Socialscientia Journal of the Social Sciences and Humanities
Email: socialscientiajournal@gmail.com
Online access: https://journals.aphriapub.com/index.php/SS/

Foreign Direct Investments and Agro-Technology Development in Nigeria's Cross River State: A Study of Wilmar International Limited

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[144] Abstract
Foreign Direct Investment (FDI) has been perceived as the best strategy for achieving agro-technology development in most developing economies. The study investigates the impact of Wilmar International Limited on the transfer of agricultural technology in Biase Local Government Area of Cross River State, Nigeria. The study is anchored on the dependency theory to explain how FDI's impacted on agro-technology development in Biase Local Government Area. The study adopts both primary and secondary methods of data collection. Documentary data such as journal articles, internet materials, textbooks and seminar papers are used for the secondary method, while the survey research design was used for the primary method. Data used for analysis were obtained through the use of structured questionnaires. The analytical technique employed was chi-square. The findings revealed that Wilmar International Limited has a significant impact on the transfer of agricultural technology in the host communities of Biase. However, further than the economic benefits, Wilmar International Limited needs to do more in their corporate social responsibility to the host communities to provide modern farm inputs such as land cultivator machine, palm fruits harvester, inorganic fertilizers, palm fruit processing and refining machine and also need to support the communities through provision of roads, hospitals, schools, electricity and drinkable water to them. On the side of the state government, there is need for a good leadership that will fight systemic corruption and ensure that the laid down agreement that will bring about positive impact in the agricultural sector is enforced.

Keywords: Agricultural development, Dependency FDI, Technology transfer

1.0 **Introduction**

Much like in many climes, foreign direct investment (FDI) is seen as one of the most important channels of technology transfer and economic development. The discourse on agro-technology development largely stems from the fact that international actors have devised a means to bring about sustainable global food security and economic development through foreign direct investment. But such policies and strategies seem to have created more challenges than solutions in the agricultural sector of most developing economies.

FDI is assumed to be one of the most important media of agro-technology development, economic diversification, employment generation, food security, poverty alienation and crime reduction in most developing countries (Akpan, 2017). The above assertion underscores the continued increase in poverty indices, rising crime rate and disenchantment in the Nigerian and other developing economies with regard to FDI operations. The paper seeks to investigate the role played by Wilmar International limited in agro-technology development in Biase Local Government Area of Cross River State, Nigeria.

2.0 **Conceptual Clarifications**

It is necessary to clarify the key concepts introduced in this paper – "foreign direct investment" and "technology transfer" – in order to enrich the knowledge and understanding of the issues being discussed. This is important given the fact that there is no universally acceptable definition of the variables under study, so as to come out of this "conceptual problem"(Piate 2013; Piate, 2014; Piate, 2017; Piate and Eminue, 2022 and Piate 2025)

Foreign Direct Investment (FDI) generally refers to investments by individuals, groups, corporations, transnational firms and governments of a particular country who move investment capital across national boundaries to other international boundaries, with the anticipation of making surplus profit (Agada and Okpe, 2002). In the same light, FDIs consist of foreign capital such as technology, managerial expertise and material resources which have considerable impact on the host nation's production capacity (Shiro, 2009).

Technology transfer: According to Derakhshani (1983), technology transfer as the "acquisition, development and utilization of technological knowledge by one country other than that in which this knowledge originated". This knowledge can be transferred through training and education, which could include training on how to effectively manage technological processes and changes. In the same vein, Samli (1985) believes that transfer of technology is the transmission of technical know-how to suit local conditions, effective absorption and diffusion both within a country and from one country to another. Fransman (1986) defines the international transfer of technology as a process whereby knowledge relating to the transformation of inpts into outputs is acquired by entities within a country (for example, firms, research institute, etc) from sources outside that country".

Wilmar International Limited: This is a Singaporean-based multinational conglomerate with the largest market share of palm oil trade in the world. They own some of the largest oil palm plantations in the world and are the largest palm fruit refiner in Indonesia and Malaysia. They are also the largest supplier of edible oil to China (Wilmar Annual Report, 2014).

This paper is composed of four sections. The first section is the introduction; in the second section, an attempt is made to understand the nexus between FDI and technology transfer. Section three focuses on the theoretical framework and methodology. The conclusion and recommendations are contained in section four.

3.0 FDIs and Technology Transfer

Foreign direct investment (FDI) have played an important role in promoting economic growth and development through provision of investment capital, stimulating market competition, generation of jobs, transfer of agricultural technology and facilitate healthy business environment for local trade and enterprise development (Bennett, 2005). According to Msuya (2007), FDIs are believed to contribute immensely to the financing of agricultural projects and transfer of needed technology to host farmers in developing countries. It was also observed that the rationale for increased efforts to attract more FDIs stems from the belief that FDI has several positive effects on the domestic economy, among them are the productivity gains, technology transfers, employee training, international production networks and access to global markets (Caves, 1996). It is also believed that FDI encourages the inflow of technology, skills and fills the gap between domestically available supplies of savings, especially foreign exchange (Lall, 2002). Furthermore, FDIs contribute to economic growth of Nigeria by providing the domestic economy with a source of foreign skills, technology, managerial expertise and human resource development through international training and collaboration (Onu, 2012).

This review shows that the argument on the impact of FDIs on economic growth and development is far from being conclusive. The role of FDIs seems to be country specific and can have either positive or negative impacts, or even insignificant, depending on the strength of governmental institutions, level of economic growth and the technological advancement of the recipient countries. For instance, Solomon and Eka (2013) investigated the relationship between FDI and the economic growth in Nigeria. The study covered a period of 1981-2009 using an annual data from Central Bank of Nigeria statistical bulletin, a growth model through the ordinary lease square method was deployed to ascertain the correlation between FDI and economic growth in Nigeria. The result of the OLS technique indicated that FDIs have no much impact on the agricultural sector but has a significant impact in the banking, transportation, construction, telecommunications and service sectors with little or no additional value on the Nigerian economic development of the period under study (Solomon and Eka, 2013).

4.0 Theoretical Framework and Methodology

From the aforementioned literatures, its clear that much has not been discussed on FDIs and agro-technology development in Nigeria. This paper intends to cover this gap in the literature.

Theoretical framework The study is anchored on dependency theory in order to explain how foreign direct investments (FDIs) impact on agro-technological development in Cross River State, Nigeria. This theory explains how the economic development of a particular state or country is determined by external influences (both political, economic and cultural) on national development policies (Sunkel, 1969). Furthermore, dependency theory is seen as a conditional situation in which the economics of a certain group of countries is conditioned and subordinated by the development and expansion of another economy, to which their own is subjected (Dos Santos, 1971, p.226). Dependency theory is appropriate for this study because it explains how the Cross River State agricultural sector needs the transfer of modern technology through the investment of Wilmar International Limited in Biase L.G.A. of the State.

Methodology In carrying out this research, the study adopts both primary and secondary methods of data collection. Documentary data such as journal articles, internet materials, seminar papers, textbooks and pamphlets are used for the secondary method, while structured questionnaire through the application of survey research design was used for the primary method. The choice of this design was due to the fact that it enriches data collection.

***Study Area**:* The study was carried out in Idoma, Ehom, Betem, Akpet and Wilmar International Limited of Biase Local Government Area in Cross River State, Nigeria.

Study population: The population for the study consist of four hundred (400) members which were randomly selected from the five communities namely: Idoma, Ehom, Betem, Akpet and Wilmar Staff, that donated their land to Wilmar International Limited for their operation. The choice of this target population was to ensure that firsthand information needed for the successful prosecution of this study was elicited.

Table 1.1: SUMMARY OF QUESTIONNAIRE ADMINISTERED TO RESPONDENTS

Respondents communities	Questionnaire administered	Questionnaire returned	Questionnaire not returned
Idoma	120	110	10
Ehom	70	65	5
Betem	94	85	9
Akpet	60	55	5
Wilmar staff	56	45	11
Total	40	360	40
Percentage	100%	90%	10%

Source: Authors Field Survey, 2021

From the above table 1.1, 400 (100%) questionnaires were administered to selected respondents, 360 (90%) questionnaires were duly filled and returned, while 40 (10%) questionnaires were either not filled or were not returned. The study was based on the questionnaires returned which is 360 (90%). This figure is very significant, as it will help us achieve our objective.

5.0 Data Analysis and Results

Test of hypothesis: The following hypothesis were formulated.

Ho: FDIs has no significant relationship with the transfer of agro-technology in Biase LGA?

Hi: FDIs has significant relationship with the transfer of agro-technology in Biase LGA.?

The data collected was analysed using stable and chi-square representing FDIs and agro-technology development in Biase L.G.A of Cross River State.

Table 1.2: STATISTICAL DISTRIBUTION FOR THE QUESTION, DOES WILMAR INTERNATIONAL LIMITED TRANSFER AGRICULTURAL

Response	**Respondents**					**Total**
Agree	95	60	78	51	42	326
Disagree	3	1	2	3	1	10
Undecided	12	4	5	1	2	24
Total	110	65	85	55	45	360

Source: Authors Field Survey, 2021

The above table is computed using chi-square formular

$$X^2 = \frac{\sum(o - e)^2}{e}$$

For the expected frequency, the formular is thus:

$$ef = \frac{RT \times CT}{GT}$$

RT = Row Total

CT = Column total

GT = Grand total

The expected frequency for each cell is computed as follows:

e of 95	=	$\frac{110 \times 326}{360}$	= 99.61
e of 60	=	$\frac{65 \times 326}{360}$	= 58.86
e of 78	=	$\frac{85 \times 326}{360}$	= 76.97
e of 51	=	$\frac{55 \times 326}{360}$	= 49.81
e of 42	=	$\frac{45 \times 326}{360}$	= 40.75
e of 3	=	$\frac{110 \times 326}{360}$	= 5.05
e of 1	=	$\frac{65 \times 326}{360}$	= 1.81
e of 2	=	$\frac{85 \times 10}{360}$	= 2.36
e of 3	=	$\frac{55 \times 10}{360}$	= 1.53
e of 1	=	$\frac{45 \times 10}{360}$	= 1.25
e of 12	=	$\frac{110 \times 24}{360}$	=7.33
e of 4	=	$\frac{65 \times 24}{360}$	= 4.33
e of 5	=	$\frac{85 \times 24}{360}$	=5.67
e of 1	=	$\frac{55 \times 24}{360}$	=3.67
e of 2	=	$\frac{45 \times 24}{360}$	=3

Table 1.3: COMPUTED CHI-SQUARE ON DOES WILMAR INTERNATIONAL LIMITED TRANSFER AGRICULTURAL TECHNOLOGY TO RURAL FARMERS IN BIASE LOCAL GOVERNMENT?

Cell	O	E	o-e	$(o-e)^2$	$\sum(o-e)^2$
1.	95	99.61	-4.61	21.25	0.213
2.	60	58.86	1.14	1.30	0.022
3.	78	76.97	1.03	1.06	0.014
4.	51	49.81	1.19	1.42	0.029
5.	42	40.75	1.25	1.56	0.038
6.	3	3.05	-0.05	0.0025	0.001
7.	1	1.81	-0.81	0.66	0.36
8.	2	2.36	-0.36	0.13	0.055
9.	3	1.53	1.47	2.16	1.412
10	1	1.25	0.25	0.06	0.048
11.	12	7.33	4.67	21.81	2.975
12.	4	4.33	-0.33	0.11	0.025
13.	5	5.67	-0.67	0.45	0.079
14.	1	3.67	-2.67	7.13	1.943
15.	2	3	-1	1	0.333
	360	360			7.547

Source: Authors Field Survey, 2021

X^2 = 7.547
Degree of freedom = (R – 1) (C – 1)
Df = (3 – 1) (5 – 1) = (2) (4) = 8
Df = 8
Critical value = 7.344
Alpha = 0.5

Decision rule: If the calculated chi-square value is greater than the tabulated critical value, accept the alternative hypothesis and reject the null hypothesis.

Since the computed chi-square value (7.547) is greater than the critical value (7.344) at 0.5 level of significance, we accept the alternative hypothesis and reject the null hypothesis which states that there is significant relationship between Wilmar International Limited and transfer of agricultural technology to rural farmers in Biase LGA of Cross River State.

6.0 Discussion of Findings

Starting with the hypothesis that assumes that the foreign direct investment through Wilmar International Limited has a significant relationship with the transfer of agro-technology in Biase L.G.A of Cross River State. The findings of this study clearly show that Wilmar International Limited promotes agro-technology development in the host communities of operations. The collective views of indigenous Wilmar staff and the members of the Biase communities have proven that the presence of Wilmar International Limited investment has brought about significant progress in the transfer of modern agricultural technology to the rural farmers, such as improved palm fruits, improved nursery seedlings, improved palm oil processing machines, and inorganic fertilizer in the communities. These findings align with Borensztein (1998) view that FDIs are seen as an important vehicle for the transfer of technology, modern equipment and contribute to the economic growth through employment generation, increase in GDP and revenue to the government in a larger measure than the domestic investment. The findings of this study also go in support with Ozughdu and Ogwumike's (2013) view that FDI is also expected to provide useful capital, requisite technology and investments that would facilitate significant economic growth and development in the host country.

7.0 **Conclusion and Recommendations**

Conclusion FDIs has been considered to play an important role in promoting economic growth and reducing poverty by providing capital, stimulating market competition, creating jobs, technology transfers, skilled development, enhancement of business competitive environment and contribution to international trade integration through globalization. However, other than economic benefits, FDIs supposedly aid in the improvement of environment and social conditions of host countries, by relocating modern technology and guiding them to more socially responsible corporate policies.

The introduction of the Wilmar International Limited is a welcome development, going by the collective views of the members of the host communities that the presence of Wilmar International Limited has yielded the aforementioned benefits, such as agro-technology development and transfer of modern farm equipment to the host communities and Cross River State, Nigeria at large.

Recommendations Based on the findings of the study, the following recommendations are suggested: (a) Cross River State government should ensure that Wilmar International Limited abides by the bilateral agreements signed in area of transfer of agricultural technology to farmers in the host communities. (b) The Cross River State government should ensure that Wilmar International Limited discharges its part of their corporate social responsibility to the host communities, by providing modern farms inputs such as land cultivator machines, palm fruits harvesters, palm fruit processing and refining machines and also make available modern inorganic fertilizers to the farmers.(c) Wilmar International Limited should keep to the commitment of the transparency principle, thereby protecting the host environment through provision of roads, hospitals, schools, markets, electricity and drinkable water for them. (d) Cross River State government should sign a policy that will enforce Wilmar to improve on the welfare of the indigenous field workers and also incorporate them into the managerial cadre of the company. (e) Good leadership that will fight systemic corruption to make sure that all foreign direct investment in the state adheres to the laid down agreements that will bring about positive impact in the agricultural sector of the state. (f) Wilmar International Limited should reach agreement with the Landlord communities and also compensate them. (g) There is need for the state government to step up the security network around Wilmar International Limited Farms and estates to curtail criminal activities in the area.

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