



Empirical Comparison of Crude Oil Production of Africa's Oil Producing Countries with the Organization of Petroleum Exporting Countries (OPEC), 2012-2019

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Bailey Saleh Department of Political Science, University of Maiduguri, Maiduguri, Borno State, Nigeria

#### **Abstract**

The aim of the study was to compare crude oil production of Africa's oil producing countries for the period 2012 and 20219. The study has established that Africa's oil producing countries have put up an impressive performance in the area of crude oil production. However, these countries have failed to leverage on their local refineries to meet domestic consumption needs. Over reliance on imported refined oil is not healthy in times of global contingencies. The large export of crude oil by the Africa's oil producing countries and their inability to embark on aggressive local refining and processing of most of the crude oil produced in their domestic economies for the generation of more employment and wealth for their citizens that forms the motivation for this study. The study is a qualitative one where document studies was adopted in generating data from secondary sources such as academic journals, bulletins, textbooks, scholarly papers, and internet materials. The generated data was analyzed through critical discourse method. The study recommends that political leaderships of these countries should export less or no crude oil, but should rely on strategic local thinking for the local refining of all the crude oil produced in their domestic economies.

# Keywords

OPEC, Crude Oil, Petroleum products, Refining, Export, Foreign Revenue.

#### Introduction

Africa's oil producing countries (AOPCs) have been putting up moderate performance in crude oil production among members of the Organization of Petroleum Exporting Countries (OPEC) since the formation of this trans-regional global oil cartel. This, no doubt brought to them enormous wealth through sale of crude petroleum oil. Furthermore, the proceeds from this brought about infrastructural and general development in their domestic economies. However, they failed to leverage on local strategic studies for revamping their refineries for exclusive refining of all crude petroleum produced. In addition, it is rather unfortunate that the AOPCs over the years have developed a very large appetite for the export of all crude petroleum oil produced in their domestic environments to very active foreign refining countries (Saleh, 2008; NPP, 2017; Saleh, 2019; LCCI, 2016).

## **Corresponding Author:**

The objectives of the study are: first establish the quantity of crude oil production of each member of the AOPCs; secondly, to also establish the quantity crude petroleum oil production of each OPEC member countries; thirdly, to compare and contrast the quantum of crude petroleum production of AOPCs with OPEC; and fourthly, to proffer actionable recommendations. The paper is broken down into five sections comprising – introduction, theoretical framework, methodology, results and discussion, and conclusion/recommendations.

#### 2. Theoretical Framework

The theory of comparative administration was adopted and reviewed as framework for the study.

## 2.1 Comparative Administration Theory –

Herbert Simon (1957) who came up with normative approach was the first to popularize the comparative administration and government theory. He also came up with empirical approach aimed at making comparative analysis of administrations towards establishing whether they are performing efficiently or not. If otherwise, the areas of convergence and divergence among them should be sorted out and appropriate strategies adopted towards making them perform more efficiently. Other exponents and advocates of comparative government and administration (politics) theory include Gabriel Almond (1988), Betarlanfy (1969), Billy J. Dudley, (1973, 1982) and Christopher Kolade (2000). These scholars placed emphasis on the political and administrative institutions, governance style and the rate of development. The comparison could either be inter-state (i.e. comparing the governance style or system between one country or the other), or intra-state (i.e. the comparative study of one regime/administration and the other within the same country). The focus of this study is to analyze and compare Africa's crude oil production, crude oil refining, crude oil exports, crude oil reserve, petroleum product outputs, oil demand and imports with OPEC in the Fourth Republic.

## 3. Methodology

The study is a qualitative research where secondary sources of data were mainly utilized in generating data for the study. The research, is essentially descriptive and explanatory. Document studies method was used in scrutinizing data from the secondary sources. Documents scrutinized include policy papers, OPEC Annual Bulletin, United Nations—Conference on Trade and Development (UNCTAD) Statistical Data, and World Bank Group Open Data. Other documents scrutinized include published materials such as textbooks, academic journals, scholarly papers, and internet materials.

#### 4. Results and Discussion

The results of empirical and qualitative data generated for the study are presented in tabular and graphical forms where critical discourse method is utilized in the analysis as given in succeeding paragraphs below:

## 4.1 Crude Oil Production of African Oil Producing Countries, 2012-2019

As the intensity of petroleum oil exploration and prospecting increases in Africa, it also witnessed corresponding increase in the number of countries in the continent joining the elite league of transregional oil producing countries popularly called OPEC. It also witnessed continuous increases in the level and quantity of crude oil that is being produced in the continent. The total crude petroleum oil produced by African countries between 2012 and 2019 stands at 58,864.0 barrel per calendar year (b/cyr), which represents 10% of the world crude oil production for the same period which stands at 591,355.2b/ycr. It also represents 23% of OPEC's total which stands at 256,843.2b/cyr. The performances of Africa's oil producing countries, in terms of crude oil production between 2012 and 2019, is as follows Algeria 9,437.6b/ycr, Angola 13,676.0b/ycr, Congo 2,262.4b/ycr, Egypt 4,536.8b/ycr, Equatorial Guinea 1,888.8b/ycr, Gabon 1,822.4b/ycr, Libya 5,948.0b/ycr, Nigeria 13,904.8b/ycr, Sudans 1,920.8b/ycr and Others 3,466.4b/ycr (OPEC, 2017/18; LCCI, 2016; Denning, 2020).

The detail performances of Africa's oil producing countries in terms of crude oil production, is as presented in Table 1 and Figures 1 below:

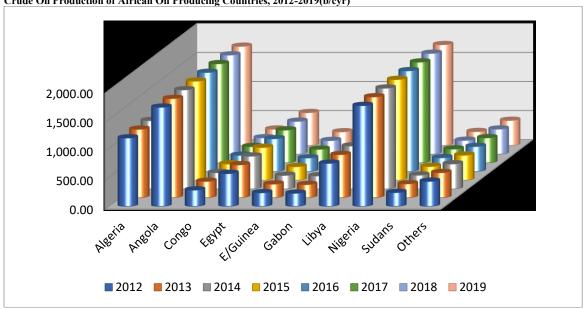
Table 1: Crude Oil Production of African Oil Producing Countries, 2012-2019(b/cyr)

Year	COUNTRIES												
	Algeri	Angola	Congo	Egypt	Equatorial	Gabon	Libya	Nigeria	Sudans	Others			
					Guinea								
2012	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2013	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2014	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2015	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2016	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2017	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2018	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
2019	1179.7	1709.5	282.8	567.1	236.1	227.8	743.5	1,738.1	240.1	433.3			
Total	9,437.6	13,676.0	2,262.4	4,536.8	1,888.8	1,822.4	5,948.0	13,904.8	1,920.8	3,466.4			

Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

From Table 1 above, the performances of AOPCs in terms of crude petroleum oil production puts Nigeria in the first position. Angola is placed in the second position but almost leveling-up with Nigeria. While, it shows the performances of the remaining AOPCs as follows: Algeria is third, Libya is fourth, Egypt is fifth, miscellaneous oil production of Others is sixth, Congo is seventh, Sudans is ninth, Equatorial Guinea is tenth, and Gabon is eleventh and the least performer of the group.

Fig. 1: Crude Oil Production of African Oil Producing Countries, 2012-2019(b/cyr)



Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

From figure 1 above, the yearly bars of Nigeria and Angola towers above those of the remaining AOPCs members. That of Algeria is the next most prominent. While, the yearly bars of Libya and Egypt are the third highest level. Whereas, the yearly bars of Equatorial Guinea, Sudans and Congo are the ones with the lowest heights. This simply means that the higher the bars the higher the crude oil production of a country.

# 4.2 Summary of the cumulative crude oil production of Africa's Oil Producing Countries, 2012-2019

Summary of the cumulative crude oil production of Africa's oil producing countries for the eight years indicated a total of 58,864.0b/cyr with a cumulative annual average (CAA) of 7,357.9b/cyr. The total individual country average (ICA) stands at 7,353.9 b/cyr and the total individual annual country average (IACA) stands at 7,108.0b/cyr. The high performing countries are Nigeria with 24% of Africa's total production and Angola with 23% of Africa's total production. However, the high level of crude oil production of AOPCs does not matter much because the mind of serious and industrializing countries is on exclusive domestic refining of crude petroleum oil (with a plow-back in aggressive manufacturing), which generates employment and creates wealth for their citizens; as well as grow their overall national economies. Egypt an OPEC member with a cumulative production of 4,536.8b/cyr (7%) and South Africa a non-OPEC member with little or no production of crude oil; leads the African continent in terms of local refining of crude oil. This explains the upsurge in the migration of youths from sister African countries (including Nigeria) to South Africa in the wake of the 21st Century in search of greener pastures. The leading crude oil producers of Africa such as Nigeria, Angola, Algeria and Libya ought to leverage on exclusive refining of crude oil for greater goods (NPP, 2017; Saleh, 2019).

This is further presented in Table 2 and Figure 2 below:

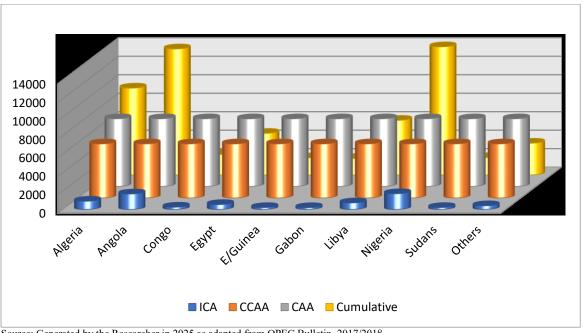
Table 2: Cumulative Crude Oil Production of African Oil Producing Countries, 2012-2019 (b/cyr & %)

S/No	Countries	Cumulative	CAA	ICA	CCA	Percentage
1.	Algeria	9,437.6	7,357.9	929.7	5,886.3	16%
2.	Angola	13,676.0	7,357.9	1,709.5	5,886.3	23%
3.	Congo	2,262.4	7,357.9	282.2	5,886.3	5%
4.	Egypt	4,536.8	7,357.9	567.1	5,886.3	7%
5.	Equatorial Guinea	1,888.8	7,357.9	236.1	5,886.3	3%
6.	Gabon	1,822.4	7,357.9	227.8	5,886.3	3%
7.	Libya	5,948.0	7,357.9	743.5	5,886.3	10%
8.	Nigeria	13,904.8	7,357.9	1,738.1	5,886.3	24%
9.	Sudans	1,920.8	7,357.9	240.1	5,886.3	3%
10.	Others	3,466.4	7,357.9	433.3	5,886.3	6%
	Total	58,864.0	73,579.3	7,108.0	58,864.0	100%

Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

From Table 2 above, the cumulative annual average (CAA) of AOPCs stands at 7,357.9b/cyr (13% of the AOPCs total); where the cumulative country annual average (CCA) at 5,86.3b/cyr (10% of the group's total). While, the combined cumulative individual country (ICA) of all the AOPCs stands at 7,108.0b/cyr (12%).

Fig. 2: Cumulative Crude Oil Production of African Oil Producing Countries, 2012-2019 (b/cyr)



Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

From Figure 2 above, the bars of Nigeria and Angola towers above the rest. This is followed by the bars of Algeria, Libya, Egypt, Others, Congo, Sudans, Equatorial Guinea and Gabon. This clearly indicate their levels of crude petroleum oil production for the period of the study.

## 4.3 Comparison of Crude Oil Production of Africa's Oil Producing Countries with OPEC, 2012-2019

This section deals with the comparison of AOPCs crude oil production with the remaining eight (8) OPEC members. The detail individual country performances of the AOPCs is as presented in Table 3 and also graphically represented in Figure 3 below:

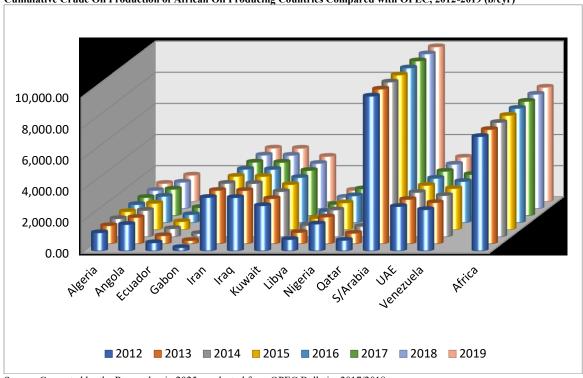
Table 3: Cumulative Crude Oil Production of African Oil Producing Countries Compared with OPEC, 2012-2019 (b/cyr)

SN	Countries	2012	2013	2014	2015	2016	2017	2018	2019	Cumulative
1.	Algeria	1,179.7	1,179.7	1,179.7	1,179.7	1,179.7	1,179.7	1,179.7	1,179.7	9,437.6
2.	Angola	1,709.5	1,709.5	1,709.5	1,709.5	1,709.5	1,709.5	1,709.5	1,709.5	13,676.0
3.	Ecuador	535.7	535.7	535.7	535.7	535.7	535.7	535.7	535.7	4,285.6
4.	Gabon	227.8	227.8	227.8	227.8	227.8	227.8	227.8	227.8	1,822.4
5.	Iran	3,446.8	3,446.8	3,446.8	3,446.8	3,446.8	3,446.8	3,446.8	3,446.8	27,574.4
6.	Iraq	3,436.8	3,436.8	3,436.8	3,436.8	3,436.8	3,436.8	3,436.8	3,436.8	27,494.4
7.	Kuwait	2,916.4	2,916.4	2,916.4	2,916.4	2,916.4	2,916.4	2,916.4	2,916.4	23,331.2
8.	Libya	743.5	743.5	743.5	743.5	743.5	743.5	743.5	743.5	5,948.0
9.	Nigeria	1,738.1	1,738.1	1,738.1	1,738.1	1,738.1	1,738.1	1,738.1	1,738.1	13,904.8
10.	Qatar	693.4	693.4	693.4	693.4	693.4	693.4	693.4	693.4	5,547.2
11.	S/Arabia	9,953.1	9,953.1	9,953.1	9,953.1	9,953.1	9,953.1	9,953.1	9,953.1	79,624.8
12.	UAE	2,864.1	2,864.1	2,864.1	2,864.1	2,864.1	2,864.1	2,864.1	2,864.1	22,912.8

13.	Venezuela	2,660.5	2,660.5	2,660.5	2,660.5	2,660.5	2,660.5	2,660.5	2,660.5	21,284.0
	OPEC Total	32,105.4	32,105.4	32,105.4	32,105.4	32,105.4	32,105.4	32,105.4	32,105.4	256,843.2
14.	Africa	7,357.9	7,357.9	7,357.9	7,357.9	7,357.9	7,357.9	7,357.9	7,357.9	58.864.0
	G/Total	39,463.3	39,463.3	39,463.3	39,463.3	39,463.3	39,463.3	39,463.3	39,463.3	315,706.7

Source: Generated by the Researcher in 2025 as adapted from OPEC Annual Bulletin of 2017/2018

Fig. 3: Cumulative Crude Oil Production of African Oil Producing Countries Compared with OPEC, 2012-2019 (b/cyr)



Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

Figure 3 above shows that Saudi Arabia is the leading producer of crude petroleum oil of OPEC as indicated by its towering bars above other countries. The next countries with higher bars are Iran and Iraq. This is followed Kuwait, then UAE and Venezuela respectively. Nigeria and Angola are next countries with higher bars. This followed by Algeria and Libya. Whereas, the underperformers of the group are Ecuador, Qatar and Gabon with almost diminishing bars.

Summary of crude oil production of Africa's oil producing countries for the period 2012 and 2019 compared with other OPEC members put Africa's cumulative at 58.864.0b/cyr representing 23% of OPEC's total of 256,843,2b/ycr. Saudi Arabia with a total cumulative of 79,624.8b/cyr representing 31%, leads other OPEC members in terms of crude oil production for the period of eight years. Saudi Arabia's optimal performance is above 1/4 and almost 1/3 of OPEC's cumulative total for the period. The towering performance of Saudi Arabia as a single member country of OPEC has overwhelmed the combined performances of the five African member countries of OPEC, which stands at 44,788.8b/cyr. Other top performers are Iran with 27,574.4b/cyr is in the 2<sup>nd</sup> position, Iraq with 27,494.4b/cyr is 3<sup>rd</sup>, Kuwait with 23,331.2b/cyr is 4<sup>th</sup>, UAE with 22,912.8b/cyr is 5<sup>th</sup> and Venezuela with 21,284.0b/cyr is in the 6<sup>th</sup> position. Nigeria with 13,904.8b/cyr in the 7<sup>th</sup> position and Angola with 13,676.0b/cyr in the 8<sup>th</sup> position had moderate performance. While below them are Algeria with 9,437.6b/cyr is 9<sup>th</sup>, Libya with 5,948.0b/cyr is 10<sup>th</sup>, Qatar with 5,547.2b/cyr is 11<sup>th</sup>, Ecuador with 4,285.6b/cyr is 12<sup>th</sup> and Gabon with 1,822.4b/cyr 13<sup>th</sup> (OPEC, 2017/2018; Ejiba et-al, 2016).

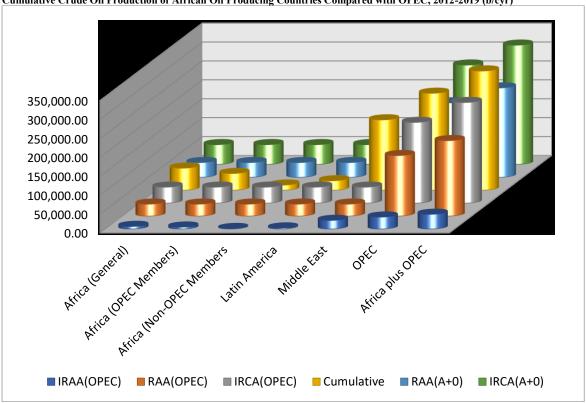
Furthermore, summary of AOPCs oil production compared with two oil producing regions of Latin America and the Middle East are as presented in Table 4 and Figures 4, 5 and 6 below:

Table 4: Cumulative Crude Oil Production of African Oil Producing Countries Compared with OPEC, 2012-2019 (in b/cyr & in %)

SN	Countries	Cumulative	RAA(O)	IRCA(O)	IRAA(O)	% (OPEC)	% (Africa Plus OPEC)
1.	Africa (General)	58,863.5	32,105.4	42,807.2	7,357.9	23%	19%
2.	Africa (OPEC Members)	44,788.8	32,105.4	42,807.2	5,598.6	17%	14%
3.	Africa (Non-OPEC Mbrs)	14,074.7	32,105.4	42,807.2	1,759.3	5%	5%
4.	Latin America	25,569.6	32,105.4	42,807.2	3,196.2	10%	-
5.	Middle East	186,484.8	32,105.4	42,807.2	23,310.6	73%	-
6.	OPEC	256,843.2	160,527.0	256,843.2	32,105.4	100%	81%
7.	Africa (G) plus OPEC	315,706.7	199,990.3	266,653.8	39,463.3	-	100%

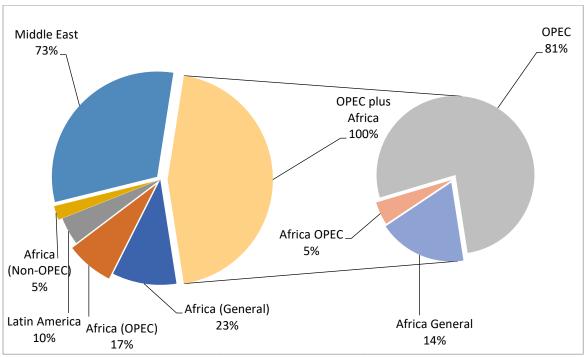
Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018





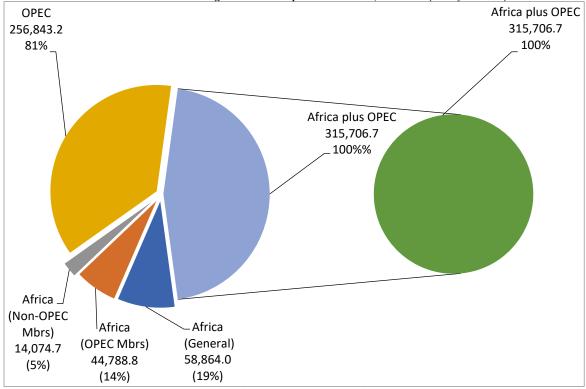
Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

Fig. 5: Cumulative Crude Oil Production of African Oil Producing Countries Compared with OPEC, 2012-2019 (%)



Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018





Source: Generated by the Researcher in 2025 as adapted from OPEC Bulletin, 2017/2018

From Table 4 and Figures 4, 5 and 6 above, it shows that the Middle East region with 73% of OPEC's total crude oil production, has outperforming the AOPCs whose total represents 23% of the OPEC total. The AOPCs however, have outperformed the Latin American region whose total represents 10% of the OPEC total. While, the AOPCs oil production represents 19% of OPEC plus Africa total cumulative which stands at 315,706.7b/cyr for the same period. The five African OPEC member countries produced

44,788.8b/cyr representing 17% of OPEC's total cumulative and 14% of the total cumulative of OPEC plus Africa. Saudi Arabia as a single country with 186,484.8b/cyr representing 31% of OPEC's total cumulative has outperformed the entire African continent. The Africa plus OPEC with 315,706.7b/cyr representing 53% of the world's total crude production of 591,355.2b/cyr actually controls the direction of crude oil production and sale globally for the period of the study. This leaves the rest of the world with 275,648.5b/cyr representing 47% of the world's total crude oil production for the period of the study. In fact, the dominance of OPEC plus Africa in this regard, which is an entirely third world affairs ought to have exited their individual countries from global web of economic servitude. (OPEC, 2017/18; Denning, 2020).

#### 5. Conclusion/Recommendations

The study has established that AOPCs with cumulative total crude oil production of 58,864.0b/cyr (23% of OPEC total) and 10% of world total (591,355.2b/cyr), have performed moderately. The study has also established that AOPCs cumulative annual average (CAA) of 7,357.9b/cyr is above the main cumulative crude oil production of six members of the group; where only Nigeria, Angola and Algeria performed above it. The study has further established that Saudi Arabia as a single country with a cumulative crude oil production of 186,484.8b/cyr (31% of OPEC total) has outperformed the entire AOPCs. In addition, the study has established that the Middle East region has also outperformed the AOPCs. Conclusion can be drawn that the AOPCs have greatly underperformed compared to OPEC. By way of recommendations, leaders of AOPCs should re-strategize to embark on more aggressive crude oil production where possible all should exclusively be refined within their individual domestic economies. This exclusive domestic refining and processing of crude oil into refined oil and petroleum products internally, will increase productive activities within their domestic economic environments. It will in turn generate more employment opportunities and wealth creation for their citizens.

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### **BIOGRAPHY - DR BAILEY SALEH**

Dr. Bailey Saleh lecturer in the Department of Political Science, University of Maiduguri. He holds PhD International Relations and Strategic Studies from the University of Jos, Nigeria. He has many onshore and offshore academic publications to his credit.