THE ROLE OF FOREIGN DIRECT INVESTMENT IN ENVIRONMENTAL SUSTAINABILITY IN AFRICA

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ABSTRACT

Addressing the issue of climate change and its impact in today's world is now of pre-eminence priority for many investors looking to expand or relocate their business in developing countries in the post-pandemic era. Expectedly, these effects on one hand have the potential of improving standards of production while achieving net zero buildings by funding green technology campaigns and transferring outdated technology that emits higher levels of carbons, methane and dangerous gaseous matter on the other hand. This negative impact can be attributed to lax environmental regulations and non-compliance of the same by multinational enterprises. Fortified with the relevant literature, this research distils the concepts of Foreign Direct Investment (FDI) and environmental sustainability highlighting the rationale behind the concepts and examining the determinants that drive FDI inflow into Africa. Whilst appreciating the role of FDI on the health of the environment, it finds that FDI activities in host communities have positive and negative impacts on the environment. Progressively, this study recommends that the legal framework for environmental regulation be strengthened, enforced and complied with. This will help developing countries keep track of FDI in their communities, discourage all pollutant machinery, and encourage the adoption of clean technology to maintain a sustainable environment. With the aid of the doctrinal research methodology, this research adopts qualitative, descriptive and analytical research methods while the research data are primarily from secondary sources. These include journal articles, books on the relevant subject matter, working papers, periodicals, reports and, the

writings of qualified columnists as seen in economic and business websites and other online sources.

Keywords: Foreign Direct Investment, Environmental Sustainability, Carbon Emission, and Clean Energy.

INTRODUCTION

Nigeria and other developing economies surely cannot be left behind while developed countries are tapping the potential of Foreign Direct Investment (FDI). Only recently did these developing States start moving from relatively closed growth strategies to more open market-driven regimes.[649] Thus, trade barriers have been dismantled, regional trading blocs have been established, stiff investment legislative frameworks are being revisited, and there has been a proliferation of private investment flows - to sum it up, Africa has even come up with the largest free trade continental agreement (the AfCFTA) which promises to liberalize trading. But even as it is strongly believed that FDI will usher multiple value chains, and industrialization, and drive positive economic growth in the long run, serious concerns have been raised regarding its impact on the environment.[650] This is also becoming more pronounced in a world where there is an ongoing campaign to foster a low-carbon emission, environmentally sustainable, and climate-resilient society.[651]Moving on, while most of the commentators posit that FDI causes environmental damage by the emission of

[649] Marian Omojimite, 'Foreign Direct Investment and Sustainable Development in Sub-Saharan Africa' (PhD Thesis: 2018, University of Stirling).

[650]Prince Nwafuru, 'As more countries are ratifying the AfCFTA – What does it mean to you? (2021) <https://nairametrics.com/2021/08/21/as-more-countries-are-ratifying-the-afcfta-what-does-it-mean-to-you/> accessed 27 May 2023

[651] Environmental Sustainability: All You Need to Know (CleanHub) <https://blog.cleanhub.com/environmental-sustainability> accessed 23 May 2023

carbon IV oxide (Co2) and other dangerous gaseous matter, others seriously contend that FDI improves the quality of the environment.

Be that as it may, this paper will add to the existing literature on this subject by suggesting that there should be a flexible approach to determine this issue while practical solutions are underway. For instance, a number of factors should be taken into consideration like a) whether the appropriate control measures exist in the State and b) the sectors of the economy that foreign direct investors target. To bring these points home, this paper will examine the factors responsible for FDI in Africa and, the impact and limitations on environmental sustainability. The objective being to bring to the fore, efforts that have been invested in the aspects of environmental sustainability through FDI and recommend ways to accelerate Africa's sustainable development goals of clean earth and climate action. To this end, it has included African case studies to understand the inflow and utilization of FDI for these goals. Consequently, it will proffer other solutions that will address the negative impacts of FDI on environmental sustainability.

CONCEPTUALIZATION OF TERMS: FDI, ENVIRONMENTAL SUSTAINABILITY.

Several authors have made an attempt to define the concept 'FDI'. Eurostat, the Official website of the European Union sees FDI as the category of international investment that reflects the objective of obtaining a lasting interest by an investor in one economy in an enterprise resident in another economy. The lasting interest implies that a long-term relationship exists between the investor and the enterprise and that the investor has a significant influence on the way the enterprise is managed. Such an interest is formally deemed to exist when a direct investor owns 10% or more of the voting power on the board of directors (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise).[652] It continues by suggesting that there are two kinds of FDIs. That is a) the creation of productive assets by foreigners, and b) the purchase of existing assets by foreigners (for example, through acquisitions, mergers, and takeovers).[653] The OECD[654] equally aligns with this definition and submits that (FDI) is a category of cross-border investment in which an investor resident in one economy establishes a lasting interest in and a significant degree of influence over an enterprise resident in another economy.[655]

FDI must be distinguished from Foreign Portfolio investments (FPI). First, FPIs are viewed less favourably than direct investments because portfolio investments can be sold off quickly and are at times seen as short-term attempts to make money, rather than a long-term investment in the economy.[656] FDIs on the other hand tend to involve establishing more of a substantial, long-term

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652 Eurostat: What Are Foreign Direct Investments (2023) <https://ec.europa.eu/eurostat/web/economic-globalisation/globalisation-in-business-statistics/foreign-direct-investments#:~:text=Foreign%20direct%20investment%20(FDI)%20is,enterprise%20resident%20in%20another%20economy.> accessed 1June 2023

653 Ibid. FDI may be seen as an Alternative Economic Strategy.

654 Organization for Economic Cooperation and Development.

655 OECD: Foreign Direct Investment (24 March 2023) <https://www.oecd-ilibrary.org/finance-and-investment/foreign-direct-investment-fdi/indicator-group/english_9a523b18-en> accessed 1June 2023

656 J B Maverick and Andy Smith, 'Foreign Portfolio vs. Foreign Direct Investment: What's the Difference? (Investopdeia: 16 January 2022) <https://www.investopedia.com/ask/answers/060115/what-difference-between-foreign-portfolio-investment-and-foreign-direct-investment.asp> accessed 1 May 2023

interest in the economy of a foreign country[657] which are usually undertaken by multinational companies, large institutions, or venture capitalists.[658]

However, 'Environmental Sustainability' is the effort geared towards the maintenance of the environment and its bodies. Such efforts include the reduction of use of fossil fuels and non-renewable energy, the reduction of net-carbon emission to mention a few.

FACTORS RESPONSIBLE FOR FOREIGN DIRECT INVESTMENT IN AFRICA

Vibrant Market and Growth Rate

This factor is considered to be the most important to a robust FDI. Studies show that the simplest formula for attracting FDI is by increasing the size of the local market. When a country enjoys a prosperous domestic market, this builds a large-scale economy and translates to more FDI flows. In the same vein, a growing market would invariably highlight the potential of a strong market.[659] Southern Africa has shown to be a large, formidable market and this has influenced major Asian multinational enterprises (MNEs) in locating their

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[657] Ibid.
[658] Ibid.
[659] Steve Onyeiwu and Hemanta Shrestha, 'Determinants of Foreign Direct Investment in Africa' (2004) *Journal of Developing Societies 20*(1–2) 89–106.

subsidiaries in Swaziland and Lesotho.[660] In Sub-Saharan Africa, market size and growth is the most visible and effective enabler of FDI.[661]

The Abundance of Natural Resources

Since the Berlin conference on the scramble for Africa, European and North American countries have continued to find ways of tapping into the natural resources Africa is blessed with in a bid to secure the supply of natural and mineral resources. This is a motivation for attracting FDI in Africa.[662] Thus, the higher the volume of natural resources a host country offers, the heavier the FDI inflows such as Angola, Mauritius and Nigeria.[663] MNEs tend to invest in countries that have enormous raw materials needed for the operations of their businesses.

Skilled and Cheap Labour

The importance of skilled labour cannot be undermined because the crux of business is having a quality product. Skilled labour means improved quality and quantity of production or the highest level on an average for the barest minimum which makes it cost-effective for businesses. The minimum wage in Nigeria as of 2023 is N30, 000 ($70) compared to the wages of other African countries and other continents generally. In China, it is $255 which means the MNEs and

[660]Anupam Basu and Krishna Srinivasan, Foreign Direct Investment in Africa-Some Case Studies (March 2002). IMF Working Paper No. 02/61 <https://ssrn.com/abstract=879545> accessed 20 May 2023

[661] Anthony Bende-Nabende (2002). Foreign Direct Investment Determinants in Sub-Sahara Africa: A Co-integration Analysis. *Economics Bulletin* 6(4) 1–19.

[662] John Dunning "Multinational companies and the global economy." *Reading MA, Addison-Wesley* 32 (1993) 165.

[663]BoopenSeetanah, and RojidSawkut, "The determinants of FDI in Mauritius: a dynamic time series investigation." *African journal of economic and management studies* (2011).

European businesses are getting the same value at cheaper rates in Africa which makes it desirable for business models to invest and locate their systems and factories here.

Availability of Quality Infrastructure

Quality infrastructure specifically roads, ports, telecommunications, energy and power supply encourage investments.[664] Thus, infrastructure facilities are projected to have a positive impact on FDI inflows to developing countries. In order to maximize FDI in a national economy, machinery and technologies must be sufficiently updated and fully working. This allows locals to exploit spillovers that foreign companies create in the various localities. When host countries strike a balance between maximizing benefits and minimizing costs by undertaking measures, to install and operate relevant and up-to-date facilities and infrastructure, this attracts FDI and keeps foreign reserves in bloom. It makes it easier, therefore, for national enterprises to integrate these innovation spinoffs in their domestic production or business processes.[665]

Economic and Political Risks

Risks as a concept is a determinant of major economic and political decisions one has to make. Political risks refer to the negative influence that affects businesses as a result of the consequences of politics, politicians and political

[664]David Wheeler and Ashoka Mody (1992) 'International investment location decisions: The case of US firms.' *Journal of international economics* 33 (1-2) 57-76.

[665] Committee on International Investment and Multinational Enterprises (2002), Foreign Direct Investment Development Maximising benefits, minimizing costs Report, OECD <https://www.oecd.org/investment/investmentfordevelopment/1959815.pdf> accessed 11 May 2023

events.[666] These include wars e.g. the Russian-Ukraine War, the Fulani herdsmen attack in Southern Nigeria, Military Coup in Cameroon, Sudan War but to mention a few. These risks and the methods employed by their state in quelling them have a pivotal role in investment. On the other hand, economic risks refer to influences from a financing perspective, for example, credit risks, financial and consumer behaviour, market strength etc. Africa has continued to suppress threats of violence and political risks that may disrupt FDI inflows. This is evident in their peaceful change of government and electioneering processes seen in Nigeria's 2019 election and 2022 Central African Republic's 2022 General elections. The international community hopes that this trend can be sustained as it would enhance FDI inflows.

Domestic Incentives

Foreign direct investment incentives may be in form of low corporate and income tax rates, special economic zones, investment financial subsidies, soft loan or loan guarantees, land subsidies and land gifts, expatriation subsidies, job training and employment subsidies, infrastructure subsidies, research and development support and exemption from regulations, usually for very large

[666] Elizabeth Asiedu (2006), Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability. *World Economy*, 29(1) 63–77.

projects.[667] In addition to traditional variables and government policies in attracting FDI to Africa, tax holidays are important.[668]

THE IMPACT OF FDI ON ENVIRONMENTAL SUSTAINABILITY IN AFRICA

It cannot be contested that environmental conditions such as pollution, poor sanitation and depletion of forest reserves and natural resources, in recent years have been a source of concern for both developed and developing States.[669] For instance, Status reported that in 2017, Co2 increased by 1.7% globally when compared to other figures.[670]According to the World Bank, in Sub-Saharan Africa, carbon emissions (in Kilotons of Co2) increased from 806,537.52 in 2013 to 853,107.13 in 2016.[671] However, that research also noted that the quantum of Co2 in the region had doubled previously in 2014 by a 7.5%

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667 Seth Nana Kwame Appiah-Kubi, 'The Impact of Corporate Governance Structures on Foreign Direct Investment: A Case Study of West African Countries' (2020) Sustainability 12(9) 3715 <https://www.researchgate.net/publication/341121488_The_Impact_of_Corporate_Governance_Structures_on_Foreign_Direct_Investment_A_Case_Study_of_West_African_Countries> accessed 26 May 2023

668 Emmanuel Cleeve, 'How Effective are Fiscal Incentives to Attract FDI to Sub-Saharan Africa? (2008) *The Journal of Developing Areas*, 42(1) 135–153.

669 Emmanuel Duodu and Others, 'Foreign Direct Investments and Environmental Quality in Sub-Sahara Africa: The Merits of Policy and Institutions for Environmental Sustainability' (19 March 2021) DOI: <https://doi.org/10.21203/rs.3.rs-271478/v1> accessed 27 May 2023

670 International Energy Agency: Global energy and CO2 status report—the latest trends in Energy and Emissions in 2018. (2019) <https://www.iea.org/reports/global-energy-co2-status-report2019/emissions#abstract> accessed 27 May 2023.

671 United Nations Conference on Trade and Development: World Investment Report 2019: Investment and New Industrial Policies. Geneva: United Nations Conference on Trade and Development (2019) from <https://unctad.org/news/foreign-direct-investment-africa-defies-global-slump-rises-11> accessed 27 May 2023

increase.[672] There is the Global Energy Report of 2021 which reveals that carbon emissions from energy combustion and industrial processes combined reached the highest level in 2020 and 2021 at 36.3 gigatons in Africa[673] compared to its previous 66,300 in 2012 and 101,420 in 2019 according to the World Bank report.[674]

What is more, for Baloch, the essentials of human life, such as health, natural and physical capital and access to water, food and land are prone to climate change if we continue to have these figures at an increasing level.[675] Thus, these environmental concerns have brought about a global movement to combat climate change and global warming. There is the Paris Agreement,[676] there is the Kyoto Protocol,[677] and there is also the Basel Convention[678] which is targeted at mitigating the effects of Co2 emissions on the environment. Now, how does the FDI come in here? First, it is generally thought that FDI can complement domestic capital to foster economic growth and development given its benefits.[679] Truly, FDI flows to Africa have risen by USD 32 Billion in 2018,

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672 Ibid.
673 Ibid.
674 Ibid.
675 Baloch MA and Wang B, 'Analyzing the role of governance in CO2 emissions mitigation: The BRICS Experience (2019) 51 *Structural Change and Economic Dynamics* 119-125. <https://doi.org/10.1016/j.strueco.2019.08.007>.
676 The Agreement is a legally binding international treaty. It entered into force on 4 November 2016.
677 The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. There were 192 parties (Canada withdrew from the protocol, effective December 2012).
678 The Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries. The convention was opened for signature on 21 March 1989, and entered into force on 5 May 1992. As of September 2022, there are 190 parties to the convention. In addition, Haiti and the United States have signed the convention but not ratified it.
679 Ibid.

representing a 13% increase when compared to the preceding two (2) years, which stood at USD 28.5 Billion according to the UNCTAD's World Investment Report.[680] Again, it is not in doubt that given the economic immerse benefits of FDI, pundits assert that it will pioneer economic stimulation through access to skills and management expertise, exchange of technology and employment creation to mention a few.[681]

FDI has redesigned the world of financing for developing countries. It has attracted multinational companies to establish their businesses in vibrant markets of their host countries. However, this has brought positive and negative impacts to these developing economies, especially in respect of environmental sustainability. On the positive wing, it attracts firms which are buoyant enough to acquire and utilize energy-efficient and environmental-friendly technology that reduces carbon emissions thereby increasing the quality of life.[682] This encourages a less pollutant domestic industry as a result of the influence of these major market players. This is not surprising considering the fact that the repatriated companies already (and are forced to) comply with international and/or their home countries' stringent environmental regulations and standards, particularly if they intend to export these products to OECD markets. Furthermore, these foreign firms have a business reputation to protect and

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[680] Ibid.

[681] Prakash Loungani and Assaf Razin, 'How Beneficial Is Foreign Direct Investment for Developing Countries?' <https://www.imf.org/external/pubs/ft/fandd/2001/06/loungani.htm> accessed 27 May 2023.

[682]Myeong Hwan Kim and NodirAdilov, The lesser of two evils: an empirical investigation of foreign direct investment-pollution tradeoff (2012) *Applied Economics* 44(20) 2597-2606,<10.1080/00036846.2011.566187> accessed 29 May 2023

financial implications in terms of fines should they fail to comply.[683] On the other hand, studies prove that inward FDI has the effect of increasing carbon emissions in developing countries.

It can even be traced to the lax environmental regulatory framework of the host countries usually the labour-intensive countries that exposes the system to exploitation.[684] For instance in Cote d'Ivoire, the energy consumption of manufacturing plants by foreign companies and syndicates indicate a significant contribution to overall carbon emissions output.[685] Another contributing factor to this negative impact is the transfer of outdated machinery. To a large extent, the manufacturing machinery used in Nigeria are, outdated technologies rejected by the home countries of the investors. Leighton and others report that foreign-owned plants and machinery in the petroleum industry in Nigeria did not transfer and adopt the same energy-efficient processes used in their home countries rather, carried on environmental practices proscribed in their home countries.[686] This seems to be the order of the day which can be blamed on the absence of a strong environmental lobby in Nigeria that would keep direct

[683] Ka Zeng and Joshua Eastin, 'Do developing countries invest up? The environmental effects of foreign direct investment from less-developed countries' (2012) *World Dev*. 40(11) 2221–33
[684] Robert Elliott and Ying Zhou, 'Environmental Regulation Induced Foreign Direct Investment', (2013) *Environment & Resource Economics* 55(1) 141–58
[685] Gunnar Eskeland and Ann Harrison, 'Moving to greener pastures? Multinationals and the pollution haven hypothesis' (2003) *Journal of Developmental Economics* 70(1) 1–23
[686] Michelle Leighton and others, 'Beyond Good Deeds: Case Studies and a New Policy Agenda for Corporate Accountability' (2002) Berkeley: National Heritage Institute <https://www.semanticscholar.org/paper/Beyond-Good-Deeds%3A-Case-Studies-and-A-New-Policy-Leighton-Roht-Arriaza/53be6319fd50957dd08949a47f7d5e43bbdc86d0> accessed 30 May 2023

investors in check. From the above, there appears to be a pollution trade-off in order to enjoy the benefits of FDI.[687]

The increasing campaign for global warming and call to climate action has necessitated the need for investors to pool resources toward green technology and innovation in the environment. However, there is still weak compliance with the inward flow of FDI. Cole and others, find that foreign direct investors in the Republic of Ghana are more likely to utilize electricity to power their machinery as opposed to solid and liquid fuels, which are cleaner sources of energy.[688] The study also considers the education of the CEOs of these plants and defines a relationship between foreign-trained CEOs and energy transition. The impacts of having a foreign-trained CEO include the introduction and utilization of green technology, technical know-how on proper maximization of these technologies and their foreign training and expertise. According to Cole and others, statistics revealed that all these factors invariably reduce energy intensity in Ghana.[689]

Emmanuel Duodu and others from their research while employing the Generalized Method of Movement (GMM) System have argued that FDI improves environmental quality in the long run, whereas in the short run, it diminishes the environmental quality but can be improved when interacted with policies and institutions for environmental sustainability.[690] They continued by positing that those who argue that FDI impacts the environment negatively

[687] Matthew Cole and others, 'Foreign Direct Investment and the Environment', (2017) *Annual Review of Environment and Resources* 42(1) 465-487

[688] Matthew Cole and others, 'The Environmental Performance of Firms: The Role of Foreign Ownership, Training, and Experience' (2008) *Ecol. Econ*. 65(3) 538–46.

[689] Ibid.

[690] Ibid.

failed to consider the merit of policy and institutions for environmental sustainability which reflects the extent to which FDI foster the protection of the environment and management of pollution.[691] To seal their points, they contend that FDI can be channeled to different areas of the economy such as manufacturing, mining, and extraction so that all of them cannot have the same level of impact on the environment.[692] Hou Renyong and Aman Ali Sedik in their scholarly publication toed the same line of analogy with Emmanuel Duodu but focuses on eighteen (18) East African countries to determine the relationship between FDI and environmental quality.[693]

Armed with the GMM method of research here, they concluded that FDI when associated with environmental sustainability policies and institutions improves quality in the long run while degrading it in the short run. In any case, research conducted in 2014 in forty-four (44) African States using the Dumitresu & Hurlin's Grage casualty tests and the Pooled mean group estimator[694] finds that while economic growth and FDI have a significant positive effect on environmental quality, the renewable energy consumption impacts the environment negatively by increasing the number of Co2 emissions.[695] Moving on, in a PhD thesis by Ralph Marenga and others which examined this issue in details the extent FDI limits environmental sustainability they conceded that foreign companies are increasingly mobile, searching sub-Saharan Africa for

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[691] Ibid.
[692] Ibid.
[693] Hou Renyong and Aman Ali Sedik, 'Environmental Sustainability and Foreign Direct Investment in East Africa: Institutional and Policy Benefits for Environmental Sustainability' (12 January 2023) <https://doi.org/10.3390/su15021521> accessed 26 May 2023
[694] Ibid.
[695] Cited in Emmanuel Duodu (n 14).

markets and agglomeration economies and trying to avoid the cost of business operations in the western world. As regards the subject at hand, they employed the extended stochastic impart method by regression on population, affluence and technology (STIRAPT) Framework.[696] With a comparative analysis in mind, while also highlighting the short-run and long-run dynamics between Co2 emissions and its determinants-conclude that economic growth and developments are key determinants of Co2 emissions in Nigeria and South Africa for instance.[697]Their suggestion is that strengthening governance and democratic institutions could improve environmental sustainability.

Bediako and others examined the effects of FDI on environmental quality in West Africa and also tested empirically the existence of the pollution haven hypothesis. Using carbon dioxide emission as a proxy for environmental quality, they employed the random/fixed effects model on ten-year panel data for all sixteen countries in West Africa.[698] Their conclusion is that FDI inflow to West Africa harms its natural environment and that it will constitute a pollution haven in West Africa. That being said, it is apparent that anything that will impact the environment negatively should be seriously looked into. Thus, if urgent, concerted action is not taken to restrain the growth in those emissions, there is likely to be a warming of 4°C (7°F) or more by 2100, the consequences of which will be catastrophic for human civilization.

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[696] Ibid.
[697] Ibid.
[698] Bediako and others, 'Effects of Foreign Direct Investment on Environmental Quality in West Africa' (2022) 30 (2) *West African Journal of Applied Ecology* 86-93.

All of these impacts will be magnified and exacerbated as temperatures continue to rise over the coming decades, and as many millions of people are displaced by sea-level rise, drought or other climate change-related conditions. As Joseph Romm underlines, food insecurity is also bound to increase in a world likely to contain nine billion people by the middle of the century and changes in average temperature and rainfall have an adverse effect on food quantity and quality.[699] According to the 2013 Nigeria National Policy on Climate Change, scientific evidence is conclusive that climate change is aggravating environmental issues such as deforestation and land degradation, freshwater shortage, food security, and air and water pollution. In Nigeria, the agriculture and food security, water resources, public health and housing/settlements sectors are particularly vulnerable to climate change. The most vulnerable regions are the coastal states, erosion in the southeastern region and desertification–prone areas in the northern parts of the country respectively. While everyone is potentially vulnerable, the most vulnerable groups are farmers, fishermen, the elderly, women, children, and the disabled and poor people living in both rural and urban areas.[700]

RECOMMENDATIONS

Despite the successes of the past, Nigeria has struggled to attract foreign direct investment lately. New data reveals that Nigeria hit an all-time low in the first quarter of 2023, by dropping 33% from 2022’s closing figures. It plunged to

[699] UNICEF Office of Research (2014) ‘The Challenges of Climate Change: Children on the front line’, Innocenti Insight, Florence: UNICEF Office of Research.

[700] Muhammed TawfiqLadan, ‘Responding to Climate Change and Addressing Inequalities for Inclusive and Sustainable Development in Nigeria,’ being a paper presentation made at: The Inaugural Retreat for members of the House of Representatives committee on the sustainable development goals (SDGS).

$468.91 million dollars from $698 million.[701] Reasons accounting for these figures are bad government policies and, the government's hesitation in adopting market-friendly and contemporary reforms. The challenges of doing business in Nigeria have made investors pull away from the country amongst dollar and cryptocurrency restrictions including the exit of Shoprite Ltd in 2022 after 16 years of business operations in Nigeria. Since the FDI boom of 2008 when Nigeria attained $4.7 billion in direct investment, the scale of FDI has continuously declined.[702] The Nigerian government has no viable alternative than to let its guard down on the numerous restrictions. However, the Nigerian government has to understand contemporary business models and retract the foreign currency restrictions and consider alternative ways of growing domestic currency.

There are plethora of challenges that investors face in the fight against climate change, and achieving the set targets of SDG13, but also many opportunities. Foreign Direct Investors must embrace climate action and place climate change as a top priority in their operations. FDI movers should enhance innovation and new technologies that take part in the reduction of GHG emissions like promoting the transfer of advanced technology that assists in achieving cleaner energy. Home-country governments need to audit the impacts of their technology policies on the transfer of technologies to the host countries.

[701] Anthony Osae-Brown, 'Nigeria FDI Slumps by a Third, Months Before Tinubu Takes Office', *Bloomberg* (4 April 2023) <https://www.bloomberg.com/news/articles/2023-04-04/nigeria-s-fdi-plunges-33-months-before-president-elect-tinubu-takes-office> accessed 24 May 2023.

[702] Oladehinde Oladipo, 'Nigeria's FDI slides to $468m, lowest in nine years', *Businessday* (5 Apr 2023) <https://businessday.ng/big-read/article/nigerias-fdi-slides-to-468m-lowest-in-nine-years/>accessed 24 May 2023.

Authorities have a role to play by encouraging MNEs to consider the technological needs of host countries. This is particularly highlighted in Article 66(2) of the Agreement on Trade-Related Aspects of Intellectual Property Rights, thus:

> *Developed country Members shall provide incentives to enterprises and institutions in the territories for the purpose of promoting and encouraging technology transfer to least-developed country members in order to enable them to create a sound and viable technological base."*

Furthermore, FDI can be channeled into waste management programs and water treatment facilities. In their respective industries, these companies can implement eco-friendly production procedures and technical measures such as modular housing, electrical vehicles and solar-powered machinery et cetera. FDI companies can also take up innovative green projects and programs as part of their corporate social responsibility to promote environmental sustainability. Companies that heavily rely on plastic as their primary raw material may begin to consider other alternatives that are bio-degradable. Consequently, alternative renewable sources of energy like wind, thermal, solar and hydro should be invested in as this would help limit dependence on fossil fuels. Developing countries, however, should not base their revenue strategies entirely on the benefits of FDI. Indigenous Investments should be explored as a valuable supplement to FDI efforts in environmental sustainability.

CONCLUSION

In a nutshell, the effect of FDI on the sustainability of the environment largely depends on the level of technological advancements of the host country and the region as a whole. The lawmakers of the host countries must enact water-tight legislation that would effectively address environmental pollution and challenges to environmental sustainability with reasonable deterrence policies. Nonetheless, this research has addressed the factors responsible for FDI in Africa, its impacts on environmental sustainability and how to create a balance between the positive impacts of FDI in the economy and its environmental concerns.