

# *Lifting two-decades-long economic sanctions on the Sudan: Future pathways of agricultural development in a normalized economy*

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## 1 Overview

In his last-week-in-office, former President of the United States (US), Barak Obama, announced the end of more than 20 years of economic, trade and financial embargos on the Sudan. This will allow the Sudan, for the first time in two decades, to receive imported goods and services from the United States (US) and release frozen Sudanese property and assets held in the US. Although the major sanctions have been implemented by the US, embargos from many global institutions and private investors have also directly or indirectly affected the economy and people of the Sudan negatively.

While some studies argue that sanctions are a powerful and necessary tool used by the US and other world power in the fight against terrorism and authoritarian regimes among other objectives (<http://www.qscience.com/doi/pdf/10.5339/messa.2015.7>), other studies see them aggravating an existing structure of inequality between the elites and the average citizens and harming the normal people more (<http://www.tandfonline.com/doi/abs/10.1142/S1793812011000326>). This Study among others show devastating impacts of the sanctions on the economy in general and on the livelihoods of the people specifically.

Now the lifting of sanctions is to be realized and therefore, policy makers in the Sudan, the Sudanese people and other interest groups are eager to see future directions for the economy and people's livelihood. Which scenarios bring the highest growth to the economy while improving welfare of the people and rationalizing the use of natural resources? To what extent this revives the agricultural sector as a mean of diversifying economic growth sources and reducing the dependence on the nonrenewable natural resources? These questions among others draws the boundaries of this study.

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## 2 Literature review

This section provides a critical and comprehensive review on the state of the art on quantifying the impact of sanctions as well as the effect of lifting sanctions on various related variables. These include the performance of the economy in general (growth, trade, employment, etc.), the livelihood of the people represented by a welfare measure, and the behavior of the government (objective of sanctions) because sanctions are usually imposed with the objective of forcing alteration of the behavior of a government or individuals. Therefore, the focus here will be on reviewing published work on the effectiveness of sanctions as a mechanism for altering the behavior of governments and officials.

## 3 Methodology

A dynamic Computable General Equilibrium (CGE) model calibrated to a 2012 Social Accounting Matrix (SAM) for the Sudan (<http://ageconsearch.umn.edu/bitstream/244286/2/wp92.pdf>) is used in this study. The SAM provides data on post-separation Sudan including 58 commodities produced by 71 activities. Agriculture is represented by 23 commodities that are produced by 36 activities with most of the agricultural activities differentiated by the three major farming systems in the Sudan, namely, traditional rainfed, mechanized rainfed and irrigated systems. In addition, the SAM includes 16 accounts for production factors covering 12 labor categories. Household accounts are 10 spanning over location (rural and urban) and income (5 income quintiles). Additional data for implementing the model such as macroeconomic projections are obtained from domestic and international sources.

## 4 Expected outcome

A baseline scenario with the anticipated macroeconomics and sectoral development of the country is developed. This takes into account the domestic, regional and international political environments and considers the likeliest normalization scenarios with the rest of the world led by the US and Europe. The counterfactual scenarios focus on the agricultural sector development and assess the potential of the sector in driving the growth of the economy forward and reducing the dependency on oil and gold. The impact of the various scenarios on the macroeconomic indicators, employment and welfare among other variables is analyzed.