

Addressing the challenge of providing technological options that respond to demands and market opportunities for vanilla in Uganda: The experience of Taimex (U) Ltd

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Abstract

This paper focuses on addressing the challenge of providing technological options that respond to demands and market opportunities for vanilla in Uganda: the experience of Taimex (U) Ltd. Taimex (U) Ltd has been involved in training of vanilla farmers, buying, processing and exporting of vanilla and other crop products like pineapples, passion fruits and ginger among others. The company has been carrying out research and through experience has developed technological packages that include: Manure application, management of the shade, mulching and planting of cover crops and pruning. The company therefore found it necessary to evaluate the impact of the new technological packages on the production levels of vanilla in Mukono district with the objectives: To find out if the production levels of vanilla increase with the new production technology packages; To identify any other constraints that face vanilla production in Uganda and to make policy recommendations so as to sustain the vanilla industry in Uganda. The study was carried out in Ntenjeru Sub County in Mukono district and respondents included farmers who had been in the vanilla business for a period of not less than 5 years. Data were collected using questionnaire and face-to-face interviews. Analysis of the data was done using the Statistical package for Social scientists (SPSS). Data analysis entailed generation of descriptive and other relevant statistics. The major constraints included: theft, lack of adequate extension services and lack of storage facilities, weather related problems, to mention but a few. As per the study findings, the following recommendations were made: There is need to sensitize farmers about the high demand of vanilla on the world market and therefore the contribution it can make towards raising their incomes; There is need for a collective effort to combat the act of theft-all the stakeholders including the farmers, marketing agents, processors and the government ought to take part in combating theft; There is need for existing institutions including the Ministry of Tourism, Trade and Industry (MTTI) and Uganda Export Promotion Council (UEPC) to disseminate information on market availability and price ranges for non-traditional exports like vanilla. This will in turn encourage more buyers to participate and hence make the market more competitive; There is need for all the stakeholders including the government, Research Organizations, Private sector and the farmers to work together to ensure that the available opportunities are well utilized; Last but not least, there is need for NARO to work with the private sector to ensure that the research addresses the demands and market opportunities.

Key words: Export markets, high-value crops, private sector, *Vanilla planifolia*

Introduction

One of government's policies today as spelt out in the Plan For Modernization of Agriculture (PMA) is to diversify exports from traditional exports like coffee, cotton, tea, tobacco etc. to non-traditional crops. Vanilla is one of the 8 strategic intervention crops selected by government to be adapted as a non-traditional cash crop in Uganda. (UEPB, 2002)

Vanilla is one of the high value crops with low weight which is grown in Uganda by small holders mainly and hence it utilizes the country's comparative advantage in Agricultural export. Vanilla is a fully a grown fruit of the Orchid *Vanilla planifolia*, usually referred to as vanilla beans. It is a native of Mexico and Central America but is now grown in other parts of the tropics including Madagascar, Indonesia, Reunion, Seychelles, Comoro Islands and Uganda. The fruits are harvested before they are fully ripe after which they are

fermented and cured (Purseglove, 1980). Vanilla is a spice and is used as a flavour in the food and pharmaceutical industries (Purseglove, 1980).

Vanilla is planted from cuttings and requires two or three years to come into bearing. Flowers must be Hand pollinated and the pod or bean ripens over 9 months. The cured beans are commercialized or exported. There is no further processing (UNCTAD/WTO, 2001).

Recommercialisation of the vanilla industry

In late 1980s some few private companies however joined the industry. They started with the remnants of the colonial era and embarked on teaching and educating farmers about vanilla production. Vanilla production increased and by 1991 all stakeholders formed an umbrella organization called Uganda National Vanilla Association (UNVA). This embraced vanilla growers, traders, processors and exporters.

From this time USAID/IDEA Project started extending technical assistance in the vanilla industry through UNVA up-to-date.

The United States Aid for International Development (USAID) through IDEA Project has over the past 10 years played a leading role in promoting vanilla in Uganda. The focus has been on small growers and vanilla processors/exporters for both productivity and product quality and to a competitive market (ADC/IDEA, 2002).

Vanilla Situation in Uganda

Uganda is the only country on the mainland of the African continent, which grows vanilla and it is the only one in the world, which harvests vanilla twice a year. In Uganda vanilla was first introduced by British colonizers on their farms in 1940s. The crop was grown and exported to Europe and the whole business was managed by the British and they did not teach Ugandans how it was done up to until their departure. When the British left Uganda in 1972, vanilla growing collapsed. However, there were some few out growers who had started vanilla farms and they continued growing it at a very low level and using it to flavour tea and local brew, as they did not have any market for it (ADC/IDEA, 2002).

Vanilla production has increased from 800kg of cured vanilla beans (i.e. 4,800 kg of green beans) in 1989 to about 76 tones of cured aromatic vanilla i.e. 456 tones of green beans by 2002 (IDEA, 2002). Companies exporting cured vanilla have increased from 2 companies to 10 while districts growing vanilla have increased from 1 sub county in 1989 to 18 districts of Uganda by 2002. These are: Mukono, Kayunga, Mubende, Mpigi, Mayuge, Mbale, Bundibugyo, Kasese, Kibaale, Mayuge, Luweero, Wakiso, Jinja, Iganga, Masaka, Kiboga, Kamuli, Kyenjojo (UNVA, 2001).

Currently the prices of vanilla are very high up to 100,000= per kg of green beans and the cured beans are as high as US\$ 150 per kg F.O.B. (UNVA, 2002). According to Srinivastan (2002), Uganda's total vanilla export represents 1% of the world's vanilla exports and yet Uganda is ranked the 12th largest vanilla exporter in the world. Uganda was figured as one of the Principal producers of vanilla in 2000 quadrupling its own output in the last decade to 40 tonnes (UNCTAD/WTO, 2001). By 2002 vanilla exports fetched US\$ 9.4 million (IDEA, 2002).

International demand for vanilla is estimated at over 5000 metric tonnes yet production was about 3500 metric tonnes by 2000 (UNCTAD/WTO, 2001).

Vanilla consumption has grown rapidly in both the North America and the European markets during the late 1990's driven by the increasing demand for natural products for luxury like creams and yogurts and for high quality prepared food. (UNCTAD/WTO, 2001).

Provision of technological options that respond to demands and market opportunities is one of the greatest challenges facing research in Uganda. The Ugandan economy has for a long time depended exclusively on traditional cash

crops especially coffee, cotton and tea for export earnings, yet the world market prices of such commodities have been decreasing and fluctuating greatly over time. This has resulted into foreign exchange constraints since the export base is narrow. In a bid to deal with this problem, the government of Uganda has embarked on an aggressive campaign of moving into non-traditional export crops, which have included fruits, vegetables and spices, one of which is vanilla.

Despite all this, the vanilla production levels in Uganda are still very low and yet current research does not adequately address the issue of increasing productivity and hence general production.

Taimex (U) Ltd is involved in training vanilla farmers, buying, processing and exporting of vanilla and other crop products like pineapples, passion fruits, ginger to mention but a few. The company has been carrying out research in the basic agronomic practices in vanilla production leading to development of new technology packages, which are given to farmers for increased production and profitable vanilla growing by peasant farmers in Uganda. The packages include: Manure application, Management of the shade, Mulching and planting of cover crops and pruning. The Company therefore found it necessary to evaluate the impact of these new technology packages on the production levels in Mukono, Uganda, as the main objective of this study. the specific objectives were;

- a) To identify the production techniques of vanilla in Mukono district
- b) To find out if the production level increases with the new vanilla production technology packages.
- c) To identify any other constraints that face vanilla production in Uganda.
- d) To make policy recommendations so as to sustain the vanilla industry in Uganda

In order to evaluate the impact of the new technology package on the level of production of vanilla in Mukono district, the following hypotheses were formulated.

- a) In Mukono district, the production levels of vanilla are still low because of the old poor production technology.
- b) The new production technology packages increase the level of production.
- c) The production of vanilla is characterized by a number of production constraints.

The study will benefit a cross section of all key players in the economy either directly or indirectly since the fate of agriculture today and tomorrow is the concern for all.

Vanilla is a high value non-traditional crop that the agricultural sector has identified as a priority for agricultural export diversification in Uganda. This study will therefore benefit potential investors by offering information about the best technology packages to employ in production or growing of vanilla.

The findings can also be used by extension agents to recommend the right technology options to increase productivity and thereby boost their incomes. Production of

Table 1. Domestic exports by percentage: 1995-1999

Commodity	1996	1997	1998	1999	2000
Traditional Export crops					
Coffee	55.8	52.0	55.1	60.1	31.2
Cotton	2.2	4.9	1.4	3.6	5.5
Tea	2.2	5.1	5.3	4.5	9.2
Tobacco	1.0	2.1	4.2	3.1	6.7
Non-traditional Exports					
Maize	2.6	2.5	1.7	1.1	0.6
Beans and other Legumes	2.3	2.0	1.2	1.8	1.1
Fish and Fish products	6.5	4.7	7.4	5.2	7.7
Cattle hides	1.1	1.7	1.1	0.6	3.2
Sesame seeds	1.3	0.2	0.0	0.3	0.2
Soap	0.3	0.4	0.3	0.4	0.4
Electric Current	0.6	2.0	2.2	2.8	4.6
Cocoa beans	0.2	0.2	0.3	0.3	0.3
Goat and sheep skins	0.0	0.0	0.0	0.0	2.7
Vanilla	0.1	0.0	0.2	0.0	0.2
Fruits	0.0	0.1	0.1	0.0	0.2
Bananas	0.1	0.0	0.0	0.1	0.2
Roses and Cut flowers	0.4	0.6	1.4	1.5	2.5
Gold & Gold compounds	9.2	13.6	3.6	7.0	10.8
Other products (1)	13.7	7.8	14.3	6.7	10.3
Petroleum products	0.0	0.0	0.0	0.0	2.2
Total					
Traditional export crops	61.1	64.2	65.9	71.3	52.6
Non traditional exports	38.9	35.8	34.1	28.7	47.4
TOTAL	100.0	100.0	100.0	100.0	100.0

SOURCE: ADC?IDEA, 2000

profitable and competitive crops by rural people will greatly help to alleviate rural poverty. Without doubt it will inspire market based agricultural production and improved organization of farmers.

Methodology

Respondents

Respondents included farmers who had been in the vanilla business for a period of at least 5 years. The questions were designed so as to capture the impact of the new technology package on the yields and hence productivity of vanilla.

Study Area

The study was carried out in Mukono district, Uganda taking a sample of 60 respondents. Mukono district was chosen to be the study area because it has been associated with vanilla growing for a long period of time. In Mukono, Ntenjeru Sub County was chosen. This is because it has the highest concentration of vanilla growers.

Sampling procedure

The study involved selecting respondents from whom the data were to be got. A total of sixty respondents were considered and these were farmers who had been in vanilla production for a period of not less than 5 years. The investigator identified 80 farmers from whom he considered

60 respondents randomly. This was done by writing the names on small pieces of paper, wrapped, put in a box, tilted and thereafter picked 60 names at random out of 80 without looking into the box.

Their names were recorded and their locations identified. These were farmers from Kisoga, Kazo and Ntenjeru villages.

Data collection procedure

Both primary and secondary data source were used for this study. For primary data, structured questionnaire/ Interview schedule were used to collect data. This exercise involved the researcher and his assistants moving from one respondent to another with the help of the interview schedule, which had both, open and closed ended questions. The content of the interview schedule is a function of the objectives of the study and they were phrased in an easily understandable way for clarity.

Data processing and analysis

The data, which were collected, were first edited and later coded to simply the analysis. The coded data were later put on a code sheet to facilitate further processing. Data were summarized and fed into computer for analysis. Data analysis entailed generation of descriptive and other relevant statistics.

Results and Discussions

The demographic characteristics of respondents

The study mainly focused on aspects such as sex, age, education level, and experience of the respondents in vanilla growing. Out of the 60 vanilla farmers interviewed, randomly selected from Ntenjeru Sub-county, about 60% were males while the remaining 40% were females. This is a clear indication that males dominated vanilla in Mukono district. This could have been as a result of the technical know-how required in the production of the crop. About 50% had an education level not exceeding primary while 30 % had secondary education, 13.33% had tertiary education and only 6.67% had none. 60 % of the respondents had between 5-10 years experience in vanilla production while the rest had only beyond 10 years experience.

Production methods used

At the time when the survey was carried out it was realized that all the respondents had adopted the new technology package. However, some of them had just adopted and had not realized any significant effects as yet. This suggests that the farmers were interested in the new technology package.

Difference between the old and new production technologies

Approximately 75% of the respondents reported that they had realized a big difference in yields when they used the new technology packages while the rest claimed they had not seen any. This variation in the responses of the farmers can be precisely attributed to the fact that some of these farmers could have faced some other problems that probably hindered them from attaining the actual results.

Views about the new production technology packages

The findings show that 83.33% of the respondents appreciated the impact that the new package has on their yields while the rest were not sure about it. This (16.67%) can be explained by the fact that these farmers had not yet seen the results as they had just adopted the new packages. It is therefore apparent that despite other factors that could come in to explain the variations in yield, the new technology Package was found very instrumental in improving the productivity and hence yields of vanilla.

Main constraints faced

It was found necessary to review the constraints that farmers face as they could also be used to explain the low yields. About 90% of the farmers reported theft as being a big problem. It greatly discouraged others from taking on vanilla growing. All the respondents (100%) reported that they were faced with a problem of lack of adequate extension services. Other problems that were reported include: lack of storage facilities, weather related problems like drought or changes in climate and seasons and labour. Most of the respondents confessed that vanilla growing is labour intensive and time-consuming.

Conclusion and Recommendations

We conclude by saying that the new technology packages that Taimex (U) Ltd developed through its experience in the vanilla industry have an overall effect of improving yields. In view of the constraints highlighted and the general findings, the following recommendations were made in order to address the issue of providing technological options that respond to demand and market opportunities in Uganda.

Table 2. A summary of the demographic features of the vanilla dealers interviewed is shown in the table below

Features	Frequency n=60	Percentage
Sex		
1.Male	36	60
2.Female	24	40
Age		
<18 years	0	0.00
18-30	12	20.00
30<x<60 years	38	63.33
60 and above	10	16.67
Highest level of Formal education		
1.Primary	30	50.00
2.Secondary	18	30.00
3.Tertiary/University	8	13.33
4. None	4	6.67
Experience		
1. 5-10 Years	36	60.00
2. 10-15 Years	24	40.00

Source: Survey questionnaire

1. In order to increase the volume of vanilla that is supplied or produced, it was found necessary to improve the extension services so as to equip farmers with efficient production technologies. There is need to sensitize farmers about the high demand of vanilla on the world market and therefore the contribution it can make towards raising their incomes.

2. Since the demand for vanilla is very high, there are cases of theft. This sometimes discourages the producers and they tend to maintain low production levels. There is need for a collective effort to combat this act. All the stakeholders including the farmers, marketing agents, processors and the government ought to take part in combating theft.

3. There is need for existing institutions including the Ministry of Tourism, Trade and Industry (MTTI) and Uganda Export Promotion Council (UEPC) to disseminate information on market availability and price ranges for non-traditional exports like vanilla. This will in turn encourage more buyers to participate and hence make the market more competitive. This will lead to good quality services delivery in the market. 4. There is need for all the stakeholders including the government, Research Organizations, Private sector and the farmers to work together to ensure that the available opportunities are well utilized.

5. Last but not least, there is need for NARO to work with the private sector to ensure that the research addresses the demands and market opportunities.

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