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## Nigerian economic growth: Dependence of agricultural development on oil exploration

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### Abstract

The implication of oil industries in Nigeria on the development of her agricultural sector was evaluated in this study. Oil exploration in Nigeria dates back to 1937 and has seen the rise of numerous oil industries in oil-producing states of the country. However, the oil boom has ushered various drawbacks to other key sectors of the Nigerian economy, such as the agricultural sector. This research therefore investigated at the operations of the oil as it affects the country's agricultural sector and the economic development in general. Data were collected by questionnaire, interview, and observation in a 24-person sample size, while the study area is in the oil-producing states of Nigeria. The results revealed that oil industry employed less than 10% of the work force of the aggregate economy respectively where as 49% are self-employed as farmers, petty traders. Overall, food production declined in the country due to year of neglect on the agricultural sector, coupled with lack of policies and strategies to diversify the Nigerian economy. It is therefore expected that the findings of this study will provide more insight into the crucial need to re-vitalize the agricultural sector of Nigeria to ensure food security for her ever-increasing population.

**Keywords:** Agricultural Development; Economy; Food Production; Nigeria; Oil Exploration

### 1. Introduction

A cursory look at the position of agricultural sector of the economy reveals that prior to the civil crisis in 1966, Nigeria export production were mainly agricultural products. Each of these products feature prominently in the export market and so made a significant contribution in terms of foreign exchange until the percentage share of these export crops in the total domestic export fell from 79.9% in 1960 to 2.6% in 1980, thus the contributions of agricultural production to the economy in terms of earning is almost insignificant relative to oil sector [1]. Among the effects of oil production to other sectors of the economy, agricultural sector is the change in official attitude with regards to appropriate role of agricultural production which was not achieved [2]. The agricultural sector was no longer regarded as a sector from which capital has to be transformed to non-agricultural sector, rather it was to be latter sector. The contribution of the mining to GDP increased from 2 percent in 1962 to 45.5 percent to 23.4 percent in 1973/74, whereas the contribution of the agricultural sector the same period amounted to no significant contribution [3].

In the light of the few examples mentioned above, it is quite obvious that the oil industry has adversely affected and distorted the agricultural sector. Oil industry by the nature of its operation has afflicted negative impact in the agricultural sector in Nigeria; the problem among others includes inadequate monetary compensation for damages done to people's properties to provide modern facilities [4-6].

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Hitherto, the Nigerian economy depends chiefly on crude oil export. Annually, Nigeria generates large income from crude oil exports and currently ranks top in the list of major oil-producing countries worldwide. Irrespective of the oil boom in Nigeria, other sectors of the country's economy have yet to receive comparable attention and boost [2, 7]. Specifically, the agricultural sector has faced neglect since the first discovery of oil in Nigeria. Before the oil boom, Nigeria was a major exporter of agricultural produce to other countries around the globe. Oil production in Nigeria has also been attributed to various forms of environmental hazards [6, 8-10]. It is rather unfortunate that today, many Nigerian farmers can barely produce enough to feed their household, with consequent decline in availability of substantial produce to support export [4, 9]. As a result, many farmers have rather resorted to subsistence farming than commercial [11-13]. Obviously, Nigeria is currently faced with low food production capacity with attendant pressure on food security [14, 15].

The scope of the work covers the problems and prospects of oil industry in the 21<sup>st</sup> century, as featured in an underdeveloped economy. In this work, due to the financial and time constraints, it is limited to the Nigeria economy in the 21<sup>st</sup> century with reference to its historical perception; all cases data and analysis are limited to the Nigeria economy. The present study used primary data, so the conclusion and recommendations are dependent functions of the quality of the primary data available to us.

It is envisaged that this work will enable one to know whether diversification of the economy will be reasonable. The study identifies the problems and makes possible recommendations on how best the situation can be improved. Through the improvement of the problem, various companies, people and government will benefit directly or indirectly. Since the aim of this work is to reveal the impact of oil industry on agricultural development in Nigeria, it will be of huge interest to the private and public institutions especially stakeholders in the oil and agricultural sectors. Based on the recommendations of the study, key players in the development of the economy i.e., government agencies and components of the agricultural and oil sectors among others would benefit from the study.

### *Objectives of study*

- To determine the impact of oil revenue on the economic development of the agricultural sector.
- To understand the hazard of oil activities or operations in agricultural development.
- To evaluate the extent of damages done to agricultural products, by oil pollution.
- To enumerate some other problems apart from the decline on agricultural products due to oil exploration activities.
- To suggest some ways of overcoming such problems being occasioned by oil exploration.
- To explain fully the meaning and cause of decline in the agricultural sector in Nigeria.

### **1.1. Research questions**

- What are the impacts of oil exploration on economic development?
- What are the types of pollution caused by oil exploration?
- What type of compensation do you recommend for the agricultural sector from the oil industry?

### **1.2. Hypothesis**

- That the oil industries have contributed to an increase in the agricultural sector allocation from the federal government:
- The oil industries have created both direct/indirect impact on the agricultural sectors.
- The oil industries have forged linkage i.e., backward/forward.
- That the oil industries are operating in isolation.
- That the oil industries have attributed to community development.
- That the operation of oil industries has enhanced the transfer of technology to local communities.

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## **2. Theoretical framework**

The research study is based on the "Big push theory" as the theoretical framework [16]. It is associated with Professor Paul Rosenstein-Rodan in his thesis - notes on the theory of Big push in economic development of Latin America in 1961. The theory states that a large comprehensive programme is needed in the form of a high minimum amount of

investment to overcome the obstacles to development in an underdeveloped economy and to launch it on the path to progress.

The theory further states that development programme proceeded bit by bit will not launch the economy successfully on the development path, rather a minimum advocate for balanced growth theory for its multi-sector of the Nigeria economy especially the agricultural sector that has been worse off, due to activities of the oil industries within the Nigeria economic processes [17].

More so, the theory calls for indivisibility of demand, production function and supply of savings where a high-income elasticity of saving in the third world country as stipulated in Rosenstein Rodan's postulation. A high minimum size of investment in the agricultural sector requires a high volume of savings from the household sector and public sector of the economy [18]. However, this is high to achieve in underdeveloped economy like Nigeria.

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### 3. Research methodology

The research method entails using simple regression technique [19, 20]. The basis of Ordinary Least Square (OLS) method to determine the impact of oil industry, and its contribution towards the development of the economy (increase in gross domestic product, GDP) per se ( $H_0$ ): where it states that, the oil industry has contributed to the rapid economic development of Nigeria using GDP as the economic index.

#### 3.1. Data Collection Method

Field work was carried out using 24 respondents to generate information to test the already stated hypothesis. The data were collected through: (a) questionnaire, (b) interview, and (c) observation. There are appropriate tools for particular set of data although more than one tool may be used in the same research. The question of which tool to use at any time depends essentially on the type of data one is looking for, but which ever tool is used however, the guiding principle is objectively i.e., the way that bias is eliminated. In this research work, the questionnaire and interview are used prominently. The interview techniques were used during the investigation and the questionnaire also came in as two sets of questions which were drawn into sections. The oil workers interviewed in the study area are from Rivers State, Nigeria.

#### 3.2. Data Testing

After drafting the question, they were tried out with one volunteer who suggested that all Nigerian citizens should be re-oriented on the best way to move the Nigerian economy forward and improve the balance of payments of the country. Prior to the interview, the authors visited the former managing director of the Nigerian Agricultural and Co-operative bank limited who also said same thing as the volunteer. The first oil worker interviewed said that most Nigerians need to be re-oriented on the implementation of Nigerian policies, and also pointed that the banks have lots of better dreams to improve the agricultural sector and many other governments sectors.

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### 4. Data presentation and discussion

The cardinal interest in this chapter is to present and analyze the data that were collected during the fieldwork. The pervasive concern is to determine the impact of oil industry on the agricultural development in Nigeria. The parameter for determining the effect of oil production on the Nigerian economy consists of issues like the decline in the agricultural export, pollution, unemployment, compensation for oil spillage, the relationship between the oil industry and federal government on one side and the host communities on the other side, the socio-economic life of the people, and the legal arrangements as solution to the problems of oil industry. Table 1 shows the responses of respondents on the impacts of oil exploration on economic development.

In this vein, research findings revealed that oil industry employed less than 10% of the work force of the aggregate economy, whereas 49% are self-employed as farmers, petty traders, etc., and 29% are not employed at all. Self-employment consists of peasantry. The high rates of declines in the agricultural sector and employment result in a very low level of development in the economy. Therefore, it is not only an indicator of underdevelopment but also a factor. Table 2 shows the responses of respondents on the types of pollution they believe that oil exploration cause.

**Table 1** Responses on impacts of oil exploration on economic development in Nigeria

S/N	Questionnaire Items	Options				N	Remark
		SA	A	D	SD		
1	Oil companies create employment	14	9	0	1	24	Accepted
2	Oil companies develop host communities	5	3	9	7	24	Rejected
3	Oil companies generate cheap gas	0	3	12	9	24	Rejected
4	Oil companies provide enough revenue that can boost other sectors	18	5	1	0	24	Accepted
Total		37	21	22	17		

**Table 2** Responses on the types of pollution oil exploration cause in Nigeria

S/N	Questionnaire Items	Options				N	Remark
		SA	A	D	SD		
1	Oil exploration causes air pollution	12	8	2	2	24	Accepted
2	Oil exploration causes water pollution	13	10	1	0	24	Accepted
3	Oil exploration causes health hazards	9	12	2	1	24	Accepted
4	Oil exploration causes soil pollution	12	9	3	0	24	Accepted
Total		46	39	8	3		

To worsen the situation, a longer percentage of the aggregate labour force of the economy could not find any employment opportunity. Pollution which is a consequence of oil spillage has led to general underdevelopment of the Nigerian economy since the available arable lands in the country are constantly reduced by pollution [21, 22]. The life of the citizens and existence of the inhabitants depends mostly on the size of the productive capacity of their lands [23]. This explains why the continual depletion of the soil, water forests etc., contributed to the underdevelopment of the agricultural sector in immense measure. There is also the negative effect of exposure of inhabitants to hazards such as diseases and high rate of mortality as a result of the occurrence of oil spillage [24]. Table 3 shows the responses of respondents on the types of compensation that oil companies should pay.

**Table 3** Responses on the types of compensation oil companies should pay in Nigeria

S/N	Questionnaire Items	Options				N	Remark
		SA	A	D	SD		
1	Oil companies should pay for air pollution	15	7	2	0	24	Accepted
2	Oil companies should pay for water pollution	17	5	1	1	24	Accepted
3	Oil companies should pay for health hazards	11	8	3	2	24	Accepted
4	Oil companies should pay for soil pollution	14	10	0	0	24	Accepted
Total		57	30	6	3		

Unfortunately, very little compensation is paid to the federal government and the host communities for the great damage done; what the oil company's pay (if at all) is usually not commensurate with the level of damage done to the people and what they in turn, get from these areas. Instead, the federal government has a larger share of it whereas the remaining part is paid to indigenous collaborators (compressor).

Our analysis thus, point to the fact that oil companies have contributed in no small way to the deprivation and underdevelopment of Nigeria's agricultural sector. This is possible as a result of their divide and rule policy which is based on their primary motive of profit maximization at the peril of agricultural sector which was meant to be growing with it, to maintain a favourable balance of payment. They also fail to take into account the rate of inflation and general cost of living and precarious situation the host communities are subjected to as a result of the oil companies' activities in their area. To elaborate more on this, Table 4 shows the Nigerian government recommended rate payable for oil spillage by companies.

**Table 4** Nigerian government recommended rate payable for oil spillage by companies

Damaged Items	Amount (₦)
Natural Fish Pond	3.00 per sq metre
Season Swamp	2.00 per sq metre
Man-made fish pond	6.00
Fish Farms	Proper evaluation to be conducted
Canal and Waterways	Negotiated
Oil Palm Tree	150.00 per tree
Mangrove	50.00 per hectare
Raffia	2.00 per plant
Cassava	1.00 per crop
Maize	250.00 per hectare
Less of farming right	0.64K per sqm
Fresh-water swamp	25.00

Based on the questions put forward to about 24 persons, it was inferred that one of the dreaded problems in oil operation is associated with over pressure formation which gives rise to blow out or spillage and other hazard, and when this happens, the losses are never small, both to the host communities where it happened and to the federal government. Sometimes, it does not only lead to burning of neighboring houses and farmlands, but also leads to forest pollution of aquatic life and spillage in annex oil field in the state [25]. Oil field near Port Harcourt, Rivers State, Nigeria is good example of the bad side of the black gold of Nigeria to the agricultural sector.

## 5. Conclusion

It has been evidently argued that the oil industries have ruined the economy, political and socio-cultural development of the agricultural sector as a result of incessant decline on the agricultural export and production and their lackadaisical attitude to those effects on the agricultural sector. This makes the oil companies a veritable instrument of the capitalist and imperialist tendencies of the advanced nations of the world. As a result of oil pollution, the agricultural sector face problems ranging from lack of good drinking water, low output-production, to shortage of land for agricultural use. This work has therefore shown the inadequacies of some of the bourgeoisie theories about the role of oil industry (Multinational Corporation) in developing countries. The so-called benefits of oil industry are only intended to create a further conducive atmosphere for their business. It is not out of intention to argue in this work that multi-national corporations or oil industries are only factor responsible for underdevelopment of the third world countries as a whole but their development position is linked in a complex way to foreign investment of multi-national corporations.

The oil activities have not only distorted our economy and adversely paralyzed our traditional means of livelihood, it has also helped in creating regional inequality to utter disregard and disadvantage of the oil producing areas. And since 1970, the oil industry has become the most dominant factor in the revenue of Nigeria government; the industry has extorted a tremendous impact on the economy. Unfortunately, it is negligible when viewed in terms of inter sectoral resource flow. The principal agricultural export product made significant contributions to the total (Nigeria) gross domestic export earnings in the sixties, however, their percentage share in the total domestic export earning reduced

considerably (75% and 2.6% in 1960 and 1990, respectively). The decline in agricultural production is closely linked to pace of industrialization, urbanization and public development efforts in the country. The oil sector contributed to make the agricultural crisis particularly grave and noticeable, and oil production has created condition which have reduced emphasis on agricultural export production, the same time it has placed greater emphasis on domestic food production.

Finally, the dominant role of oil in the Nigerian economy provides the single explanation for the new government attitude with regard to appropriate role of agricultural sector in the economy. For development, the Nigerian government no longer regards agriculture as the sector from which capital has to be transferred to the non-agriculture sector rather it is a net recipient of capital. This study brings out the intricacies in the oil industry with the view of making strategic position in the agricultural sector of the Nigeria economy – public mainstay of the economy. It will make laudable the need to diversify the Nigeria economy and pay attention to other revenue sources such as agriculture. In the same vein, oil is not the only energy source, the other alternative energy sources that need to be harnessed should also be explored. Moreover, it will be useful for government to also check excesses hoarding, bunkering and smuggling of petroleum products.

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## Compliance with ethical standards

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### *Disclosure of conflict of interest*

The authors declare no conflict of interest(s).

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