

Analysis of Export Outputs of Organic with Conventional Beef in Comparison with Export Outputs of Conventional Beef from Developing Countries.

Olusegun Oladipo Sansi¹ and Jolade Sansi²

¹Centre for Sustainable Industrial and Integrated Development (CSIID),
Ibadan, Nigeria

²Federal College of Animal Health & Production Technology, Moor Plantation,
Ibadan, Nigeria.

ABSTRACT

In the past decade, there has been haphazard increase in the annual trade values of beef exports from Subsaharan African countries, major exporters to world trading partners. The three major Subsaharan African countries that export conventional beef and their average annual trade values in the period 2000-2009 were: South Africa \$6,736,900, Namibia \$3,672,300 and Kenya \$532,900. However, a major contributor to the haphazard increase in the conventional beef trade values for these Subsaharan countries was the imposition of stringent food safety measures from the EU and other foreign trading partners. A comparative analysis of growth rates of annual beef outputs from 2000 to 2009 was done for the 3 major conventional beef-exporting Subsaharan African countries and 3 major developing countries which are exporters of both conventional and certified organic beef. These developing countries include, Uruguay, Argentina and Brazil. The annual average beef export trade values for these developing countries in the given period include, Uruguay \$12,700,000, Argentina \$9,998,200 and Brazil \$3,506,300. The average annual growth rates for the developing countries were obtained from utilizing descriptive statistics to analyse time series secondary data of beef export outputs from these developing countries obtained from FAOSTAT (2012). The result of the comparative analysis showed the lowest growth rate of 10.1% and the highest growth rate of 66.6% for the average annual income growth rates for certified organic beef exported from developing countries in the given period. The results also showed the lowest growth rate of 7% and highest growth rate of 41.9% for the average annual income of Subsaharan African countries exporting conventional beef in the given period. The results imply that creation of certified organic beef industries and the export of certified organic beef by Subsaharan African countries will enhance growth of the annual income for beef exports.

Keywords: beef, conventional, organic, trade, Subsaharan

Corresponding author: csiid@gmail.com

INTRODUCTION

In the past two decades, there has been an increasing consumer preference for certified organic beef products over chemical contaminated conventional beef products which, can be detrimental to the health of consumers. Due to this trend, the trading partners of Subsaharan African countries and other developing countries' beef exporters have imposed stringent food safety measures on beef exports from these countries. The imposed stringent food safety measures, especially stringent sanitary and phytosanitary measures imposed on beef exports from developing countries restrict market access of beef exports to their trading partners (Wilson, 1999). Increasing awareness of personal health stimulates the need for low-fat, fortified and/or functional food products. In addition, food safety issues constitute a growing concern in all EU countries, and consumer perceptions of risk influence food choice. Consumers are mainly concerned about food contamination and the safety of new technologies (e.g. genetic modification). Therefore, labelling and traceability are required to address consumer needs.

There is also a trend for more “naturalness”, of which organic and (non) genetically modified foods are examples. These trends have caused European consumers to demand more added-value in their food products. As a result of these trends in consumer preferences, the availability of new technologies, linkages between members of the food supply chain, and prevailing policies and business environments, the European food market is constantly evolving (Kaditi and Swinnen, 2007). As such, innovation is crucial for the performance of companies in the supply chain. Companies that fail to develop new products are vulnerable, due to changing consumer demands, competitors, product substitution and the possibilities that new technologies offer (Kotler and Keller, 2006). The innovative power, and therefore total performance in terms of turnover and profit margins of the entire chain, are largely dependent on the proper functioning of the members of a supply chain, and their inter-relations. To have the right innovative products in the market at the right moment in time requires

collaboration and information-sharing between members of the chain. The challenge for any supply chain is to maximize the difference between the total value delivered to their end-customer and total supply chain costs with new technologies to monitor consumer demand. Fisher (1997) argues that the main cause for new product introduction failures is a mismatch between the type of product and the type of supply chain. A distinction can be made between primarily functional products, and primarily innovative products. Functional products satisfy basic consumer needs, which do not change much over time, and generate stable and predictable demand, and long life-cycles. Innovative products give consumers added value and therefore an additional reason for purchase. Consumer-driven innovation combines the innovation of the industry with trends in consumer demand and preferences, to make sure that the products that reach the market are the ones that consumers want to buy (Morales *et al.*, 2005). The major exporters of conventional beef products in Subsaharan Africa are South Africa, Namibia and Kenya. These countries are not known to export certified organic beef products.

This study aims at a comparative analysis of the annual conventional beef export outputs from Subsaharan African countries and the annual beef export outputs from developing countries exporting certified organic beef in addition to conventional beef.

METHODOLOGY

Time series data from 2000 to 2009 for major Sub-Saharan African countries (Kenya, Namibia and South Africa) beef exporters' annual income were obtained from FAOSTAT (2012). Time series data were also obtained from FAOSTAT (2012) for the annual income of three developing countries exporting certified organic beef exports in addition to conventional beef exports for the given period. These developing countries include, Uruguay, Argentina and Brazil. Utilizing descriptive statistics, the annual income growth rates and the average income growth rates for these countries were determined for the period. Descriptive statistics in form of bar charts were

utilized to analyse the average annual income growth rates for Subsaharan African countries major beef exporters and the average annual income growth rates of developing countries exporting competitive value added certified organic beef products in addition to conventional beef products. Also the average annual income for major Subsaharan African countries (Kenya, Namibia and South Africa) beef exporters and average annual income for three developing countries exporting certified organic beef in addition to conventional beef exports were analyzed utilizing comparative analysis.

RESULTS

In recent years there has been a haphazard increase in the annual income for beef exports from Sub-Saharan African countries. Table 1 showed that the annual income for South Africa increased from \$5,951,000 in 2000 to \$9,484,000 in 2004 and declined to \$6,655,000 in 2005. It declined to \$4,755,000 in 2007. It rose in 2008 from \$ 6,369,000 to \$6,680,000 in 2009. This table also showed that Namibia's annual income for beef exports declined from \$3,500,000 in 2000 to \$ 649,000 in 2002. It rose from \$1,413,000 in 2003 to \$3,231,000 in 2006. It rose to \$5,879,000 in 2007 and declined to \$3,867,000 in 2008 and 2009. Also, in this table, Kenya's annual income for beef exports rose from \$48,000 in 2000 to \$109,000 in 2001. The annual income for Kenya beef exports declined to \$93,000 in 2002 and rose to \$181,000 and rose from \$181,000 in 2003 to \$1,515,000 in 2008. Kenya's annual income for beef exports declined to \$1,056,000 in 2009.

Table 1: Beef exports annual income for Subsaharan African countries major beef exporters from 2000 to 2009 (1000USD).

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Kenya	48	109	93	181	205	512	574	1036	1515	1056
Namibia	3500	1603	649	1413	5038	7676	3231	5879	3867	3867
South Africa	5951	6503	6808	9200	9484	6655	4964	4755	6369	6680

Source: FAOSTAT 2012.

Table 2: Annual income for major developing countries exporters of certified organic and conventional beef exports from 2000 to 2009 (1000USD).

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Argentina	4,523	549	1,058	6,077	12,339	12,531	19,245	7,790	19,495	16,375
Brazil	391	603	463	577	1,601	2,049	4,959	6,081	11,498	6,841
Uruguay	38,918	19,226	2,723	6,392	4,636	6,603	10,331	10,953	17,049	10,169

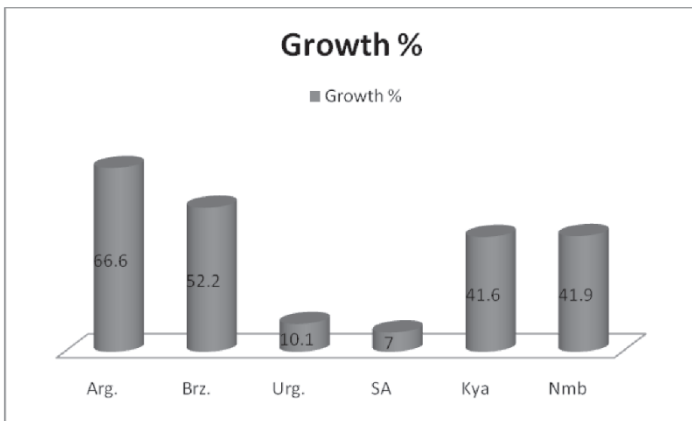
Source: FAOSTAT, 2012

Table 3: Annual income growth rates of beef exports for Sub-Saharan African countries beef exporters and developing countries certified organic and conventional beef exporter from 2000 to 2009 (%)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Argentina	-45.9	87.8	92.7	474.3	103.4	1.5	53.5	59.5	15.0	-16.0	66.6
Brazil	48.1	54.2	23.2	24.6	177.4	27.9	142.0	22.6	89.0	-40.5	52.2
Uruguay	10.9	50.5	85.8	134.7	-27.4	42.4	56.4	6.0	55.6	-40.3	10.1
South Africa	7.5	9.2	4.6	35.1	3.0	-29.8	-25.4	0.0	33.9	4.8	7.0
Namibia	116.8	-0.5	-59.5	117.7	256.5	52.3	0.5	81.9	-34.2	0.0	41.9
Kenya	-89.8	127.0	-14.6	94.6	113.2	149.7	12.1	8.5	46.2	30.2	41.6

Source: Author's Computation from FAOSTAT, 2012.

The result of utilizing descriptive statistics for analyzing time series data from 2000 to 2009 for major Subsaharan African countries (Kenya, Namibia and South Africa) beef exporters' annual income and time series data for the annual income of three developing countries exporting certified organic beef exports in addition to conventional beef exports for the given period is showed in Table 3 and Figure 1. The result showed average annual income for Subsaharan African countries major exporters of conventional beef exports in the period 2000-2009 and this include South Africa 7.0%, Namibia 41.9% and Kenya 41.6%. The result also showed the average annual income of three developing countries exporting certified organic beef exports in addition to conventional beef exports for the given period and this include Argentina 66.6%, Brazil 52.2% and Uruguay 10.1%.



Source: Author's computation from FAOSTAT 2012

Figure 1. Average annual income growth rates for Sub-Saharan African countries major beef exporters and developing countries certified organic beef exporter.

Table 3: Comparative analysis of average income growth rates for Sub-Saharan African countries beef exporters and developing countries certified organic beef exporters from 2000 to 2009

Sub-Saharan African country beef exporters	Developing country organic beef exporters
41.9%	66.6%
41.6%	52.2%
7.0%	10.1%

Source: Author's Computation from FAOSTAT, 2012.

The result of comparative analysis of the average annual income of three Subsaharan African countries major exporters of conventional beef exports and three developing countries exporters of certified organic beef exports in addition to conventional beef exports for the period 2000-2009 is showed in Table 3. The result of the comparative analysis showed a lower double digit and lowest growth rate of 10.1% and an upper double digit and highest growth rate of 66.6% for the average annual income growth rates for the developing countries exporters of conventional beef exports and certified organic beef exports. The results also showed a single digit and lowest growth rate of 7% and lower double digit and highest growth rate of 41.9% for the Subsaharan African countries exporters of conventional beef exports. The result of the comparative analysis implies that the developing countries exporting conventional beef exports and certified organic beef exports had a higher beef exports income growth rate than that of the Subsaharan African countries major exporters of conventional beef exports in the period 2000-2009. This indicates that innovative export of certified organic beef exports by developing countries would lead significantly to higher annual income for developing countries. This would also lead to significant growth of annual income of developing countries beef production and beef export firms and the creation of employment opportunities for unemployed youths in the firms.

DISCUSSION

The result showed for the period 2000 to 2009, that the lowest average annual growth rate for the developing countries exporting conventional beef

and certified organic beef is a double digit growth rate of 10% whereas the lowest average annual growth rate for the Sub-Saharan African countries exporting conventional beef exports is a single digit growth of 7%. Also the highest average annual growth rate for the developing countries exporting conventional beef and certified organic beef is an upper double digit growth rate of 66% whereas the highest annual average growth rate for Sub-Saharan African countries exporting conventional beef exports is a lower double digit growth rate of 41.9% .The result implies that innovative export of value added organic beef exports in addition to conventional beef export led to a significantly higher annual income growth performance for developing countries exporting conventional beef and certified organic beef when compared to developing Sub-Saharan African countries exporting conventional beef exports in the period 2000 to 2009.

The haphazard increase in the annual income of major Sub-Saharan African countries beef exporters limits expansion of annual income for these countries. A major contributor to this haphazard increase in the annual income for Sub-Saharan African countries beef exports is the imposition of stringent food safety measures such as sanitary and phytosanitary measures which distort trade, due to market access restrictions of beef exports from these countries to their trading partners (RASFF, 2010). A few developing countries which include Argentina, Uruguay and Brazil export competitive value added beef products such as certified organic beef products in addition to conventional beef exports to the export markets of their trading partners. The export of value added beef exports by these developing countries enhances market access into export markets of the countries trading partners and has consumer preference which leads to sustainable growth of the beef export trade.

CONCLUSION

The result of the study showed that innovative export of value added organic beef exports in addition to exporting conventional beef would lead to a significantly higher annual income growth performance when

compared to developing countries exporting conventional beef. Creation of certified organic beef industries in Sub-Saharan African countries will enhance sustainable growth of the annual income from beef exports.

RECOMMENDATION

Implementation of effective organic beef production and export policies in Sub-Saharan African countries and other developing countries will enhance growth of the annual income from beef exports.

REFERENCES

- FAOSTAT (2012). Food and Agricultural Organisation, Rome, Italy. Online statistical data base.
- Fisher, M.L. (1997). What is the supply chain for your product? *Harvard Business Review*, 75: 105-116
- Kaditi, E.A. and Swinner, J.F.M. (2007). Consumer demands and rural supply chains: Environmental impacts of food consumption and production. Paper presented at the Land use policy group and Bundesamt für Naturschutz Conference "Future policies for rural Europe 2013 and beyond-delivering Sustainable Rural land management in a challenging Europe". September 20-21. Brussels, Belgium 36pp
- Kotler, P. and Keller, K.L. (2006). *Marketing management* 12th Edition. Pearson/Prentice-Hall Upper Saddle River N.J. USA