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## **Study on Factors Affecting the Crude Oil Extraction in South Sudan**

*A. Neela Mary*

DMI-ST. Eugene University, Zambia

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### **ABSTRACT:**

This research study is to identify the factors affecting oil and gas petroleum extraction of exportation and make the way forward on effective measures for consumption also used to collect information and draw a conclusion based on the research findings. South Sudan is endowed with enormous petroleum resources (oil & gas) situated in the greater Bharel Ghazal and Upper Nile regions.

Oil is the lifeline of the South Sudan economy now and over the medium term. It accounted for about half of the country's GDP, and most of the country's exports (about 97 %) and government revenue (about 98 %) in the period 2008-2011. Oil production of 360 thousand barrels per day in 2011 resulted in high export earnings, high government revenues, and an income per capita level of a lower middle-income country. With the current dominance of oil and the relative underdevelopment of non-oil sectors; the functioning of the oil sector represents a key priority for the government.

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### **Abbreviation:**

SPOC – Sudan Petroleum Oil Company

GDP – Gross Domestic Product

CNPC – China National Petroleum corporation

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### **Introduction:**

South Sudan has become a newly independent nation in July 2011. The oil business is considered to be of key importance to the country's development. In the past, oil production has been linked with the serious human rights abuses, such as forced displacement from oil fields, killings and arbitrary arrests. Some of the underlying causes for the recent outbreak of war in South Sudan (from mid – December 2013 onwards) are linked to the way of oil revenues are managed and shared in South Sudan.

This South Sudan contains three areas where the oil is currently being produced and it contain two types of crude oil which is differing value with fields on different production trajectories. Five oil fields are located in South Sudan. The area blocks 1,2 and 4 yields Nile Blend crude oil and are on a trend of declining output. This Nile blend is a good quality crude, readily traded in international markets at prices comparable to Minus blend, a Malaysian crude with similar attributes & the second area, block 5A, which also produce Nile brand in a smaller level. The third main producing area is the concession that contains blocks 3 and 7 which also lie in South Sudan and its output increase.

The World Bank says, the oil output from the south and north is expected to peak in 2012 at around 527,000 BPD. This is to decline sharply starting in 2015 unless discoveries are made or recovery factors are increased. There is little certainty about the likelihood of new finds in South Sudan or the commercial attractiveness of investment in enhanced recovery.

## Oil filed locations (Geology) & the oil operators



The consortium of China National Petroleum Corporation (41%), petronas (40%), Nilepet (8%), sinopec (6%) and Triocean energy (5%), Dar Petroleum Operating Company(DPOC) is an exploration and production company based in Juba and operating Blocks 3 and 7 in the Melut Basin.

### Main Objective

To Study factors affecting the Crude oil extraction in South Sudan.

#### Specific Objective

- To find out the causes of low crude oil extraction to be exported by South Sudan government in the world market
- To find out the prospect for better exploration of crude oil and quality export.
- To identify better ways of encouraging investors to develop an interest in investing in South Sudan crude oil extraction and storage/refinery to produce better quality

### Literature Review

**Jill Shank leman, a former senior fellow at USIP by 2011:** The South Sudan did not have a blank slate on which to determine how to manage its own oil industry. The long-term contracts is been made with oil companies and the infrastructure is laid down and the patterns of oil revenue management.

**Abdelghani Henni by 2017:** In 2010, The well falls in Area 15, which is operated by Red Sea Petroleum Operating Co. The company is a consortium comprised of CNPC, , Sudan's state oil firm Sudapet, Nigeria's Express Petroleum, Malaysia's state oil firm Petronas and Sudanese firm High Tech Group. Petronas and CNPC each have a 35% interest in the block.

**The ministry of petroleum by 2020:** The oil and gas market of South Sudan is expected to grow at a CAGR of more than 5% during the forecast period. The outbreak of COVID-19 has negatively impacted the market as the lockdown imposed by the government had influenced the market. Also, the spread of COVID-19 affected the country's oil production in 2020.

**In January 2021, the Ministry of petroleum** in South Sudan informed that oil production in Unity state's Tharjiath oilfield had resumed after nearly eight years of shutdown following the outbreak of civil war in the country in 2013. Sharjah, also known as Block 5A in southern Unity state, is operated by the Sudd Petroleum Operating Company (SPOC). Hence the increasing oil production is allowed to drive growth in the forecast period, with increasing stability expected to attract more investments.

**Joseph Mawejje, World Bank Country Economist for South Sudan by June 2022.** South Sudan's real GDP per capita in 2018 was estimated at one-third of the counterfactual estimated for a non-conflict scenario. Thus, maintaining peace can by itself be a strong driver of growth. Second, with better governance and accountability, South Sudan's oil resources can drive transformation. Thirdly the South Sudan chronic food insecurity could be reversed with targeted investments for improving the resilience of the agricultural sector.

## Research Methodology

### Introduction

The design of the research involves consideration of the best method of collecting data to provide a relevant and accurate test of your thesis. The Design of the research should take account of the following factors, which are briefly discussed below with links to subsequent pages or other parts of the site where there is fuller information.

### Research Design

The research adopted the descriptive research design. The researcher has chosen a descriptive design for the study because their study will help to identify the needs of the challenged and related problem as it describes, the events, and phenomena. And situations, lifestyle, and Study on evaluating the factors affecting the Crude oil extraction in South Sudan. The direct interview schedule is expected to be more accurate and precious than casual. The study aims to obtain more knowledge on the factors affecting Crude oil extraction in South Sudan

### The population of the study

To evaluate the health hazard of the population caused by this contamination of drinking water, hair samples from inhabitants of the locations Koch, Leer, Nyal, and Rumbek (geographic map see [Fig. 1](#)) were collected in 2015 and investigated by multi-element analysis using inductively coupled plasma–mass spectrometry (ICP–MS). Whereas the distance from the Thar Jath oilfield to Koch (23 km), Leer (50 km), and Nyal (110 km) is relatively close, Rumbek (220 km) is further away from the oil activities and can be regarded as a relatively unpolluted region for comparison.

The Thar Jath and Mala oil fields (block 5A, Unity state) was discovered in 2001 and production began there in 2006 and 2007 respectively after the Comprehensive Peace Agreement was signed and the political [autonomy](#) of South Sudan was granted. The oil production increased until 2012 when new military conflicts emerged between Sudan and the meanwhile independent South Sudan and the pipeline to Port Sudan at the Red Sea was shut down. Since then, oil is produced only sporadically and to a much lower level. Production facilities are abandoned and dilapidated.



### Sampling procedure

The researcher pre-tested the tool (interview schedule) by choosing Five respondents. Based on the feedback, the researcher modified an option for a question on the identification of demographic detail of the respondents. There were some corrections needed so the researcher modified some necessary alterations. The pre-tested interview schedule of the respondents was not included in the collection of the total samples of the respondents.

### Sample Size

The researcher developed the tools for the data collection. The sample size was 10 respondents from three consortia called Nile pet, with DPOC in Upper Nile State and SPOC and GPOC in Unity State, currently, there are three oil operating companies in South Sudan.

### Sampling Area

The researcher selected the sampling location within juba city, where most of the company headquarters stand still.

### Source of Data collection

The researcher's process of gathering and analyzing accurate data from various sources to find answers to research problems, trends, probabilities, etc., to evaluate possible outcomes is Known as Data Collection.

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### Methods of data collection

#### 1. Primary Data:

The primary source of data was collected from the Oil field staff. This is a one-to-one interaction. This data was collected from consortium Oil and gas limited

#### 2. Secondary Data:

The secondary source of data was collected from journals, books articles, Newspapers, and the internet.

### Tools for Data collection

Following the objectives, the researcher drafted an interview schedule. For this, purpose the researcher referred to several journals and studies that relied on books, journals, and websites to compile the questionnaire. The researcher decided to use an interview schedule as a tool for data collection. because the respondents were busy with various work so they neglect to spend time on that so the researcher used an interview schedule to get correct data.

### Tools for Data Analysis

The researcher verified all the samples and later, the data was coded and entered into the master sheet. From the master sheet, the data was then transferred into a computer package called Excel sheet and was prepared to find out the correlation and association between the variables to help with analysis and interpretation. The tables were prepared to find out correlation associations between the variables to help analysis and interpretations.

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### Findings:

Through this research and data collection for the respondent, although south Sudan is the very newest country in the world and is rich in Oil and agriculture etc still there are some findings done in the research are :

- South Sudan oil field has no storage facility/warehouse facility to store the crude oil and to export according to the world market.
- This South Sudan has no roadway transport for the export of crude oil so depending only on the Sudan Pipeline port
- South Sudanese is not able to use their production due to a lack of a refinery system.
- South Sudan lacks technical expertise & personnel.
- South Sudan finds it difficult to have new investors and to have new exploration of the oil field due to the political situation not being stable and insecurity.

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### Conclusions & Recommendations:

When South Sudan gained its independence in 2011, its oil wealth inspired hope for a brighter future. Following are the recommendations, mainly for the Government and oil companies is planned to include the steps which could be taken in very short to medium term to strengthen the southern oil sector and help it to benefit people of South Sudan. Among other steps, the Government of South Sudan should consider the following: Providing security for oil workers and oil installations, finding the solution for the refinery system, and having storage. Also, the government and oil companies need to find a way to explore new oil fields to increase production.

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