competition from other crops | 11 |
| Lack of inputs | 5 |
| Total | 100 |

Close to 50% of the available land is allocated to banana growing compared to crop such as Finger millet, peas and coffee (data not shown). The banana varieties grown in the Kamwezi sub county were Bwaziruma (37%), Embire (26%), Mbogoya (16%) and Enjagata (21%). The most commonly grown banana variety is Bwaziruma as opposed to Mbogoya. The banana in Kamwezi was mainly grown as pure stands (58%). Besides, banana a number of other crops were grown in Kamwezi. Among these, beans (53%) were the most common, followed by sorghum (15%) and groundnuts (11%). Others, although grown in much less quantities were maize, peas, millet and coffee. The total annual yield of banana and the other major crops in Kamwezi is shown in Table 2. The highest total annual yield was obtained from banana as opposed to crops such as peas, coffee and millet. The annual revenue of the different crops grown in the study area is also shown in Table 2. The highest annual revenue per farmer was obtained from banana.

**Table 2. Total annual yield of crops (in bunches or kgs) grown in Kamwezi sub-county, 2009/2010.**

| Crop | Quantity consumed (kg/bunches) | Quantity sold (kg/bunches) | Total (kg/bunches) | Yield (kg or bunches/ha/yr) | Average revenue/ Farmer/yr millions) |
|---|---|---|---|---|---|
| Bananas | 15430 | 32360 | 477790 | 4957.0 | 7,303,368 |
| Beans | 2794 | 3750 | 6544 | 1636.0 | 0,13071 |
| Sorghum | 450 | 3160 | 3610 | 1805.0 | 0,10087 |
| Maize | 495 | 5295 | 5790 | 7237.5 | 0,97428 |
| Millet | 440 | 679 | 1314 | 1642.5 | 0,37045 |
| Peas | 245 | 723 | 968 | 403.3 | 0,168417 |
| Groundnuts | 1350 | 1790 | 3140 | 1046.6 | 0,360385 |
| Coffee | - | 1300 | 1300 | 1444.4 | 0,112 |

## Recommendation

This study has shown that banana growing is a profitable venture in Kamwezi sub-county despite the various constraints. For improved profits, however there is need for the introduction and adoption of improved banana production technologies.

Similarly, since inadequate market is one of the key constraints affecting the profitability of banana in the sub county, there is need for improved marketing infrastructure to sustain the banana industry in the area.

## Acknowledgement

This work was conducted as part of the requirements for the award of Bachelor of Vocational studies in Agriculture with Education for the first author. We thank the respondents for their cooperation during the time of data collection.

## References

Acland, J.D, 1984. East African Crops, Long man group, Ltd, UK. 252pp.

Aloysius, K. and Guthrie, K. 1999. Banana Production in Uganda: An essential food and cash crop, SIDA's Regional Land management Unit Publisher Technical hand book series 18 Kampala and Nairobi, Kenya. 61pp.

Beinempaka, A.B., Obwol. T., Kato, H. and Mulera, D.B. 1989. Principles and Practices of Agriculture, Vol. 1. Oxford, Macmillan Publishers Ltd, Encyclopedia. 1985. Vol. 1, 5th Edition, University of Chicago.

Mayhew, S. and Penny, A. 1988.Tropical and subtropical foods, London, Macmillan Publishers Limited. 289pp.

Mukibi, J.K. 2001. Agriculture in Uganda, Vol. 2. Fountain Publishers, Kampala, Uganda. 572pp.

Piet van Asten, 2010. Moderate fertiliser use could double banana yields. IITA. 3pp.

Zake. J.Y.K. Nkwine, C., Sessanga, C.M. Kasenge and Bwamiki, X.K. 2000. Soil research for sustainable banana production in heavy soils of Uganda, Faculty of Agriculture, Makerere University, Kampala, Uganda.