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Technical efficiency and regional market integration of cross-border bean marketing in western Kenya and eastern Uganda

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This study was conducted to assess the status of cross-border bean marketing patterns in the border districts of Kenya and Uganda. Common bean (*Phaseolus vulgaris* L.) is an important legume crop in East and Central Africa, providing protein, calories and cash income for rural households. Smallholder farmers in Kenya and Uganda have adopted improved bean varieties. However, the demand for common bean in Kenyan market far outstrips local supply and the country is a net importer from Uganda and Tanzania. In the recent years, Kenya's bean production has been declining mainly due to bad weather conditions and poor pricing policies. An efficient bean marketing system enhances food security. The objectives of this study were to assess the technical efficiency in terms of marketing margins and assess the regional market integration in the bean marketing system. Purposive and systematic random sampling methods were used to select the study districts and bean traders respectively. One hundred and six respondents were interviewed using structured questionnaires. Descriptive statistics were used to analyse the data. The Statistical Package for Social Scientists (SPSS) was used to generate the Pearson's bivariate Correlation coefficients. The study revealed that marketing margins earned by the middlemen, agents and exporters in both Kenya and Uganda though in excess of transfer costs were justified, given the existing institutional and legal barriers. The results further revealed low levels of technical efficiency due to market imperfections. Correlation coefficients analysis of wholesale bean prices revealed that regional bean markets in the study area are integrated.

Key words: Bean, bean prices, cross-border marketing, market integration.

INTRODUCTION

In Kenya, common bean is the most important pulse and second to maize as food crop (GOK, 1998). The national annual demand for common bean has been estimated at

500,000 metric tonnes, but the actual annual production is only about 125,000 metric tonnes (Muasya, 2001). The total area under bean cultivation in Kenya is estimated to be 500,000 ha (GOK, 1998) leading to actual bean yield of 250 kg ha⁻¹ partly under mixed cropping. In pure stands, yields of 700kg ha⁻¹ has been reported (Songa et

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al., 1995; Muasya, 2001). This yield is low compared to a potential yield of up to 5000kg ha⁻¹. Such high yields have already been achieved in other countries, such as Mexico under field conditions (Muasya, 2001). Bean consumption in Eastern and Southern Africa exceeds 50 kg per person per year, reaching 66 kg per person in parts of Kisii district of Kenya (Wortmann, 1998). Bean also contributes 30% of the dietary energy in the widespread maize-based cropping systems of mild-altitude areas of Eastern and Southern Africa (Wandel and Holmboe-Ottesen, 1992). Apart from being a cheap source of protein bean forms a good source of income for farm families. In Uganda, bean is a major source of food security, readily available and popular food to both the urban and rural population. In 1987, Food and Agriculture Organization, (FAO) estimated Uganda's bean consumption at 29.3 kg per capita (Kirkby, 1987). However, recent studies show that the per capita consumption in Uganda's Nabongo area is 58 kg (David, 1999). In Burundi bean consumption is considered one of the highest in the world at 65 kg of dry beans per inhabitant per year providing the main source of protein (Baert, 1989). Beans provide about 25% of the total calories and 45% of the protein intake of the diet of many Ugandans. The crop is also an important source of income in Uganda due to the increasing demands both in the domestic and export markets (NARO, 2000).

A lot of research has been done on bean improvement in East and Central Africa on breeding for pest and disease resistance, high yields and for adaptation to a wide range of environmental conditions. It is also known that smallholder farmers have adopted some of the released varieties from research institutions. However, the demand for common bean in Kenyan market far outstrips local supply and the country is a net importer from Uganda and Tanzania (ECABREN, 2000). In the recent years Kenya's bean production has been declining mainly due to bad weather conditions and poor pricing policies. An efficient marketing system is an important means of raising the incomes for farmers. This enables them to allocate productive resources according to their comparative advantages and invest in modern inputs to enhance their productivity.

This study was conducted to assess the status of cross-border bean marketing patterns in the border districts of Western Kenya and Eastern Uganda, with a view to having an efficient marketing system in the region. The objectives of the study were to assess the technical efficiency in terms of marketing margins in the bean marketing system and to assess the regional bean market integration in the study area.

METHODOLOGY

This study was conducted in Bungoma and Busia Districts of West-

ern Kenya and Mbale and Kapchorwa Districts of Eastern Uganda between March and June 2002. Primary and secondary data were utilised. The primary data were obtained in a survey from 106 bean traders using structured questionnaires. Secondary data (monthly average wholesale Rosecoco bean prices) for 2001 and 2002 (Table 1) obtained from the National Cereals and Produce Board (NCPB) of Kenya and from Agribusiness Development Centre/ Investment in Development Export Agriculture (ADC/IDEA Project 2002) of Uganda, were used to analyse regional bean market integration, using the Pearson Bivariate correlation coefficients. The regional wholesale markets considered were Jinja, Mbale, Tororo (Uganda), Busia, Kamurai, Kanduyi, Chwele and Kitale (Kenya). Purposive sampling method was used to select the study districts while systematic random sampling procedure was used to select the bean traders. The major wholesale and retail markets in the study area were identified and selected. Retail traders and wholesalers were identified using the volume of beans they handle. In every market the first respondent was picked arbitrarily and the next respondent was picked by skipping one. Descriptive statistics were used to analyse the data using Statistical Package for Social Scientists (SPSS) and Microsoft Excel computer programs.

RESULTS AND DISCUSSION

Technical efficiency analyses

Technical (operational) efficiency assumes that the output of goods and services is given, and focuses on reducing the costs of providing them. The food marketing systems operational efficiency is enhanced when costs are lowered and output of products or services remain unchanged. Marketing firms operating in a competitive environment seek to improve operational efficiency although their goal may be to enhance profit margin. Technical (Operational) efficiency of bean traders was analyzed by looking at the marketing costs of each marketing function or activity and then assessing if there is scope of reducing these marketing costs. The level of marketing costs at a given performance is assumed to be wholly dependent upon the market organization and the efficiency of the internal organization of the individual business process and factor organization (Bain, 1968). Any improvement in technical efficiency then involves examining marketing systems to assess whether marketing costs can be reduced by changes in the organization of the market (Market Structure) or the marketing organizations themselves. Estimates of marketing margins provide indications of an exploitative nature when market margins increase not because of higher real marketing costs but because prices paid to bean farmers are lower. The analysis of market performance using the industrial organization framework is as follows: Collusive pricing (market conduct) becomes possible if;

- (1) Market concentration is high (market structure).
- (2) Entry barriers are high (market structure).
- (3) Market information is not available to all participants (market conduct).

Table 1. Monthly Rosecoco bean prices per 90 Kg bag for Kenya and Uganda

2001	Jinja	Mbale	Tororo	Busia	Kamurai	Kanduyi	Chwele	Kitale
January	1936	2145.25	2019.75	2057.50	2240	2300	2300	3000
February	2271	2417.50	2459.50	2237.50	2280	2350	2325	3275
March	2763	2721	2553.80	2480	2480	2580	2620	3200
April	3071.75	2825.50	2700	2600	2600	2700	2800	3350
May	2197.75	2846.50	2721	2600	2600	2700	2800	3350
June	1657.80	1632.60	1758.20	2600	2600	2800	2860	3280
July	1465	1360.50	1695.25	2600	2600	2800	2650	2650
August	1674.20	1465	1498.40	2600	2600	2800	2600	1680
September	1884	1569.50	1412.75	2600	2600	2775	2575	1750
October	1308.25	1621.75	1172.25	2250	2200	2300	2100	1800
November	1147	1297.80	1256	1900	1800	1900	1700	1720
December	1412.75	1256	1256	1900	1800	1900	1700	1950
2002								
January	1517.25	1412.75	1475.75	2000	1950	2050	1800	2300
February	1800	1580.25	1737.25	2100	2100	2200	1900	2400
March	1758	1548.60	2151.60	2230	2240	2320	2220	2360
April	1256	1674	2176.75	2250	2200	2300	2200	2300
May	1640.80	1758	2302.40	2280	2280	2380	2280	2620
June	1360.50	1621.75	1329.25	1950	1960	2300	2200	2700
July	1371	1412.75	1475.75	1600	1620	2000	1800	2200
August	1448.20	1557	1674.20	1620	1640	1970	1800	1720
September	1674	1621.75	1768.50	1737.50	1742.50	1587.50	1500	1700
October	1884	1465	1674	1750	1750	1500	1500	1800

Source: (NCPB, 2001-2002; ADC/IDEA Project, 2001-2002).

This results in marketing margins that are much higher than the “fair” amount (Pomeroy and Trinidad, 1995).

The bean marketing margins

In a perfectly competitive market, the margin should, on the average and in the long run, be equal to costs of capital with a competitive return to labour management and risk. Marketing margins for individual agricultural products can be measured by Farm-Retail price spreads (Gross margins). Marketing margins that are relatively stable over long periods of time prevent undue uncertainty that results in waste and misallocation of resources (Hill and Inasant, 1979). Changes in gross margins reflect changes in marketing costs, profits or both. Marketing costs determine the marketing services offered by the marketing system. The marketing margins for both Kenya and Uganda were analyzed according to the marketing stages. The results revealed that in Uganda middlemen, agents, exporters to Kampala and exporters to Kenya

operated with high marketing margins and their marketing costs were 42.4, 33.0, 44.6 and 46.1% of their marketing margins per 100kg bag respectively (Table 2). In Kenya, middlemen, agents and exporters to Nairobi also operated with high marketing margins but their marketing costs per 100kg bag were lower than those of Uganda at only 21.4, 14.4 and 24.5% of their marketing margins respectively (Table 2). These high marketing margins though in excess of the marketing costs are justified given the existing institutional and legal barriers in the study area.

Further analysis revealed that both wholesalers and retailers in Uganda operated with high marketing costs at 66.2 and 51.1% of their marketing margins respectively (Table 3). In Kenya, both wholesalers and retailers operated with slightly lower marketing costs than in Uganda at 41.8 and 37.8% of their marketing margins respectively (Table 3). Given that the costs of wholesalers and retailers in Uganda were more than fifty percent of their marketing margins as opposed to those of Kenyan traders, it can then be said that Ugandan traders operated at a high-

Table 2. Marketing margins by marketing stages

Country	Marketing Stages	Marketing Cost Ksh/ 100kg bag	Buying price Ksh/ 100kg bag	Selling price Ksh/ 100kg bag	Marketing Margins (Ksh)	% M.UP of SP	MC as % of MM
Uganda	Middlemen	138.60	697.70	1162.80	326.60	28.1	42.4
	Agents	115.30	1162.80	1,627.90	349.80	21.5	33.0
	Exporters to Kampala	215.00	1395.30	2,093.00	482.60	23.1	44.6
	Exporters to Kenya	220.30	1395.30	2,093.00	477.40	22.8	46.1
Kenya	Middlemen	176.50	1,000.00	2,000.00	823.50	41.2	21.4
	Agents	125.75	2,000.00	3,000.00	874.25	29.1	14.4
	Exporters to Nairobi	394.90	3,000.00	4,600.00	1,205.10	26.2	24.5

MM = Marketing Margin; M.UP = Mark-up; SP = Selling price; MC = Marketing cost. NB: Ksh 1.00 = Ush 21.5 (March, 2002). Source: Author's Compilation, 2002

Table 3. Mean monthly costs and Marketing margins of Bean wholesalers and retailers

Service item	Uganda						Kenya					
	Wholesale MC(ksh/ 100kg bag)	% of TMC	%MM	Wholesale MC(ksh/ 100kg bag)	% of TMC	%MM	Wholesale MC(ksh/ 100kg bag)	% of TMC	%MM	Retailer sMC(ksh/ 100kg bag)	% of TMC	%MM
Transport costs	186.00	50.2	33.2	167.40	53.2	27.3	240	54.3	22.7	180	43.8	16.5
Handling costs	96.40	26	17.2	73.00	23.2	11.9	150	33.9	14.2	180	43.8	16.5
Govt. levies	13.40	3.6	2.4	11.20	3.6	1.6	40.75	9.2	3.9	40	9.7	3.7
Watchman	0.30	0.1	0.01	0.30	0.1	0.1	1.20	0.3	0.1	1.20	0.3	0.1
Store rent	27.90	7.5	5.0	27.90	8.9	4.5	1.20	0.3	0.1	1.20	0.3	0.1
Losses	46.80	12.6	8.3	34.90	11.1	5.7	9	2.0	0.9	9	2.2	0.8
Total M. costs	370.60	100.0	66.2	314.70	100.0	51.1	442.15	100.0	41.8	411.40	100.0	37.8
	TMM = Ksh 559.70			TMM = Ksh 615.50			TMM = Ksh 1,057.85			TMM = Ksh 1,088.60		

Source: Author's Compilation, 2002. TMM = Total Marketing Margin; MM = Marketing Margin; MC = Marketing Cost; TMC= Total Marketing Cost. NB: Ksh 1.00 = Ush 21.5 (March, 2002).

her technical efficiency than Kenya.

However, the marketing margins earned by bean traders in both Kenya and Uganda were in excess of their transfer costs. In Uganda, the highest margins were earned by those who exported their bean stock to Kampala although it was only slightly higher than those who exported to Kenya through Malaba or Busia (Table 4). Similarly, their counterparts in Kenya operated with high margins, with those who exported to Nairobi earning the highest margins (Table 2).

The agents and middlemen in both Uganda and Kenya who did not export their beans also earned substantial amounts of marketing margins. Though they earned margins, which were less than the exporters, their marketing

costs were the lowest and only accounted for 42.4, 33.0, 21.4 and 14.4% of their marketing margins respectively. These margins though in excess of transfer costs, can be said to be justified. This is so because although their costs can only account for less than 50% of their margins (Table 2), the existence of institutional and legal barriers in the study area could have caused some hidden transaction costs. These costs were such as high transportation costs due to poor roads, which is a manifestation of legal barriers. Other hidden costs were such as bribes to police officers at roadblocks and taxes instituted by local councils at unofficial crossing points. On the other hand, retailers in both Kenya and Uganda operated with higher marketing margins more than wholesalers. In view of the

Table 4. Mean monthly costs and marketing margins of bean traders (Ksh/100kg bag)

Service/term	Kapchorwa (Ksh/100kg bag)					Mbale (Ksh/100kg bag)					Busia (Ksh/100kg bag)			Bungoma (Ksh/100Kg bag)		
	MC	% of TMC			M M (2)	MC	% of TMC			of MM (4)	MC	% of TMC	of MM	MC	% of TMC	of MM
Transport costs	209 ⁽¹⁾	67.4 ⁽¹⁾	69.6 ⁽²⁾	33.8		247 ⁽³⁾	59.7 ⁽³⁾	54.6 ⁽⁴⁾	47.6	35.46	240	42.5	25.65	240	42.5	25.65
Handling Costs	233 ⁽²⁾				39.0	200 ⁽⁴⁾										
Govt. levies	57	18.4	17.2	9.2	9.6	76	18.4	20.7	14.6	13.44	164.20	29.1	17.55	164.20	29.1	17.55
Watchman	6.00	1.8	1.6	0.9	0.9	14.60	3.5	4.0	2.8	2.58	41.25	7.3	4.41	41.25	7.3	4.41
Store rent	0.30	0.1	0.1	0.1	0.1	1.40	0.3	0.4	0.3	0.25	4.20	0.7	0.45	4.20	0.7	0.45
Losses	3.40	1.1	1.0	0.6	0.6	27.90	6.8	7.6	5.4	4.95	102.70	18.2	10.98	102.70	18.2	10.98
	34.90	11.2	10.4	5.6	5.9	47	11.3	12.7	8.99	8.25	12	2.1	1.28	12	2.1	1.28
	311 ⁽¹⁾	100.0	100.0	50.2	56.1	413 ⁽³⁾	100.0	100.0	79.7	100.0	564.35	100.0	100.0	564.35	100.0	60.32
	334 ⁽²⁾					364 ⁽⁴⁾										

1. TMM = Ksh 619.50 3. TMM =Ksh 517.50 TMM=Ksh935.65 TMM=935.65

2. TMM = Ksh 596.20 4. TMM = Ksh 564.00 TMM=Total Marketing Margin; TMC = Total Marketing Cost; MC = Marketing Cost.; NB: Ksh 1.00=Ush 21.5. Source: Authors' compilation, 2002.

1. Transport costs from local to primary and terminal markets

2. Transport costs to export markets in Kitale

3. Transport costs to export markets in Kampala

4. Transport costs to exports markets through Busia and Malaba

above observations, one can infer that all terminal traders (middlemen, agents, retailers, wholesalers and exporters) earned high marketing margins simply because they may be operating at very low levels of technical efficiency possibly as a consequence of market imperfections. Traders are therefore able to exercise market power by raising their costs, extending their profit margins and by setting their bean prices closer to the level at which consumers buy, thus depressing the retailers' profits. In Uganda, the middlemen, agents, exporters to Kampala and exporters to Kenya earned a mark-up which was 28.1, 21.5, 23.1 and 22.8% of their selling price respectively. In Kenya, the middlemen, agents and exporters to Nairobi had a mark-up, which represented 41.2, 29.1 and 26.2% respectively of their selling price. These percentages compare closely with those of Uganda, indicating that the traders in the study area had similar bean marketing conditions such as barriers to entry in the business.

In Uganda the cost of transport for beans per 100kg bag by wholesalers represented 50.2% of the total costs while in Kenya wholesalers' costs represented 54.3% of the total costs thereby making it the largest cost item of all the costs. The retailers' transport cost in Uganda was estimated at 53.2% of total cost per 100 kg bag while in Kenya the retailers' transport cost represented 43.8% of total cost per 100 kg bag of beans (Table 3). The analysis of each of the two study districts in the two countries indicated that Kapchorwa District markets (both primary and terminal) transport cost represented 67.4% of total transfer costs and 69.6% up to export point in Kitale, Kenya. Mbale District, Uganda on the other hand spent 59.7% of total transfer costs on transport to export market in Kampala, Uganda per 100 kg bag of beans and 54.6% up to export market in Kenya through Malaba or Busia border point. In Kenya, Busia and Bungoma Districts spent 42.5 and 42.5% of total transfer costs per 100kg bag on transport respectively (Table 2). The high expenditures on transport observed in both primary and terminal markets of the two countries (Uganda and Kenya) are a reflection of the poor road infrastructure that exists and the modes of transport used. The transport charges, were mainly based on distance traveled and the mode of transport used.

Transport bottlenecks in form of poor road conditions create post-harvest losses reaching up to 25% of total production in Kenya (Odongo, 1999). Interviews with traders in the study area revealed that transport problems are experienced especially during rainy seasons due to poor road conditions. This explains the high transport costs observed above. Gains can be derived from an efficient transport system in form of reduced transportation costs and or marketing margins. The net benefit of such a system is thus expected to be shared by all primary interest groups—agricultural producers, transporters, traders and consumers. Observation of the high tra-

transport charges also revealed that on average, both farmers and traders spent more money to move beans within the primary and secondary markets due to poor maintenance of the rural access roads and lack of effective competition amongst the primary market transporters.

Market integration

Sixteen correlation coefficients are significant at the 0.01 level (Table 5). This indicates that these regional markets in the study area are highly integrated. The highest level of integration exists between Busia and Kamurai markets with a correlation coefficient of 0.988 at 0.01 level of significance. Nine correlation coefficients are significant at 0.05 level of significance while three correlation coefficients are not significant at both levels. These results corroborate very well with the real situation in those markets, because the beans were established to move from Ugandan markets, (Jinja, Mbale and Tororo) to Kenyan markets. The common bean flow was observed to move from Jinja to Mbale into Kenya through Malaba border point and Lwakhakha border point to Chwele to Kitale markets. The bean flow was also established to move from Jinja to Tororo then to Kenya through Busia border point to Kanduyi to Chwele to Kitale markets. Another flow was from Jinja to Tororo to Kenya through Malaba border point to Kamurai to Kanduyi to Chwele. The reverse flow was also common for Kenyan markets while no flow was observed from Kenya to Uganda. Some beans were also observed to move from Kapchorwa district in Uganda to Kenya through Suam border point to Kitale. The study further established a strong integration between Kitale and Ugandan markets, with the highest integration existing between Kitale and Mbale markets with a correlation coefficient of 0.766, which is significant at the 0.01 level. Movement of beans from Mbale to Kitale through Lwakhakha border point creates this integration. The above results suggest that regional markets are integrated.

Legal and institutional constraints

In both Kenya and Uganda, though beans are marketed under a free (liberalized) market system with minimum government intervention, a number of constraints still exist. Different government agencies interpret policy measures differently. Licensing procedures are time consuming, legal systems are weak and the physical infrastructure is underdeveloped (Dijkstra, 2001). Complex methods of certification and stamp fees are one of the main reasons for the presence of bribery at border crossings. This was evident at Busia and Malaba border points. Institutional restrictions in form of lengthy documentation procedures involved in the issuance of There-

Table 5. Bivariate correlation coefficients matrix

Mkts	Jinja	Mbale	Tororo	Busia	Kamurai	Kanduyi	Chwele
Mbale	0.859** 0.000						
Tororo	0.764** 0.000	0.856** 0.000					
Busia	0.465* 0.029	0.455* 0.033	0.432* 0.045				
Kamurai	0.512* 0.015	0.505* 0.017	0.480* 0.024	0.988** 0.000			
Kanduyi	0.371 0.089	0.415 0.055	0.357 0.103	0.921** 0.000	0.933** 0.000		
hwele	0.518* 0.014	0.582** 0.004	0.523* 0.012	0.920** 0.000	0.945** 0.000	0.967** 0.000	
Kitale	0.633** 0.002	0.766** 0.000	0.744** 0.000	0.502* 0.017	0.557** 0.007	0.541** 0.009	0.672** 0.001

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Source: Computation from Rosecoco bean wholesale monthly prices (Table 1)

Appendix 1. Monthly Rosecoco bean prices per 90 Kg bag for Kenya and Uganda.5.

2001	Jinja	Mbale	Tororo	Busia	Kamurai	Kanduyi	Chwele	Kitale
January	1936	2145.25	2019.75	2057.50	2240	2300	2300	3000
February	2271	2417.50	2459.50	2237.50	2280	2350	2325	3275
March	2763	2721	2553.80	2480	2480	2580	2620	3200
April	3071.75	2825.50	2700	2600	2600	2700	2800	3350
May	2197.75	2846.50	2721	2600	2600	2700	2800	3350
June	1657.80	1632.60	1758.20	2600	2600	2800	2860	3280
July	1465	1360.50	1695.25	2600	2600	2800	2650	2650
August	1674.20	1465	1498.40	2600	2600	2800	2600	1680
September	1884	1569.50	1412.75	2600	2600	2775	2575	1750
October	1308.25	1621.75	1172.25	2250	2200	2300	2100	1800
November	1147	1297.80	1256	1900	1800	1900	1700	1720
December	1412.75	1256	1256	1900	1800	1900	1700	1950
2002								
January	1517.25	1412.75	1475.75	2000	1950	2050	1800	2300
February	1800	1580.25	1737.25	2100	2100	2200	1900	2400
March	1758	1548.60	2151.60	2230	2240	2320	2220	2360
April	1256	1674	2176.75	2250	2200	2300	2200	2300
May	1640.80	1758	2302.40	2280	2280	2380	2280	2620
June	1360.5	1621.75	1329.25	1950	1960	2300	2200	2700
July	1371	1412.75	1475.75	1600	1620	2000	1800	2200
August	1448.2	1557	1674.20	1620	1640	1970	1800	1720
September	1674	1621.75	1768.50	1737.50	1742.50	1587.50	1500	1700
October	1884	1465	1674	1750	1750	1500	1500	1800

Source: (NCPB, 2001-2002; ADC/IDEA Project, 2001-2002).

legal and institutional constraints are barriers to entry in the bean trade in the study area.

Conclusion

Marketing margins earned by the middlemen, agents and exporters in both Kenya and Uganda though in excess of transfer costs were justified, given the existing institutional and legal barriers. Low levels of technical efficiency exist in the study area due to market imperfections. High transport costs are the major attributes to the observed low levels of technical efficiencies. However, there is potential in cross-border bean trade between Kenya and Uganda that could be exploited through regional co-operation. Correlation coefficients analysis of wholesale bean prices revealed that regional bean markets in the study area are integrated.

Recommendations

The following recommendations are suggested based on the findings of this study:

- i). There is need to provide the necessary road infrastructure in the bean production districts of the two countries including the maintenance of all weather roads to border exit points. This will improve the transport efficiency by providing effective competition and all farmers and traders from an efficient rural transport system will derive gains in reduced transport costs.
- ii). The two governments (Uganda and Kenya) through the local governments' authorities should construct cheap market storage facilities which are appropriately located within the open air markets in order to reduce the trader's handling and other marketing costs. This will also generate extra revenues in form of stall hiring charges.
- iii). Focus should be directed to elimination of trade obstacles such as non-tariff and institutional barriers, which increase transaction costs for importers and exporters.

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