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ORIGINAL ARTICLE

# The role of COMESA in promoting intra-regional agricultural trade: Case study of Sudan

**Azharia Abdelbagi Elbushra [a], Imad Eldin Elfadil Abdel Karim [b,*], Ibrahim Suleiman [c]**

[a] *University of Juba, Sudan*
[b] *King Saud University, Saudi Arabia*
[c] *University of Kordofan, Sudan*

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**Abstract** African countries have created many regional trade agreements with the economic objectives of reducing trade barriers and encouraging economic growth. The COMESA is an example of regional integration singed on 1993 by 19 African countries including Sudan. COMESA represents a chance for member countries to enhance their economic and social relations through increasing intra-trade. The objective of this paper is to assess the role of COMESA in promoting intra-regional agricultural trade between Sudan and COMESA countries. A multi-market model with Armington non-linear specification was applied. The paper results showed that there is a great potential for Sudan to increase its agricultural exports to other COMESA countries. The domestic agricultural markets are expected to be hampered by imports surge and increase in competition, while the producers of agricultural export commodities will be better off. In order to compete and benefit from potential in the COMESA markets, the paper recommended improving efficiency in the Sudanese agricultural sector through increasing productivity, lowering cost of production, enhancing marketing services, attaining economies of scale and attracting foreign investment.



* Corresponding author.
E-mail address: adfk9@yahoo.com (A.A. Elbushra).



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## 1. Introduction

### 1.1. Background

The theory of international trade is based on the principle of comparative advantage. Accordingly, countries must specialize in production of commodities in which they are the least opportunity cost producers, and exchange those with high opportunity cost imports. Free trade will mutually benefit both trading partners.

Trade policy and reform, and therefore the launch of arrangements are justified by international trade theories, under their two dimensions of trade liberalization (lowering trade barriers between two or more countries) and regional integration. In theory, trade liberalization is welfare enhancing and has positive effects on economic growth. However, in the case of low-income countries, the effects of trade openness (trade liberalization, market access) appear to be more uncertain, in particular the relationship between trade openness and growth (Sindzingre, 2008). In general, the economic objectives of both global trade liberalization and regional trade agreement (RTA's) are reducing barriers to trade between countries and encouraging economic growth.

The growth of regional trade agreements emerges as one of the major international relations developments of recent years. In the period 1948–1994, the General Agreement on Trade and Tariffs (GATT) received 124 notifications of RTAs (relating to trade in goods). During the 1990s, RTAs have played an increasingly important role in the global trading system. They have often provided opportunities for more comprehensive dismantling of trade barriers and greater harmonization of rules governing trade than can be accomplished under multilateral negotiations (World Bank, 2004).

The number of trade agreements increased from 20 in 1990, to 86 in 2000 and 159 in 2007. The trade agreements increasingly included provisions aimed at ''deep integration'', which involves additional elements for harmonizing national policies in line with a reform agenda that favors greater freedom for market forces. This trend, combined with the increasing number of free trade agreements (FTAs) and RTA') involving countries from different geographical regions, characterizes what has come to be labeled as ''new regionalism'' (United Nations, 2007).

In a world of proliferating Regional Integration Arrangements (RIAs), African countries have responded instinctively to global regionalism by creating more RIAs and strengthening the existing ones (Yang and Gupta, 2005). The Common Market for Eastern and Southern Africa (COMESA) is a regional integration singed on 5th November 1993 in Uganda and was endorsed a year later in Malawi on 8th December 1994. COMESA Member countries are 19 African countries including Sudan (COMESA, 2004).

Agriculture is the main economic sector in most COMESA member countries as it contributes largely to the Gross Domestic Product (GDP) and foreign exchange earnings e.g. agriculture contributes, on average, about 39% of the GDP in Sudan, and more than 80% of total exports till 1999. The contribution of agricultural exports declined to less than 10% after Sudan starting to export oil products (Bank of Sudan, 2007). The development of agricultural sector (production and trade) is vital for food security, economic and rural development in the COMESA region.

To promote agricultural trade development, COMESA has endorsed the principle of moving from a national to a regional approach in dealing with regional food security issues based on two major strategies. The first is to open up the region to freer flow of agricultural trade by removing all barriers to such trade to ensure that as needed, commodities move from surplus to deficit areas in the region driven primarily by demand and market forces. The other strategic approach is to put in place policies, systems, regulations and procedures which are harmonized across the region so as to create a conducive, transparent and facilitative environment for conducting regional agricultural trade with forward and backward linkages across the region from the farmer to the market.

One of the major indicators of progress in regional integration is the level and growth of intra-regional trade. In this regard, provisional estimates show that intra-COMESA trade increased to US$ 6.3 billion in 2005. This compares to US$ 4.5 billion in 2004 and US$ 3 billion in 2000 (COMESA, 2007).

The objective of this paper is to assess the role of COMESA in promoting intra-regional agricultural trade between Sudan and other COMESA countries, and to analyze the potential of intra-regional agricultural trade between Sudan and other COMESA countries.

## 2. Analytical framework

To achieve the study objectives the study analytical framework is divided in two parts. The first part deals with descriptive analysis using frequencies (percentages) to quantify and explore the agricultural trade between Sudan and other COMESA countries. The second part deals with Multi market model with Armington non-linear specification to analyze the potential of Sudan agricultural trade with COMESA countries.

### *2.1. Multi market model with Armington non-linear specification*

A multi market model with Armington non-linear specification to achieve the study objectives, which is a modified version of multi-market model. This model has been widely used by many researchers to quantify the impacts of WTO and RTA for both developed and developing countries (Abdel Karim, 2002; Dixit and Roningen, 1989).

The multi-market model is a comparative static approach. In a static framework, one can analyze how changes in government (domestic and trade) policies or in world markets affect the supply and demand relations in each region, and how changes in supply and demand modify the trade balance (Abdel Karim, 2002). The general nature of the model is iterative, i.e. it allows for the simultaneous determination of supply, demand, trade levels and prices including their cross-market linkages for all commodities covered. Fundamentally, the model is a price equilibrium model. Sadoulet and Janvery (1995) stated that the multi-market approach extends the analysis of prices and non-price policy instruments from the analysis of their impact in commodity or factor specific partial equilibrium models to the interactions among markets on both the product and factor side.

The model consists of a set of demand and supply equations for each commodity with the level of production and demand determined by factors including prices, income, demand and supply shift variables and various other assumptions about policies.

### *2.2. Non-linear specification of Armington*

One of the assumptions of the original multi market model is product homogeneity, which is not consistent with problem at hand, where product differentiation exists (heterogeneity). To solve this problem a modified version of multi-market model is developed by incorporating Armington assumption (constant elasticity of substitutions (CES) and constant elasticity