Regaining missed Opportunities: The Role of Agriculture Post-Separation Development in Sudan

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Abstract

Agricultural sector is play a vital role in the Sudan economy and is considered to be the backbone of industrial development in the country. Sudan lost both south Sudan and oil revenues, the poverty increased among Sudanese. Therefore, the aim of this paper is to examine the role of agriculture in post-separation development in Sudan. However, it missed opportunities on a number of occasions due to inappropriate economic policies, continues recent region conflicts. The key message from the studies examined in this paper is that agricultural sector in Sudan still face many challenges. Among the challenges are absence of political commitment to implement plans, disabling agriculture policies, a high level of bureaucracy in government agencies, low level of research and development (R &D), and block the access to the trade and financial institutions and development. These characteristics suggest that the government efforts are not delivered enough to overcome these problems. In this paper, a historical analysis has been undertaken to demonstrate how, despite its large agricultural potential, Sudan counterparts on a number of occasions. This vital role in the current post-separation inclusive development strategy in term of generating much needed foreign exchange, poverty alleviation via employment generation, accelerating economic growth and up lifting living standard of all Sudanese.

Keywords: Agriculture, Economic Development, Post-separation, SWOT, Sudan.
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1. Introduction

Sudan had opportunity to become one of the best agricultural country in the world immediately after independent in 1956. In particular agricultural sector has historically been the cornerstone and the backbone of Sudan's economy in terms of contribution to the growth domestic product (GDP). The natural resources of the Sudan offer it wide opportunities in the world markets, the most important of which is closing the gap in the world and Arab food.

The study conducted by FAO teams in 2004 indicates that the agricultural sector is the main source of sustained growth and the backbone of Sudan’s economy in terms of contribution to the gross domestic product (GDP). The agricultural sector during 1999-2005 accounted for anywhere between 31-50 percent of the country's total GDP, and employ 80% of workforce.

Three decades ago, Sudan was widely regarded as the future “breadbasket” of the Arab world, a vast, fertile land with abundant water from the Nile watershed (Stephen Kontos 1990). Sudan lost it is largest sources of foreign exchange and oil revenue has impact of economic. In 2012, the worsening economic situation was putting increasing on government due to cost of living has risen shapely.

Since implemented the five-year plan from 2007 the productivity of agricultural sector began to decline in the farming and livestock sub-sectors. Sudan has taken a new and strategic direction to support agriculture. This new direction is manifested in the declaration of "The Green Mobilization" (FAO 2011),
Therefore, inflation is rate raising until it reach in August 2012, more than 41.6% according to the estimates, increasing deficits in the balance of payments and other macroeconomic issues Haitham A. Almosharaf and Fung D. Tian (2014). The loss of hard currency derived from the export and shut down oil’s production could have major macroeconomic reverberations. As the government struggles to meet its domestic financial obligations, in particular, the Central Bank could begin to print more money, which, in turn, could lead to the flooding of Sudan’s economy with excess pounds and trigger inflation. As well, a balance of payments crisis may occur, if the Sudan begins to lack the hard currency necessary to import from abroad.

Our general argument is that since 1999 there is change in development policy which put agriculture in last priority, and how do Sudan missed the opportunities after explored the oil. Thus, the oil has become a major resource of public revenue and export which constitute 50% of public revenue and 85% of total exports because of its highly volatile international prices and because of the fact that it is nonrenewable resource (IMF 2009).

Given the above issue and development situation facing the agriculture, it is necessary of agricultural sector to take strategic position and reassess of the performance. The main objectives of this study are to identify missed opportunities of agricultural sector in Sudan within the historical context, to undertake an in-depth qualitative analysis, supported by a simple statistical technique, of cost of political conflicts by using SWOT (strength, weakness, opportunity, threats) analysis within the context of the role of agriculture in post-war development of Sudan.

The rest of the paper is organized as follows: the next section, briefly review the related literature. We will then present agricultural activity in Sudan in section 3. Section 4 we introduces our model and its results. In final section, we conclude by drawing some policy implications.

2. Literature Review

Most of the economists used the background of civil war, western sanctions, and lack of capital to analyze the economic situation in Sudan. But a little focused on economic policies may be considered as the one of the main factors.
However, there are only a few studies that examined the role of agriculture post-separation development in Sudan Khalid H. A. Siddig (2012) analyzed the consequences of separation on the Sudan’s economy. He found that the entire economy would be hit when a 20% cut in oil output is simulated, and the non-oil exports of the agricultural sector as an alternative to oil and recommends enhancing the efficiency in agriculture and promoting agricultural exports to gradually bring the economy back on track.

There was limited literature that discussed the economic decline in Sudan; their empirical results are also rather controversial. Some authors, such as Haitham A. Almosharaf and Fung D. Tian (2014) they studied the causes of Sudan’s recent economic decline, they tried to extract and discuss the decline reasons according to two types of factors, internally and externally.

From the literature discussed above, a theoretical framework was developed. The framework identifies the regaining missed opportunities in Sudan to develop the agricultural sector. Two research questions were developed: how does Sudan missed the opportunities to develop its agricultural sector before lost the oil revenues, and what does this model contribute to the agricultural sector development.

The current study seeks similar evidence, which those recent studies have found, from a short term prospective, most studies tended to focus on measuring the role of agricultural sector in development of over time without linking them to disabled government policies and absence of the political commitment. The objective of this study is to examine the regaining missed opportunities of agricultural sector development post-separation in Sudan, to assess the statistical substantial deference, the hypothesis derived from the research questions are then tested statistically, the hypothesis is created as follows:

H1: There is significant relationship between absence of political commitment and economic development.

H2: Disabling agriculture policies has significant influence on agricultural productivity.

3. Agricultural Activity in Sudan

The Sudan agricultural sector was seriously affected by nearly a decade of concentrating on oil as a main export economic growth. Immediately after the south Sudan independent,
agricultural sector in Sudan bounced back and it has now become one of the main engines of economic growth in post-separation. Therefore, the number of research dealing with agricultural sector is limited. In order to look the future clearly and make accurate policies drawing the whole picture of agricultural sector in Sudan is important especially after Sudan divided in two parts. This aim of this study is to evaluate current constraints for the future possibilities of agricultural sector point of view of sustainable development, natural resources and cultural values.

Agriculture in Sudan is main sources of livelihood and provides 90% of the national food requirements, consists 70% of exports and 60% of GDP in 2013. The composition of the GDP declining significance of the agricultural sector from half the GDP in 1999 to about 31% in 2010 (Khalid H. A. Siddig and Amel M. Mubarak 2013).

Agricultural sector is composed of four main farming systems, namely traditional rain-fed sector, mechanized rain-fed sector, irrigated sector, and livestock husbandry/pastoralism. The irrigated sector has occupied between 5% and 7% of the total cultivated land during the last seven years. However, despite its small share in the annual cultivated area in Sudan compared to the other two farming systems, it contributes more than half of the total volume of the agricultural production.

The structure of the economy has been changing from dominance of the agricultural sector towards that of the petroleum sector. However, the petroleum sector has not contributed largely to the development of the other sectors. In the contrary, it facilitated the continuation of neglecting the productive sectors - agriculture and manufacturing (Gadkarim, 2010).

Considering the ongoing economic crisis that characterizes the Sudan’s economy, the agricultural sector has the potential to provide the needed impetus great efforts. The sector is expected to serve as a viable mechanism for the creation of job for both rural and teeming urban population. The Sudan continues to depend heavily on agriculture, whose share currently fluctuates around 40 percent of the GDP (CBoS, 2013). The value of the crop and livestock sub-sectors, which together contribute 80 to 90 percent of non-oil export earnings, is almost equal at 47 and 46 percent respectively.
4. Methodology

4.1 Data collection:

The main aim of this study is to develop and test a theoretical method and practical analytical tool for strategic planning is the SWOT analysis (Thompson & Strickland, 1999) (Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is one of the most effective approaches used for analyzing strategic management policy of an organization. In this study, a newly structured SWOT analysis has been proposed for weighting and rating individual SWOT factors using the pairwise comparison matrices.

To conduct this research, five agricultural schemes and farmers were surveyed and interviewed guided by a questionnaire in November 2013. The questionnaire is to answer the following inquiries:

1- The strength of the agricultural schemes based on productivity, marketing, management efficiency, natural resources, and Investment environment, that the schemes with under control.
2- The weakness faced the agricultural schemes, based on production, marketing, transportation, irrigation, that the schemes with under control.
3- The opportunities that exist in the business environment that the schemes could take advantage, based on, food security, investment, and capital. That the schemes are not under control.
4- The threats and challenges, balance development, political commitment. That the schemes are not under control.

4.2 Model:

The information obtained was used to examine the strengths, weakness, opportunities and the threats of agricultural sector in selected sample. To determine the sample size for the distribution of questionnaires among the schemes’ managers and interview with farmers unions in Sudan, Cochran statistical formula was used:

\[ n = \frac{(Z\alpha)^2 \cdot P(1-P)}{(d)^2} \]
Where:

\( n \) = Sample number;

\( Z_\alpha \) = Normalized variable (the confidence quotient is derived from the table);

\( P \) = The numerator divided from division of the correct choices to incorrect ones (Respondents are allowed to select an option); and

\( d \) = Sampling error.

85 numbers (n) were obtained. Results were analyzed by using the SWOT model (strengths, weakness, opportunities and the threats). Each factor was assigned a weighting score between zero (insignificant) to one (very important). As a result, the total point in each matrix is equal to one. Then, the present situation of each agent was determined with a number between 1 and 5 (poor = 1; lower than the average= 2; median = 3; above average = 4; good = 5) and weighted score was calculated for each factor.

5. Results and Discussion

The results of SWOT analysis of Sudanese agriculture are given in table 1.

Table 1: SWOT Analysis of Sudanese Agriculture

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weight</th>
<th>Score</th>
<th>Weighted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualify it to become an international economic power.</td>
<td>0.032</td>
<td>1</td>
<td>0.032</td>
</tr>
<tr>
<td>Advantageous geographic location</td>
<td>0.185</td>
<td>4</td>
<td>0.74</td>
</tr>
<tr>
<td>Free-market based economy.</td>
<td>0.002</td>
<td>1</td>
<td>0.002</td>
</tr>
<tr>
<td>Electricity generation</td>
<td>0.227</td>
<td>5</td>
<td>1.135</td>
</tr>
<tr>
<td>Drinking water projects.</td>
<td>0.192</td>
<td>4</td>
<td>0.768</td>
</tr>
<tr>
<td>Growing economy and strengthening of the Investment environment.</td>
<td>0.072</td>
<td>2</td>
<td>0.144</td>
</tr>
<tr>
<td>Diversity of climate changes</td>
<td>0.001</td>
<td>1</td>
<td>0.001</td>
</tr>
<tr>
<td>Labours availability</td>
<td>0.091</td>
<td>3</td>
<td>0.273</td>
</tr>
</tbody>
</table>
### Opportunities

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
<th>Impact</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enormous natural resources.</td>
<td>0.172</td>
<td>4</td>
<td>0.688</td>
</tr>
<tr>
<td>Having opportunity to Strengthen food security with Arab and international support.</td>
<td>0.103</td>
<td>3</td>
<td>0.309</td>
</tr>
<tr>
<td>Commensurate potential to generate development revenue.</td>
<td>0.126</td>
<td>3</td>
<td>0.378</td>
</tr>
<tr>
<td>Increase the agricultural projects</td>
<td>0.082</td>
<td>2</td>
<td>0.164</td>
</tr>
</tbody>
</table>

### Weakness

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
<th>Impact</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage equitable international partnership with the international community.</td>
<td>0.236</td>
<td>5</td>
<td>1.180</td>
</tr>
<tr>
<td>Lack of balance development.</td>
<td>0.201</td>
<td>5</td>
<td>1.005</td>
</tr>
<tr>
<td>Absence of political commitment to implement plans.</td>
<td>0.189</td>
<td>4</td>
<td>0.756</td>
</tr>
<tr>
<td>Civil conflict and underdevelopment.</td>
<td>0.097</td>
<td>3</td>
<td>0.291</td>
</tr>
<tr>
<td>Disabling agriculture policies</td>
<td>0.152</td>
<td>4</td>
<td>0.608</td>
</tr>
<tr>
<td>Difficulty in obtaining and high costs of investment financing.</td>
<td>0.169</td>
<td>4</td>
<td>0.676</td>
</tr>
<tr>
<td>Research and Development</td>
<td>0.116</td>
<td>3</td>
<td>0.348</td>
</tr>
<tr>
<td>Agricultural management systems</td>
<td>0.125</td>
<td>3</td>
<td>0.375</td>
</tr>
</tbody>
</table>

### Threats

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
<th>Impact</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of sustainable social and economic development.</td>
<td>0.023</td>
<td>1</td>
<td>0.023</td>
</tr>
<tr>
<td>Block the access of the Sudan to the trade and financial institutions and development.</td>
<td>0.179</td>
<td>4</td>
<td>0.716</td>
</tr>
<tr>
<td>Absence of multilateral agreements regulating the rights of the Nile Basin countries.</td>
<td>0.001</td>
<td>1</td>
<td>0.001</td>
</tr>
<tr>
<td>Tension with international community.</td>
<td>0.145</td>
<td>3</td>
<td>0.435</td>
</tr>
<tr>
<td>Absence of security and political stability in parts of the country.</td>
<td>0.163</td>
<td>4</td>
<td>0.552</td>
</tr>
<tr>
<td>Loss of traditional export markets.</td>
<td>0.128</td>
<td>3</td>
<td>0.392</td>
</tr>
</tbody>
</table>

### 5.1 Strengths

Geographically, as of July 2011, Sudan is located between latitudes 8 and 22 degrees north and longitudes 22 and 38 east, in the northeastern part of Africa. The area of Sudan is 1,882,000 square kilometers, borders seven countries, namely Egypt, Libya, Chad, Central
Africa Republic, Republic of South Sudan, Ethiopia, Eritrea and the Kingdom of Saudi Arabia across the Red Sea.

Historically, Sudan has always been agricultural country, because has a huge cultivable land, according to ILO (1987), out of 200 million feddan, only 20.9, and availability of water resources.

5.2 Opportunities

After Sudan lost oil revenues, agricultural sector becoming one of the growing sector (CBoS, 2013). There is more than 60% of the Sudanese working in this field (FAO 2011).

With increasing to agricultural products (crop and livestock), Sudan have opportunity to strengthen food security with Arab and international support, The infrastructure, capacity building and human resources development, agricultural management systems, supervision, monitoring & evaluation and recovery of the productive capacities of the existing projects will increase the productivity.

Sudan has tried to attract Arabic countries to invest in this field especially after initiated the National investment bureau and implement the Agricultural Revival Program to induce a sustainable growth in agricultural and industrial production.

5.3 Weakness

There are many issues have been faced the agriculture sector, the lack of human resources in field of agricultural sector, difficulty in obtaining and high costs of investment financing, even though the government has allocated funds under the five-year plan and delivered it through its agencies, there are many complaints by small producers regarding the difficult qualification criteria for accessing these funds, and the bureaucracy in these agencies, absence of political commitment to implement plans, and disabling agriculture policies.

5.4 Threats

Internal and external threats still remain as follows: The conflicts in parts of the Sudan are a big dilemma has delayed the political stability. There are more than 60% of country budget
expedited on war. Therefore, sanction continues from western countries is also one of the challenges making the Sudan not benefit from financial and technologies opportunities.

6. Conclusion:

This paper has examined the role of agriculture in post-separation development in Sudan. The missed opportunities on a number of occasions due to inappropriate economic policies, continues recent region conflicts.

The key message from this study is that agricultural sector in Sudan is facing many challenges. They include:

1- Absence of political commitment to implement plans;
2- Disabling agriculture policies; this includes agricultural revival project, five-year plan 2007-2011.
3- Lack of access to finance is the most significant challenge for small producers. The government should play a leading role in developing the agricultural sector by facilitate the financial requirements.
4- A high level of bureaucracy in government agencies;
5- There is low level of research and development; and
6- Block the access to the trade and financial institutions and development.

In terms of the contributions to national output, it has been observed that, despite an existing low productivity in the agriculture, the sector accounts for a sizable percentage of the Gross Domestic Product (GDP).

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