

# Innovations

## The impact of agri business on the Nigerian economy -A case study of small and medium enterprises

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### Abstract

*This research examines the impact of the agribusiness sector on Nigeria's economy, with a focus on Small and Medium Enterprises (SMEs). Using data on Gross Domestic Product (GDP) and agribusiness output (AbO) and investment (AbI) from 2011 to 2021, the study establishes a relationship between the agribusiness sector and the economy. The model hypothesizes that there is a functional relationship between the dependent and independent variables. The results of the OLS regression estimates show that agribusiness investment is statistically significant at 5% and has a positive relationship with GDP, while agribusiness output is not statistically significant at 5% and has a negative coefficient value. This suggests that investing in agriculture is crucial for economic growth in Nigeria but improving output alone may not be enough. The study concludes that agribusiness investment is a significant contributor to the Nigerian economy, while agribusiness output has little impact. The government should focus on empowering SMEs to stimulate growth in the sector and improve coordination and connectivity within the agribusiness value chain. The study recommends creating an enabling environment and infrastructure, adopting technological modes for value addition, and enacting policy reforms to promote investments in agribusiness SMEs. Overall, investing in agribusiness has the potential to spur growth, alleviate poverty, and generate more and better jobs for the Nigerian economy.*

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### 1. Introduction

The agricultural sector in Nigeria is a key driver of economic growth, providing raw materials for industry and food production, and promoting the development of small and medium-sized enterprises (SMEs) that are crucial components of the country's business landscape (Onwualu, 2009). SMEs play a vital role in promoting economic growth, contributing to sustainability, employment, equitable income distribution, and better living standards (Obi et al., 2018; Ndiaye et al., 2018; Perez-Gomez, 2018). In Nigeria, SMEs constitute a significant proportion of all businesses, accounting for 96.7% of them, contributing 47% of the GDP and providing 84% of employment opportunities (SMEDAN, MSME report, 2017). However, the sustained growth of the sector depends on the provision of adequate government support, averted financing challenges, and the resolution of issues like poor infrastructure and unfavorable policy frameworks that hamper SME creation and growth (Akerjola et al., 2019; Victor et al., 2019).

To promote inclusive growth and job creation, Nigeria needs to invest in other sectors, such as the agricultural and agro-industrial industries, as highlighted by the 2017-2020 Economic Growth and Recovery Plan (ERGP) and the 2020 Economic Sustainability Plan (ESP) (Victor et al., 2019). The agro-industrial sector offers an excellent opportunity for investment, and the proper mobilization and channeling of its potential will be a crucial source of internal capital formation. However, the lack of

government support and inadequate financing options have hindered the growth of the SME sector in Nigeria, leading to a decline in the agricultural sector. This, in turn, hampers the creation of decent jobs, the ability to reduce poverty, and ensuring food security to support economic growth.

Hence, it is imperative to conduct a research study that focuses on the impact, obstacles, and potential of agribusiness SMEs in Nigeria, with the goal of improving the country's GDP and promoting sustainability. This paper aims to investigate the impact of agribusiness SMEs on Nigeria. The research will also help to shed light on the role of agribusiness SMEs in the Nigerian economy, identify the challenges they face, and suggest potential opportunities for growth. The findings of the study can be used to inform policy decisions that can enhance the development of the agribusiness sector and promote sustainability. Additionally, the study can serve as a foundation for future research in this area, providing a valuable contribution to the existing literature on agribusiness SMEs in Nigeria.

## **2. Literature Review**

### **2.1 Growth Potential for Agribusiness SMEs in Nigeria**

Nigeria's agribusiness sector has faced challenges like inflation that have hindered its growth despite its longstanding existence. However, agribusiness SMEs have the potential to create better and more productive jobs than primary agriculture. To shift the focus back to agriculture, the National Planning Commission Policy of Nigeria aimed to increase value-adding at every stage of the value chain on agricultural produce. According to Elliot et al. (2022), traditional cash crops, cassava, rice, oilseeds, and legumes have the highest potential for job creation in the value chain. Additionally, livestock, aquaculture, and other cash crops have a growth elasticity of more than -1, indicating a reduction in the national poverty index by more than 1% with productive growth in these areas. Focusing on the value chain has a positive impact on the economy, including job creation and poverty reduction.

Policies aimed at promoting Small and Medium Enterprises (SMEs) in agribusiness tend to be incorporated into broader policy frameworks that may not be relevant to all SMEs, according to Sessi (1999) as cited by Carré and Levratto (2009). However, a study conducted by Elliot et al. (2022) demonstrates the use of the Rural Investment and Policy Analysis (RIAPA) model to identify growth structures in different subsectors of agriculture, which can have a multiplier effect on job creation and poverty reduction. The model considers factors such as economic growth, employment, poverty, dietary diversity score, poverty-growth elasticity, dietary diversity growth elasticity, and economy sectoral growth employment elasticity, and aims to create six million jobs in the agribusiness sector by 2024 through an annual growth rate of 2.4%.

To achieve growth in the agribusiness sector, Nto and Mbanasor (2011) emphasize the need for human capital development. In addition to policy measures, investment in innovative capacity is also necessary, as highlighted by Abdulkazeez, Issa & Yusuf (2019). To bolster the economy through agribusiness, it is important to focus on developing human capital and implementing innovative methods in the sector's operations.

### **2.2 Nigerian Agribusiness SME challenges.**

Small and Medium Enterprises (SMEs) in agribusiness face a range of challenges in Nigeria, including financial inadequacy, infrastructure challenges, insecurity, and corrupt leadership. One major issue is insufficient funding provided by the state for SME growth and development, which hinders proper planning for agribusiness SMEs to start operations (Ololube&Abeh, 2017). Additionally, Nigeria's institutional framework is substandard, which exacerbates the problem of financial inadequacy (Abeh, 2017). Inadequate funding is detrimental to SMEs' business success and must be addressed.

Infrastructure challenges also pose a significant hurdle to SMEs in Nigeria, with ICT being a key issue. Power supply issues are a concern not only in Nigeria, but in many Sub-Saharan countries, and this underfunding affects other infrastructure such as telecommunications, roads, and water (Ololube&Uzorka, 2008). Even those living below the poverty line in Nigeria find it difficult to run a business due to the lack of affordable technology needed to do so. This is exacerbated by the fact that SMEs often have to spend a

significant portion of their earnings on generating electricity for production, which limits their ability to reach their full potential.

Insecurity in Nigeria also creates an unhealthy business environment, with kidnapping and property destruction by bandits being a significant concern. This poses serious challenges to the proper functioning of Nigerian agribusiness SMEs, and Nigeria ranks 130th in ease of doing business, according to the World Bank annual report (Ololube, Uriah, & Dudafa, 2014). Providing the right business environment for SME development in Nigeria would boost the country's GDP.

Corrupt leadership is another significant challenge faced by SMEs in agribusiness in Nigeria. The country is listed as one of the most corrupt countries in the world, and many leaders employ corrupt standards and practices that impede their company's progress (Transparency International, 2019). These practices include bribery when making payments, such as during the release of funds provided to boost small businesses. Another economic aspect of the challenges faced by SMEs in agribusiness is the unreasonable increase in the cost of starting a business. Most SMEs die because Nigeria's persistent poverty rate prevents people from buying their products.

### 3. Methodology

This research employs a quantitative methodology using data from the Central Bank of Nigeria statistical bulletin spanning 2011 to 2021. The research methodology involves collecting secondary data on the study variables through an econometric approach, specifically multiple regression analysis of the Ordinary Least Square (OLS) and error correction. The analysis will examine the relationship between Agribusiness output, Agribusiness investment, and Gross Domestic Product. The multiple regression model is expressed as:

$$GDP_t = \alpha + \beta_1 ABI_t + \beta_2 ABO_t + \varepsilon_t \quad (1)$$

Where: GDP= Gross Domestic Product as the dependent variable; ABI= Agribusiness investment in Naira. ABO = Agribusiness output in Naira;  $\alpha$  = constant representing the value of GDP when all other explanatory variables are held constant  $\beta_1$  = Coefficient of the Agribusiness investment explanatory variable.  $\varepsilon$  = error term.

This model will be used to test the research hypotheses. The research hypotheses are twofold: (H<sub>01</sub>) there is no significant impact of agribusiness output, on GDP growth in Nigeria; and (H<sub>02</sub>) there is no significant impact of agribusiness investment on GDP growth in Nigeria.

### 4. Stylized Facts

Table 1 presents the data on Gross Domestic Product at Current Market Price, Agribusiness Output, and Agribusiness Investment from 2011 to 2021, sourced from the statistical bulletin of the Central Bank of Nigeria in 2021.

**Table 1: Data on GDP, Agribusiness Output and Agribusiness Contribution**

Year	GDP at Current Market price	Agribusiness Output	Agribusiness Investment
2011	63,713.36	4,527.45	14,037.83
2012	72,599.63	5,588.82	15,816.00
2013	81,009.96	7,233.32	16,816.55
2014	90,136.98	8,685.43	18,018.61
2015	95,177.74	8,973.77	19,636.97
2016	102,575.42	8,903.24	21,523.51
2017	114,899.25	10,044.48	23,952.55
2018	129,086.91	12,455.53	27,371.30

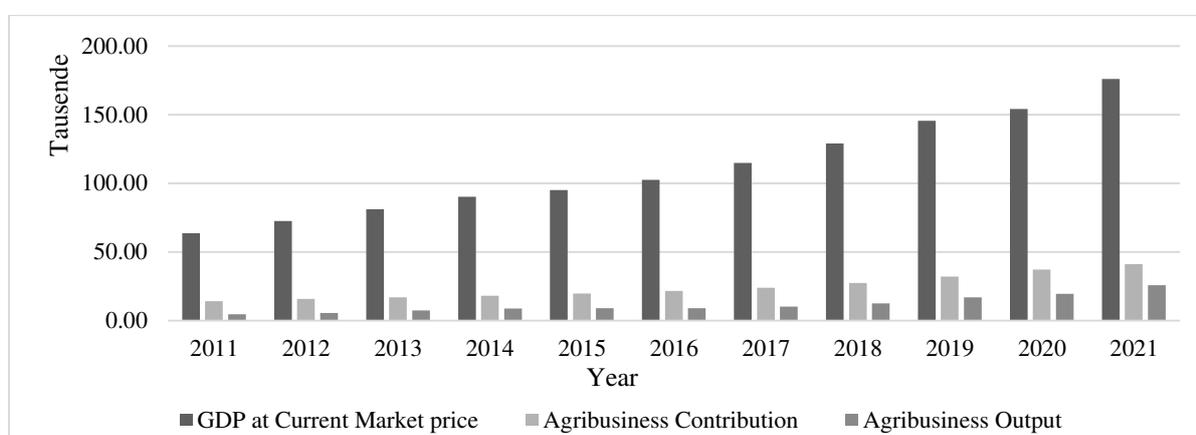
2019	145,639.14	16,781.06	31,904.14
2020	154,252.32	19,539.55	37,241.61
2021	176,075.50	25,725.87	41,126.06

Source: Central Bank of Nigeria Statistical Bulletin 2022

The data in Table 1 shows a general trend of growth in all three variables over the years, except for a slight dip in agribusiness output in 2016. From 2011 to 2021, the GDP increased from 63,713.36 to 176,075.50, representing a 176.87% increase. Agribusiness output also increased from 4,527.45 to 25,725.87, a significant increase of 467.91%. Agribusiness investment, on the other hand, increased from 14,037.83 in 2011 to 41,126.06 in 2021, representing an increase of 193.44%.

The data suggests a positive relationship between agribusiness output, agribusiness investment, and GDP in Nigeria over the period of study. It also suggests that the agribusiness sector has played a significant role in the growth of the Nigerian economy. However, further analysis is required to determine the degree of correlation between the variables.

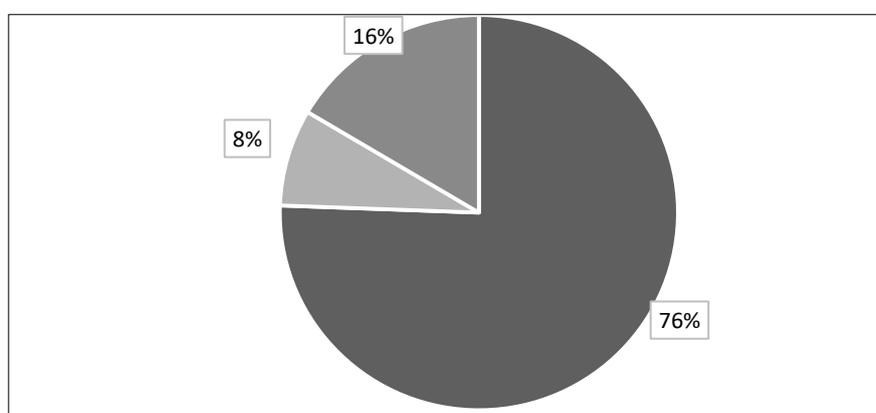
**Figure 1: Changes in GDP, Agribusiness Output and Agribusiness Investment**



Source: Authors Computation (2022)

The changes in the Nigerian economy and agribusiness sector from 2011 to 2021 are presented in Figure 1. The graph illustrates the trends in agribusiness output, agribusiness investment, and Gross Domestic Product. The data shows that the GDP of the Nigerian economy has been steadily increasing, but this growth is not due to the agribusiness sector. Although there has been an increase in the contribution of agribusiness SMEs, this growth has been relatively slow over the years, as well as in agribusiness output.

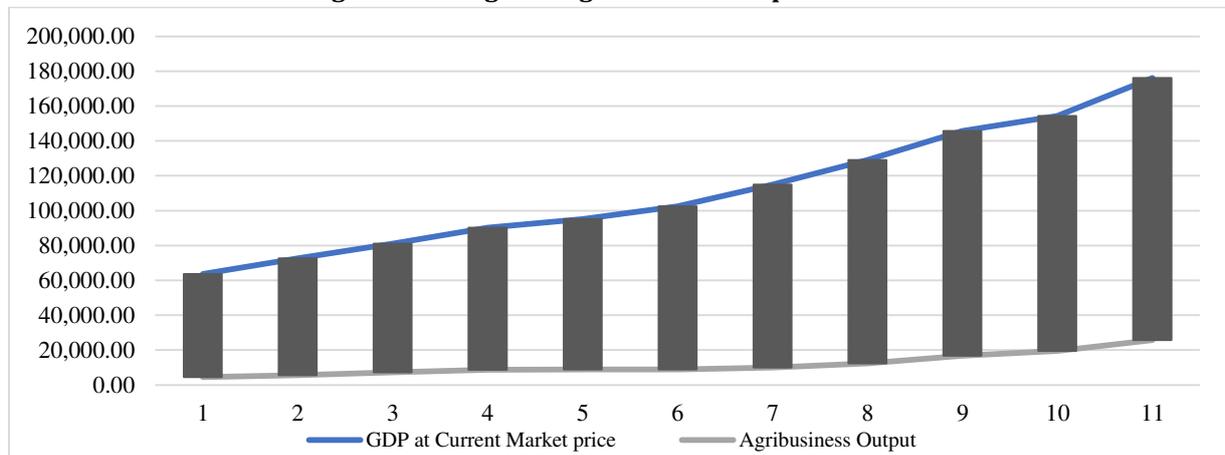
**Figure 2: Percentage Variation in Agribusiness Output, Investment and GDP**



Source: Authors Computation (2022)

The pie chart illustrates the proportionate contributions of different sectors to the Nigerian economy between 2011 and 2021. Specifically, it shows that agribusiness output accounted for 8% of the economy, agribusiness investment accounted for 16%, while the rest of the sectors contributed 76% to the GDP during this period.

**Figure 3: Changes in Agribusiness Output and GDP**



Source: Authors Computation (2022)

The graph illustrates that the trends in agribusiness output and GDP are positively correlated, as the lines move in the same direction. The horizontal axis represents the period from 2011 to 2021, with figures 1-11 representing each year. Between 2011 and 2016, the agribusiness output remained relatively stable, while the GDP grew rapidly. From 2017 to 2021, the agribusiness output increased significantly, which could be attributed to government policies and programs introduced during that period, leading to a rise in GDP. Other sectors, particularly the oil industry, have been the main contributors to the country’s GDP growth due to high dependence. However, the introduction of policies and programs to boost agribusiness output led to a rise in the sector's contribution to GDP growth.

The country’s democratic dispensation has also led to an increase in agribusiness output, thanks to policy measures such as the Economic Recovery and Growth Plan of Nigeria (ERGP), which introduced programs such as the Presidential Initiatives on Cassava, FADAMA, Agro-Processing Productivity Enhancement and Livelihood Support Project (APPEALS), Anchor Borrowers Program, and other programs supported by the World Bank and African Development Bank. These policies and programs have led to a significant increase in agribusiness output, while the GDP continued to increase due to its contribution and the contribution of other sectors.

## 5. Analysis, Results & Discussions

### 5.1 Regression Result

The following results illustrate how the ordinary least squares method (OLS) estimation approach was used to estimate the required regression model:

**Table 2: Regression Result**

Dependent Variable: GDP				
	Coefficients	Standard Error	t Statistics	Probability -value
ABO	-0.365205119	1.47139206	-0.248203812	0.810229143
ABI	4.202492308	1.05342067	3.989377109	0.004008802*
Intercept	13467.62021	9416.436242	1.430224754	0.190524932
<i>Regression Statistics</i>				

Multiple R	0.990593929
R Square	0.981276333
Adjusted R Square	0.976595416
Standard Error	5518.691458
Durbin-Watson Statistics	1.160021
Observations	11
F-statistics	209.633

[\*] indicates significance at 5% level of significance

Source: Authors Computation (2022)

According to the OLS regression estimates presented in Table 2, the model that includes the independent variables of Agribusiness investment and Agribusiness Output explains 98.1% of the total variation in GDP, as indicated by the coefficient of multiple determination ( $R^2$ ) of 0.981. The F-test statistics value of 209.6333 shows that the model is statistically significant at 1%.

Agribusiness investment is statistically significant at 5% and has a positive relationship with GDP. On the other hand, Agribusiness Output is not statistically significant at 1%, and it is inversely related to GDP with a negative coefficient value of -0.365205. This means that as GDP increases, the value of agricultural output decreases. Increasing investment in agriculture is expected to lead to an increase in GDP.

The high  $R^2$  of 0.98 and F-statistics of 209.633 indicate that the estimated OLS regression equation has a good fit. Additionally, the Durbin-Watson statistic of 1.16 indicates a less severe presence of positive autocorrelation, suggesting that the results' estimates are unbiased and reliable.

### 5.2 Test of Hypothesis

- $H_{01}$ : there is no significant impact of agribusiness output, on GDP growth in Nigeria;
- $H_{02}$ : there is no significant impact of agribusiness investment on GDP growth in Nigeria.

Based on the results, the agribusiness output variable is not statistically significant at both the 5% and 10% level of significance. This means that the null hypothesis ( $H_{01}$ ) cannot be rejected, and it can be concluded that there is no significant impact of agribusiness output on GDP growth in Nigeria. However, the agribusiness investment variable is statistically significant at the 5% level of significance. Therefore, the null hypothesis ( $H_{02}$ ) can be rejected, and it can be concluded that there is a significant impact of agribusiness investment on GDP growth in Nigeria

**Table 3: Test for Confidence level**

	<i>t Statistics</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	1.430224754	-8246.720703	35181.96112
Agribusiness Output	-0.248203812	-3.758241293	3.027831056
AgribusinessInvestment	3.989377109	1.773299886	6.631684729

Source: Authors Computation (2022)

Table 3 shows the confidence intervals for the regression coefficients. These intervals are used to test the significance of the beta values by checking if zero falls within the interval or not. The results indicate that Agribusiness Output is not significant at 90% and 95% confidence levels, while Agribusiness Investment is significant at both confidence levels. These results are consistent with the hypotheses test mentioned earlier.

### 5.3 Discussion of Findings

The analysis of agribusiness investment and output between 2011 and 2021 provided insight into their contribution, growth, and challenges, addressing the study's objectives. The results showed that the agribusiness sector presents the best opportunities for Small and Medium Enterprises (SMEs), which can stimulate economic growth, alleviate poverty, and generate more and better jobs. Elliot et al. (2022) found

similar results on the performance of the agribusiness sector for 2009-2018, stating that the off-farm agribusiness sector created better opportunities than other sectors, impacting the GDP positively.

Although the agribusiness output was not significant, it still showed potential for boosting the economy. On the other hand, agribusiness investment was significant, emphasizing its importance in promoting economic growth. Furthermore, agribusiness output has the potential to create jobs and grow the economy, especially in primary agriculture, which grew two times greater than the average.

To optimize growth opportunities in the agribusiness sector, there is a need for better coordination within the sector, which can trigger job opportunities for SMEs in the agriculture/agribusiness value chain. Additionally, growth can emanate from exploring the agribusiness value chain, limiting fragmentation, and initiating strong connectivity in upstream primary production and downstream value-addition areas. SMEs in Agribusiness should focus on providing innovative capacity to improve productivity in on-farm activities, lowering costs in off-farm activities, and coordinating agricultural value chains effectively.

To demonstrate strong connections with primary agribusiness, there is a need to implement value chain innovation strategies that expand the processing of higher-value farm products such as staple crops, livestock products, and animal and fisheries feeds. Additionally, there is a need to expand agricultural output and shift away from low-value-added manufacturing and nutritional-value root crops.

In summary, the relationship between agribusiness output and GDP is relative, while the relationship between agribusiness investment and GDP is significant. These variables have varying effects on GDP, highlighting the need to create an enabling environment for SMEs to thrive in the agribusiness sector. Investment promotes the economy, and the economy promotes investment, as previously claimed by Alpuerto et al. (2010) and Haggblade (2007). The findings underscore the importance of agribusiness investment in promoting economic growth and job creation, which can significantly improve the standard of living for Nigerians.

## 6. Conclusion & Recommendations

In conclusion, this study has revealed that agribusiness investment is a significant contributor to the growth of the Nigerian economy, while agribusiness output has little impact. The findings suggest that the government should focus on improving the agribusiness sector to have a direct impact on investment. This can be achieved through empowering Small and Medium Enterprises with the necessary capacity to stimulate growth in the sector. The study also highlights the need for better coordination and connectivity within the agribusiness value chain, as well as the exploration of value chain innovation strategies to improve productivity and generate employment opportunities. Overall, investing in agribusiness has the potential to spur growth, alleviate poverty, and generate more and better jobs for the Nigerian economy.

To improve the contribution of agribusiness SMEs to the Nigerian economy, the following recommendations are proposed:

- The government should provide an enabling environment and infrastructure to promote the growth of agribusiness SMEs. This includes access to loan facilities with low-interest rates, adequate security for operators, and functional industrial clusters.
- Agribusiness SMEs should adopt technological modes and move into value addition through food processing and market expansion. This will stimulate agricultural growth and strong linkages between agribusiness and on-farm farmers, potentially reducing poverty.
- Policy reforms should be enacted to eliminate corruption and create clear policies that promote investments in agribusiness SMEs. This will create a favorable environment for both domestic and foreign investors, increasing the potential for growth in the sector.

## References

1. Abdukazeez, S. Issa, A. & Yusuf, I. M. (2019). *Entrepreneurship and innovative ability among agribusiness clusters in north-central, Nigeria. Al-hikmah management review entrepreneurship and innovative capacity volume 4(1)*.
2. Abeh, O. (2017). *Entrepreneurship as key to socio-economic development: A study of selected small and medium scale enterprises in Delta State. Journal of Education and Society, 7(1), 90-102.*
3. Alpuerto V, Diao X, Salau S & Nwafor M (2010). *Agricultural Investment for Growth and Poverty Reduction in Nigeria. International Food Policy Research Institute (IFPRI). www.ifpri.org*
4. Akerejola, W.O., Okpara, E.U., Ohikhena, P. and Emenike, P.O. (2019), "Availability of infrastructure and adoption of point of sales of selected small and medium enterprises (SMEs) in Lagos state", *Nigeria. International Journal of Academic Research in Business and Social Sciences, Vol. 9 No. 1, pp. 137-150.*
5. Haggblade S (2007) *Return to Investment in Agriculture. Policy Synthesis Food Security Research project-Zambia. Mbanasor J. A. and E. C. Okorji (1997) agricultural policies and suitable agricultural investment in Nigeria: critical issues; proceedings of the 13th annual conference of the AMAN, held at Umudike.*
6. Mghenyi, Elliot, Cora Dankers, James Thurlow, and Chidozie Anyiro. (2022). *Transforming Agribusiness in Nigeria for Inclusive Recovery, Jobs Creation, and Poverty Reduction: Policy Reforms and Investment Priorities. International Development in Focus. Washington, DC: World Bank.*
7. Ndiaye, N.; Razak, L.A.; Nagayev, R.; Ng, A (2018). *Demystifying small and medium enterprises (SMEs) performance in emerging and developing economies. Borsalstanb. Rev. 2018, 18, 269–281*
8. Nto, P. O. O. & Mbanasor, J. A., (2011). *Productivity in agribusiness firms and its determinants in Abia State, Nigeria. Journal of Economics and International Finance Vol. 3(12), pp. 662-668, 22 October 2011.*
9. Ololube, N. P., Uriah, O. A., & Dudafa, U. J. (2014). *The role of university management in sustainable national development through innovation and entrepreneurial nosiness. International Journal of Educational Foundations and Management, 2(1), 13-24.*
10. Onwualu, A.P., 2009. *Developing Agricultural Raw Materials For Wealth Creation In Nigeria. 3<sup>rd</sup> Forum of The Laureates of the Nigerian National Order of Merit (Nnom), Abuja, Merit House Complex.*
11. Perez-Gomez, P.; Arbelo-Perez, M.; Arbelo, (2018). *A. Profit efficiency and its determinants in small and medium-sized enterprises in Spain. ("An Assessment on the Influence of Entrepreneurial Training, Risk ... - aior") BRQ Bus. Res. Q. 2018, 21, 238–250*
12. UNIDO (2017), "A paper presented by Mr Afifbarhoumi during a ceremony of a four-day training programme organized by UNIDO ITPO Nigeria for selected federal government agencies".
13. Varrella, S., 2021b. *Contribution of agriculture to GDP in Nigeria 2019-2020. Available through www.statista.com* Varrella, S., 2021a. *Contribution of oil sector to GDP in Nigeria 2018-2020. Available through www.statista.com*
14. Victor, C.N., Christopher, N. and Ignatius, A.M. (2019), "The role of subcontracting on innovation: an assessment of small and medium enterprises in Nigeria", *Production and Manufacturing Research Journal, Vol. 7 No. 1, pp. 88-108.*