

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Establishment of Local Fish Farm "La' Prestige Agro" LLC in Nigeria

Oyeranmi Samson Gbolahan

Department of Management and Economics, Pitirim Sorokin Syktyvkar State University, Russia *Oktyabrskiy Prospekt, 55, Syktyvkar, Komi Republic, Russia* **DOI:** <u>https://doi.org/10.55248/gengpi.2023.4156</u>

Abstract

This project aims to create a unique and most efficient large-scale farming of freshwater fish for daily consumption in Nigeria. According to the CGIAR African Fish Research Program 2019. Nigeria has one of the highest levels of fish consumption in Africa. In Nigeria, Africa's most populous country, fish is an important part of the household diet. Fish makes up about 40% of the protein consumed in the country, with fish consumption at 13.3 kg per person per year [17]. According 2021 Fish Information and Services report, Nigeria spends 250 billion naira approximately (US\$560 million) annually on fish importation [6, 7]. The mainly import fish from Japan, Norway, Russia, United States and Netherlands. Nigerian's population fish demand is approximately 3.3 million metric tons but the country is only able to produce 1.1 million metric tons locally.

With a report on this study and as a Nigerian citizen who has lived in Nigeria and has a family living there, with current updates on the Nigerian fish market and its economic status. It is estimated that Nigeria lacks 60 percent of the fish production capacity equivalent to the country's fish consumption needs. Thus, investing in fish production in Nigeria is profitable and comes with the least investment risk of bankruptcy as consumers are always available to buy once you have a successful production [8, 9].

Thus, our company has enough market space and high demand for fish to succeed in the Nigerian fish market. This will allow our company to earn enough profit to repay the investment loan and interest on it within the agreed time frame agreed with our investors.

Keywords: Limited Liabilities Company (LLC), Project Management, World Food Program (WFP), SWOT (strength, weakness, opportunities and threats) analysis, PEST (political, economic, social and technological factors) analysis.

Highlights

- To investigate and examine food insecurity in Nigeria
- To evaluate factor affecting local fish production in Nigeria
- Strategic Analysis of Nigeria for the establishment of "La' Prestige Agro" LLC
- Establishment of local fish farm "La' Prestige Agro" LLC
- Impact of "La' Prestige Agro" LLC on Nigerian economy

Introduction

The Federal Republic of Nigeria is a western African country with a population estimated at 217,375,000 million in 2021. As the population growth of Nigeria increases yearly, there is a need to provide standard food security for Nigerian citizens. Researchers estimated that Nigeria will be the third most populous country in the world by 2050 [1, 2, 3].

Currently, Nigeria is facing serious food insecurity, the World Food Program (WFP) research reported that 7 out of 10 Nigerians do not have adequate food to eat. Hence, the Nigerian government and its citizens need to take quick action to resolve the ongoing food insecurity and to wisely plan for the future [4, 5].

According to the 2021 Fish Information and Services Report, Nigeria spends approximately 250 billion naira (US\$560 million) annually on fish imports. The fish requirement of the Nigerian population is approximately 3.3 million metric tons, but the country can only produce 1.1 million metric tons locally [6, 7].

With research reports on this study and as a citizen who lived in Nigeria and has a family living there, with current updates on the Nigerian fish market and its economic status. It is estimated that Nigeria lacks 60 percent of the fish production capacity equivalent to the country's fish consumption needs.

Thus, investing in fish production in Nigeria is profitable and comes with the least investment risk of bankruptcy as consumers are always available to buy once you have a successful production [8, 9].

To start solving the food insecurity problem in the Nigerian fish industries, I choose to research the development for the establishment and management of the LLC "La' Prestige Agro" project in Nigeria [10, 11, 12].

This research work aims to deepen and consolidate the theoretical knowledge gained in the field of analytical methods for managing business entities of various forms of ownership and levels of management, including: the consolidation of knowledge about the methodology in the field of project management; mastering the specifics and practical skills of managing state, municipal programs and projects; preparation for independent managerial, analytical and research activities; obtaining skills and abilities to develop and implement a corporate strategy; familiarization with the functioning of the relevant organization, including the conduct of research work in it; studying the experience of applying and expanding the use of analytical methods and models, as well as modern information technologies for solving various management problems in real conditions; collection, processing, analysis and systematization of information for experimental testing of models and software (Figure 1) [14, 15, 16].



Figure 1. Concept of channel management

Methodology

As part of the project, create the unique and most efficient large–scale farming of freshwater fish for daily consumption in Nigeria. According to the Consultative Group of Global Agricultural Research (CGIAR) research reports on the African Fish Research Program 2019 [17, 40]. Nigeria has one of the highest levels of fish consumption in Africa. In Nigeria, Africa's most populous country, fish is an important part of the household diet. Fish makes up about 40% of the protein consumed in the country, with fish consumption at 13.3 kg per person per year [41, 42, 43].

According to the 2021 Fish Information and Services Report, Nigeria spends approximately 250 billion naira (US\$560 million) annually on fish imports [6, 7, 44]. They mainly import fish from Japan, Norway, Russia, the USA and the Netherlands. The fish requirement of the Nigerian population is approximately 3.3 million metric tons, but the country can only produce 1.1 million metric tons locally [6, 7, 45].

With reports on this study and as a Nigerian citizen who has lived in Nigeria and has a family living there, with current updates on the Nigerian fish market and its economic status [46, 47, 48]. It is estimated that Nigeria lacks 60 percent of the fish production capacity equivalent to the country's fish consumption needs [49, 50]. Thus, investing in fish production in Nigeria is profitable and comes with the least investment risk of bankruptcy as consumers are always available to buy once you have a successful production [8, 9, 51].

Thus, our company has enough market space and high demand for fish to succeed in the Nigerian fish market. This will allow our company to earn enough profit to repay the investment loan and interest on it within the agreed time frame agreed with our investors [18, 19, 52].

To classify and highlight problems by levels of the enterprise management system and the subsequent development of a modernization project following the methods of analyzing the internal environment, a PEST and SWOT analysis of the project was carried out, presented in Tables 1 and 2.

Table 1. PEST analysis of project

Political (Policy)	Economic (Economy)		
1. The stability of the authorities.	1. The general state of the economy in the country.		
2. Change of legislation.	2. Inflation.		
3. International trade.	3. Refinancing rate.		
4. Regulation of consumer loans.	4. Unemployment rate.		
5. Antitrust laws.	5. Natural resources.		
6. State influence in the industry, etc.	6. Labor productivity.		
Social (Society)	Technological (Technology)		
1. Core values.	1. Trends in R&D.		
2. Ecology.	2. State technological policy.		
3. Demographics.	3. New products.		
4. Lifestyle.	4. New patents.		
5. Structure of income.	5. The rate of change in technology in the industry.		

To achieve the goal of our project, we must register our company name with the Commissions of the Ministry of Corporate Affairs of the Federal Republic of Nigeria. In addition, we need to obtain an agricultural license from the Federal Ministry of Agriculture and Rural Development of the Federal Republic of Nigeria [20, 21, 53].

The project is legally protected – the Livestock Breeds Constitution of the Federal Republic of Nigeria and the Crop Variety Registration, Testing and Release Act 1987 and the National Agricultural Seeds Act 1992 govern various aspects of livestock production, development and reproduction, certification and quality control activities in Nigeria [22, 54, 55].

		Strengths				Weak sides
	✓	We are building a modern fish farming system that will prevent widespread disease and minimize mortality on our farm.	✓ ✓	We planned to process fish feed on our farm. This will reduce the cost of feeding by 30%. The farm is located in the best climatic area for breeding catfish and in a plentiful reservoir.	✓ ✓	It takes a lot of capital to set up a company. The amount of investment is about \$200,000. Return of capital and interest of investors takes up to 5 years.
Opportunities	✓ ✓	After two successful fisheries, we can start the production of smoked fish in our company. this will definitely increase the profit of our farm and extend the shelf life In the future, we may establish partnerships with other agricultural and marketing companies. We have the potential to create jobs for thousands of young Africans through our smoked fish marketing program.	√ √	There is a high probability of increasing the number of our regular customers We have the opportunity to export our agricultural products to make more profit.	V	With the trading structure that we planned to build, it is possible to reduce logistics costs as well as production costs.
Threats	✓	Rising cost of fish production Competition in the market from companies offering the same products	~	Negative Feedback	✓	High mortality of fish on the farm

Table 2. Strategy SWOT analysis of the project

Strategic Analysis of Nigeria (for the establishment of LLC "La' Prestige Agro")

This project will be of interest to the Commission of the Ministry of Corporate Affairs, the Federal Ministry of Agriculture and Rural Development of the Federal Republic of Nigeria [20, 21]. In addition, it will be of interest to local investors and foreign investment organizations. This project will benefit local and foreign fish traders, boost the Nigerian economy and alleviate poverty and food insecurity [56, 57, 58].

LLC "La' prestige Agro" needs to acquire acres of land to start the construction of an ultra-model fish pond of 100,000 thousand fish capacity [59, 60, 61]. Likewise, construction of a small bio–pond for the production of protein feed, installation of agricultural equipment, installation of a standard well for permanent water supply, installation of a catfish pellet machine to reduce feeding costs, installing a fish production machine to keep the fish for a long period of time after being caught, we need a heavy truck and a portable pickup truck for transportation, we need at least 10 people to work on the farm, etc. [23, 62, 63].

The project will be launch in the Federal Republic of Nigeria, Oyo state, Ibadan city. Ibadan is the capital and most populous city of Oyo state in Nigeria. Ibadan is the third largest city in Nigeria by population after Kano and Lagos with approximate population of 3,649,000 as of 2020 and above 6.5 million in the metropolitan area. Geographically, Ibadan is the largest city in the country [24, 64].

Ibadan has a tropical, wet and dry climate with a long wet season and relatively constant temperatures throughout the year. The average total precipitation for Ibadan is 1420.06 mm, falling over approximately 110 days. There are two peaks in rainfall, June and September. The average maximum temperature is 26.45°C, the minimum is 21.43°C, and Ibadan relative humidity is 74.55%, so the climate is very suitable for breeding catfish and other species [25, 65].

Furthermore, Ibadan is one of the safest cities in the country for investment and safety of life. We have a soldier's barracks, a well-trained police and professional security personnel to protect life and property. In addition, Ibadan is the birthplace of the Project Coordinator and all his relatives also live there [66, 67].

In this project, we will hire qualified personnel with more than 5 years of experience in the fish incubation department, fish feed production, as well as in breeding fish to catch size. Our company will employ certified or highly qualified personnel in the field of fish farming. Regarding the construction of the fish pond and production facility, we will consult with a highly qualified contractor to ensure that the work is carried out flawlessly [68, 69].

In addition, the project will be coordinate by a graduate of machinery and equipment technology, a professional project management specialist, and an experienced poultry farmer will be available to coordinate and monitor this project. With all these professionals, the company has assured our investors that this project will be successful with minimal level of risk compared to other investments [26, 70].

Estimated business growth rate:

- Increasing the number of regular customers and sales
- Increase in the annual volume of fish production
- Increase in the company's annual income and profit

Fish farming in Nigeria is a huge but non-competitive market. The population of Nigeria is growing rapidly every year, so the demand for fish is increasing every year. Currently in Nigeria, the annual demand for fish consumption is twice that of local fish factories. Thus, buyers and consumers are available all year round. In addition, LLC "La 'Prestige Agro" will partner with professional marketers to promote and brand our agricultural products [53, 42, 69].

Competitors – Fish farming in Nigeria is not very competitive, all that matters is the successful breeding of fish to the harvest stage; buyers are always available to patronize your farm for business.

Benefits – We can access the benefit and direct support from the Ministry of Corporate Affairs, Ministry of Agriculture and Rural Infrastructure of the Federal Republic of Nigeria [20, 21]. Our business strategy and prospects for the development of the enterprise, we will conduct a search and attract experts for ideas, we will control at all stages of the project [56, 62].

The development of "La' Prestige Agro" LLC

The goal is to create one of the most outstanding efficient fish factories in Nigeria to support the country's economy, alleviate poverty and create employment opportunities for young people across the continent [40, 34].

Tasks:

- 1. Contact investors and raise capital to establish "La 'Prestige Agro" LLC;
- 2. Purchase of ten acres of land for the construction of "La 'Prestige Agro" LLC;
- 3. Registration of the company name with the Corporate Affairs Commission of the Federal Republic of Nigeria;
- 4. Apply for a farming license and government permission to establish "La 'Prestige Agro" LLC;
- 5. Construction of buildings and modern fish ponds;
- 6. Purchase and install agricultural machinery and equipment;
- 7. Employment of agricultural specialists and workers;

- 8. Start fish production;
- 9. Contact buyers across the country for post-harvest sales on the farm.

The project budget is the Investment Fund (\$200,000).

Project implementation risks:

- 1. Insufficient funding;
- 2. High mortality of fish on the farm;
- 3. New legislative acts;
- 4. Negative reviews;
- 5. Increasing cost of fish production.

Benefits for our investors:

- 1. Investors have the right to request any legal document regarding the security of their investments;
- 2. Our investors will receive a 30% return on their investments compared to the 10% interest rate that the bank receives on loans;
- 3. Our investors have the right to know the location of the farm, and they have the right to patronize the farm as long as the contracts are in place;
- 4. We will sign a 100% return on investment with our investors, which minimizes the risk compared to investments by order type;
- 5. Our project is 100% successful and profitable.

Project implementation period of "La 'Prestige Agro" LLC is 5 years (long-term project).

Table 3. Project implementation schedule

Month	Events
January 2023	Preparation of terms of reference.
February 2023	Registration of the company in the state, obtaining farm licenses and purchase of farmland with permission from the Federal Government of Nigeria.
March – June 2023	Construction of "La 'Prestige Agro" LLC site.
July 2023	Installation of all agricultural equipment and machinery.
August 2023 – June 2024	Launch of the first 100,000 batches of fish farming.
July 2024	Harvesting and selling the first batch of agricultural products.
August 2025	Launch of the second 100,000 batches of fish farming.
December 2027	Project completion for our noble investors with full ROI and interest.

The project budget is \$200,000.

Project success criteria:

- The ability to reimburse all our investors in advance or at a specific agreed period with full interest and commission;

- Possibility to minimize the mortality rate on the farm to the lowest level;

- Opportunity to expand the company by processing our agricultural products and creating jobs for young people through our marketing reform projects;

- Meeting customer expectations [30].

Conclusion

This project is a mega project that involves a lot of interconnected projects, united by a common goal of achievement, allocated resources and time for their economical implementation. Such projects can be state, national, international, sectoral, regional and inter-sectoral [15, 16].

The application of strategic management in company projects at this level enhances decisions that will determine the long-term development of the organization, as well as specific actions that ensure the enterprise's quick response to changes in the external environment, which may entail the need for strategic maneuvering, revision of goals and adjustment of the general direction of development [31, 32].

In project management in connection with starting a business, studies conducted by professional associations and international communities are devoted to effective project management. The standards developed as a result contain optional, rather advisory, methods and recommendations for project management, based on a generalization of the best world experience in this area [33, 34].

Strategic analysis of Nigeria for the establishment of "La' Prestige Agro" LLC, it is estimated that Nigeria lacks 60 percent of the fish production capacity equivalent to the country's fish consumption needs. Thus, investing in fish production in Nigeria is profitable and comes with the least investment risk of bankruptcy as consumers are always available to buy once you have a successful production [8, 9].

SWOT and PEST analysis of Nigeria's performance, as part of our practical experience, we analyzed the strategic environmental security of Nigeria, and also conducted a comprehensive SWOT and PEST analysis, which allowed us to fully realize the necessary opportunities available in the Nigerian fish industry, likewise, factors that can affect local fish production in Nigeria are presented in (Tables 2 and 1) [36, 37,]. Furthermore, the country will pay special attention to the threats that were identified during the analysis, as they can pose a great danger to the company [38, 39].

The lifespan of "La' Prestige Agro" LLC project is 5 years (long-term project). In 5 years, the company will generate large profits that can recoup investors, and will also be able to expand production capacity. The accomplishment of this project will aid food security in Nigeria, provide employment opportunities and boost Nigerian economy [43, 10].

References

- 1. Ukpong, G. (2013). Cointegration inferences on issues of poverty and population growth in Nigeria. *Journal of Development and* Agricultural Economics, 5(7), 277–283. <u>https://doi.org/10.5897/jdae12.151</u>
- 2. Theodore, O. I. (2006). The effects of population growth in Nigeria. *Journal of Applied Sciences*, 6(6), 1332–1337. https://doi.org/10.3923/jas.2006.1332.1337
- Adetiloye, K. A. (2012). Capital flight versus domestic investment in developing countries: An empirical analysis from Nigeria. International Journal of Economics and Finance, 4(2). <u>https://doi.org/10.5539/ijef.v4n2p175</u>
- 4. Nigeria: World Food Programme. UN World Food Programme. (2021). Retrieved December 10, 2022, from https://www.wfp.org/countries/nigeria
- 5. Nigeria floods: 4 ways they affect food security. PreventionWeb. (2021). Retrieved December 10, 2022, from https://www.preventionweb.net/news/nigeria-floods-4-ways-they-affect-food-security
- Agency, N. (2022, June 14). Demand for fish in Nigeria exceeds 3.6 million metric tons FG. NewsWireNGR. Retrieved December 9, 2022, from https://newswirengr.com/2022/06/13/demand-for-fish-in-nigeria-exceeds-3-6-million-metric-tons-fg/
- Mojeed, A. (2021) Interview: Why nigeria needs to raise 400,000 new fish farmers -- expert, Premium Times Nigeria. Available at: <u>https://www.premiumtimesng.com/agriculture/438170-interview-why-nigeria-needs-to-raise-400000-new-fish-farmers-expert.html</u> (Accessed: December 10, 2022).
- Sobowale, R. (2019, September 29). Nigeria needs no fish importation fish farmers. Vanguard News. Retrieved December 10, 2022, from https://www.vanguardngr.com/2019/09/nigeria-needs-no-fish-importation-%E2%80%95-fish-farmers/
- Olaoye, O. J., &Ojebiyi, W. G. (2018, August 1). Marine Fisheries in Nigeria: A Review. IntechOpen. Retrieved December 10, 2022, from https://www.intechopen.com/chapters/59865
- 10. Project, B. (2019, September 25). Food insecurity in Nigeria. The Borgen Project. Retrieved December 10, 2022, from https://borgenproject.org/food-insecurity-in-nigeria/
- 11. Simwa, A. (2017, November 15). Food insecurity in Nigeria: Facts you should know. Legit.ng Nigeria news. Retrieved December 10, 2022, from https://www.legit.ng/1134799-solutions-food-insecurity-nigeria.html
- 12. Simwa, A. (2017, November 15). *Food insecurity in Nigeria: Facts you should know*. Legit.ng Nigeria news. Retrieved December 10, 2022, from https://www.legit.ng/1134799-solutions-food-insecurity-nigeria.html
- Nigeria's food problem nigeria. ReliefWeb. (2020, June 4). Retrieved December 10, 2022, from https://reliefweb.int/report/nigeria/nigeria-s-food-problem

- 14. Polkovnikov A. V. Project management. Full MBA course / A. V. Polkovnikov, M. F. Dubovik. M.: CJSC "Olimp-Business", 2015.
- 15. Newton R. Project management from A to Z: a practical guide / R. Newton, ed. M. Savina., trans. A. Kirichenko / transl. from English. 7th ed. Moscow: Alpina Publisher, 2016.
- 16. Corporate governance and innovative development economics of the north / A. P. Shikhverdiev; A.P. Shikhverdiev [i dr.]. Syktyvkar: Publishing House of SSU im. Pitirim Sorokin, 2021.
- 17. CGIAR research program on fish agri-food systems annual report 2019. WorldFish. (2019). Retrieved December 10, 2022, from https://www.worldfishcenter.org/publication/cgiar-research-program-fish-agri-food-systems-annual-report-2019
- Oladoja, M. A., &Adeokun, O. A. (2020). Assessment of market performance of cat fish farmers in Sagamu Local Government Area of Ogun State Nigeria. *Nigerian Journal of Animal Production*, 40(1), 207–217. https://doi.org/10.51791/njap.v40i1.707
- Guardian News and Media. (2021, October 26). The Nigerian Fish Market where gods and Commerce meet. The Guardian. Retrieved December 10, 2022, from <u>https://www.theguardian.com/global-development/2021/oct/26/the-nigerian-fish-market-where-gods-andcommerce-meet</u>
- 20. Federal Ministry of Agriculture & Rural Development, Nigeria / FMARD to ensure ... (n.d.). Retrieved December 10, 2022, from https://fmard.gov.ng/
- 21. Corporate Affairs Commission of the Federal Republic of Nigeria. Retrieved December 10, 2022, from https://www.cac.gov.ng/
- 22. Cspnigeria. (2022, September 22). Baseline assessment of the crop variety release and Registration System in Nigeria, phase I. Collaborative Seed Programme. Retrieved December 10, 2022, from https://csp-nigeria.org/2022/03/03/baseline-assessment-phase-i/
- 23. Martyshev, F. G. (2020). Construction of fish ponds. Pond Fisheries, 28-42. https://doi.org/10.1201/9781003072546-5
- Google. (2020). Ibadan Google Arts & Culture. Google. Retrieved December 10, 2022, from https://artsandculture.google.com/entity/ibadan/m01zsrb?hl=en
- International Research Journal of Applied Sciences. (2019, December 25). Determination of activity concentrations in selected rock samples from Quarry sites in Ibadan, Nigeria. International Research Journal of Applied Sciences. Retrieved December 10, 2022, from https://www.academia.edu/41365046/
- Obinna C, I. (2017). Project Management and successful entrepreneurship venture in Nigeria. Advances in Social Sciences Research Journal, 4(5). https://doi.org/10.14738/assrj.45.2552
- 27. Project Management Institute. (2017). A guide to the Project Management Body of Knowledge: (Pmbok® Guide).
- 28. Project Risk Management. (2017). Strategic Project Risk Appraisal and Management, 83-94. https://doi.org/10.4324/9781315242286-11
- 29. Engemann, K. J. (2021). Advances in project risk management. Project Risk Management. https://doi.org/10.1515/9783110652321-001
- Agarwal, R., & Virine, L. (2017). Integration of Project Risk Management (PRM) into enterprise risk management (ERM). Advances in IT Personnel and Project Management, 294–317. https://doi.org/10.4018/978-1-5225-1790-0.ch014
- Thiry, M. (2007). Program management: A strategic decision management process. *The Wiley Guide to Managing Projects*, 257–287. https://doi.org/10.1002/9780470172391.ch12
- Business development projects. (2017). Strategic Project Risk Appraisal and Management, 31–40. <u>https://doi.org/10.4324/9781315242286-</u>4
- 33. Haynes, M. E. (2010). Project Management. LearnKey.
- Enterprise-wide project management (EWPM). (2013). Reconstructing Project Management, 99–107. https://doi.org/10.1002/9781118536698.ch6
- Upadhyay, A. D., Jagpal, & Roy, P. D. (2016). Structural performance of fish market and socio-economic status of market functionaries of Naveen MachhaliMandiMahanva of Gorakhpur, Uttar Pradesh. *Economic Affairs*, 61(3), 511. <u>https://doi.org/10.5958/0976-4666.2016.00064.4</u>
- 36. Bensoussan, B. E., & Fleisher, C. S. (2014). Analysis without paralysis: 12 tools to make better strategic decisions. FT Press.
- 37. Waldersee, R., & Tywoniak, S. (2007). Strategic analysis: A guide to practice. McGraw-Hill Australia.
- 38. Bensoussan, B. E., & Fleisher, C. S. (2009). *The Financial Times Guide to analysis for managers: Effective Planning Tools and techniques*. Financial Times Prentice Hall.

- Choi, W.-sang, & Shin, J. (2021). A study on the development factors and development strategies of National crisis management based on artificial intelligence by SPRO-Pest -SWOT analysis. *Journal of Information and Security*, 21(1), 169–175. <u>https://doi.org/10.33778/kcsa.2021.21.1.169</u>
- Oruonye, E. D. (2012). An assessment of the potential livelihood opportunity in sachet water vending in Jalingo Metropolis, Taraba State, Nigeria. Spanish Journal of Rural Development, 83–94. <u>https://doi.org/10.5261/2012.gen2.08</u>
- Adesope, O. M., Matthews-Njoku, E. C., Oguzor, N. S., &Ugwuj, V. C. (2012). Effect of socio-economic characteristics of farmers on their adoption of organic farming practices. *Crop Production Technologies*. <u>https://doi.org/10.5772/30712</u>
- Alih, A. D., Orefi, A., & Chijoke, A. B. (2019). Factors influencing Farmer's choice of adaptation measures to climate change among smallholder arable farmers in Kogi State, Nigeria. Asian Journal of Agricultural Extension, Economics & Sociology, 1–14. https://doi.org/10.9734/ajaees/2019/v31i230128
- Stein, H. (2014). Rethinking industrial policy in Africa: Trade and Industrial Development in Africa, 277–296. https://doi.org/10.2307/j.ctvk3gndb.21
- Oribhabor, B. J., &Ogbeibu, A. E. (2012). The food and feeding habits of fish species assemblage in a niger delta mangrove Creek, Nigeria. Journal of Fisheries and Aquatic Science, 7(2), 134–149. <u>https://doi.org/10.3923/jfas.2012.134.149</u>
- 45. Brander, K. (2010). Impacts of climate change on fisheries. *Journal of Marine Systems*, 79(3-4), 389–402. https://doi.org/10.1016/j.jmarsys.2008.12.015
- Chege, C. G. K., Andersson, C. I. M., &Qaim, M. (2015). Impacts of supermarkets on farm household nutrition in Kenya. World Development, 72, 394–407. https://doi.org/10.1016/j.worlddev.2015.03.016
- Czaja, S. J., Charness, N., Fisk, A. D., Hertzog, C., Nair, S. N., Rogers, W. A., &Sharit, J. (2006). Factors predicting the use of technology: Findings from the Center for Research and Education on Aging and Technology Enhancement (CREATE). *Psychology and Aging*, 21(2), 333–352. <u>https://doi.org/10.1037/0882-7974.21.2.333</u>
- Alderman, H. (1989). Workshop on impact of changes in income on nutrient consumption, International Food Policy Research Institute, Washington, DC, USA, 19 December 1988. *Food Policy*, 14(4), 384–385. <u>https://doi.org/10.1016/0306-9192(89)90081-x</u>
- 49. Doss, C. (2001). How does gender affect the adoption of agricultural innovations? the case of improved maize technology in Ghana. *Agricultural Economics*, 25(1), 27–39. <u>https://doi.org/10.1016/s0169-5150(00)00096-7</u>
- 50. 31st International Conference of the Red Cross and Red Crescent, Geneva, 28 November 1 December 2011. (2012). International Review of the Red Cross, 94(885), 347–415. https://doi.org/10.1017/s181638311200046x
- Di Falco, S., Veronesi, M., &Yesuf, M. (2011). Does adaptation to climate change provide food security? A micro- perspective from Ethiopia. American Journal of Agricultural Economics, 93(3), 829–846. <u>https://doi.org/10.1093/ajae/aar006</u>
- Assessment of social vulnerability to flood risk in the Niger Delta, Nigeria. (2019). Regional Climate Change Series: FLOODS, 68–73. https://doi.org/10.33183/2019.rccs.p68
- 53. Future of fisheries: Perspectives for emerging professionals. (2014). Future of Fisheries: Perspectives for Emerging Professionals. https://doi.org/10.47886/9781934874387.ch58
- Franken, J. R. V., Pennings, J. M. E., & Garcia, P. (2014). Measuring the effect of risk attitude on marketing behavior. Agricultural Economics, 45(5), 525–535. <u>https://doi.org/10.1111/agec.12104</u>
- Nhemachena, C. H. A. R. L. E. S., Hassan, R. A. S. H. I. D., &Kurukulasuriya, P. R. A. D. E. E. P. (2010). Measuring the economic impact of climate change on African Agricultural Production Systems. *Climate Change Economics*, 01(01), 33–55. https://doi.org/10.1142/s2010007810000066
- 56. Ipinjolu, J. K., Magawata, I., &Shinkafi, B. A. (2014). Potential impact of climate change on Fisheries and Aquaculture in Nigeria. *Journal of Fisheries and Aquatic Science*, 9(5), 338–344. https://doi.org/10.3923/jfas.2014.338.344
- 57. Iruo, F. A., Onyeneke, R. U., Eze, C. C., Uwadoka, C., &Igberi, C. O. (2019). Turkish Journal of Fisheries and Aquatic Sciences, 19(4). https://doi.org/10.4194/1303-2712-v19_4_06
- Kabir, M. J., Alauddin, M., & Crimp, S. (2017). Farm-level adaptation to climate change in western Bangladesh: An analysis of adaptation dynamics, profitability and risks. *Land Use Policy*, 64, 212–224. <u>https://doi.org/10.1016/j.landusepol.2017.02.026</u>
- Kim, B.-T., Brown, C. L., & Kim, D.-H. (2019). Assessment on the vulnerability of Korean aquaculture to climate change. *Marine Policy*, 99, 111–122. <u>https://doi.org/10.1016/j.marpol.2018.10.009</u>

- Lee, T. M., Markowitz, E. M., Howe, P. D., Ko, C.-Y., &Leiserowitz, A. A. (2015). Predictors of public climate change awareness and risk perception around the world. *Nature Climate Change*, 5(11), 1014–1020. <u>https://doi.org/10.1038/nclimate2728</u>
- Oyeranmi, S. G. (2023). Interaction between waste management and energy generation systems in terms of material properties and environmental impact in the European Union. *International Journal of Progressive Research in Engineering Management and Science*. <u>https://doi.org/10.58257/ijprems30525</u>
- 62. Oyeranmi, S. G. (2023). The notion of Nigerian healthcare system management. *International Journal of Research Publication and Reviews*, 04(01), 1157–1166. https://doi.org/10.55248/gengpi.2023.4136
- Singas, S., & Manus, P. (2014). Factors influencing adoption of pond fish farming innovations in Potsy of Morobe Province, Papua New Guinea. Universal Journal of Agricultural Research, 2(6), 191–197. <u>https://doi.org/10.13189/ujar.2014.020602</u>
- 64. D. B., M. (2012). Assessing the technical efficiency of maize producers with Imazapyr-resistant maize for striga control in western Kenya. *Journal of Development and Agricultural Economics*, 4(8). <u>https://doi.org/10.5897/jdae12.021</u>
- Mulwa, C., Marenya, P., Rahut, D. B., & Kassie, M. (2017). Response to climate risks among smallholder farmers in Malawi: A multivariate probit assessment of the role of information, household demographics, and farm characteristics. *Climate Risk Management*, 16, 208–221. https://doi.org/10.1016/j.crm.2017.01.002
- Ndamani, F., & Watanabe, T. (2016). Determinants of farmers' adaptation to climate change: A Micro Level Analysis in Ghana. *Scientia Agricola*, 73(3), 201–208. https://doi.org/10.1590/0103-9016-2015-0163
- 67. Woodley, E. (2011). Building Nigeria's response to climate change: Pilot projects for community-based adaptation in Nigeria. *Climate Change Management*, 297–315. <u>https://doi.org/10.1007/978-3-642-22315-0_19</u>
- Obeta, M. (2014). Institutional Approach to Flood Disaster Management in nigeria: Need for a preparedness plan. British Journal of Applied Science & Technology, 4(33), 4575–4590. <u>https://doi.org/10.9734/bjast/2014/11844</u>
- Sangotegbe, N. S., Odebode, S. O., &Onikoyi, M. P. (2013). Adaptation strategies to climate change by Food Crop Farmers in Oke-Ogun Area of south western Nigeria. *Journal of Agricultural Extension*, 16(1). <u>https://doi.org/10.4314/jae.v16i1.12</u>
- Onojeghuo, A. O., & Blackburn, G. A. (2011). Forest transition in an ecologically important region: Patterns and causes for landscape dynamics in the Niger Delta. *Ecological Indicators*, 11(5), 1437–1446. <u>https://doi.org/10.1016/j.ecolind.2011.03.017</u>
- Pimolrat, P., Whangchai, N., Chitmanat, C., Promya, J., &Lebel, L. (2013). Survey of climate-related risks to tilapia pond farms in northern Thailand. *International Journal of Geosciences*, 04(05), 54–59. <u>https://doi.org/10.4236/ijg.2013.45b009</u>
- TARFA, P. Y. (2019). Climate change perception and adaptation in Nigeria's guinea savanna: Empirical evidence from farmers in Nasarawa State, Nigeria. Applied Ecology and Environmental Research, 17(3). <u>https://doi.org/10.15666/aeer/1703_70857112</u>
- Bogale, A. (2014). Weather-indexed insurance: An elusive or achievable adaptation strategy to climate variability and change for smallholder farmers in Ethiopia. *Climate and Development*, 7(3), 246–256. <u>https://doi.org/10.1080/17565529.2014.934769</u>
- Cinner, J. E., Adger, W. N., Allison, E. H., Barnes, M. L., Brown, K., Cohen, P. J., Gelcich, S., Hicks, C. C., Hughes, T. P., Lau, J., Marshall, N. A., & Morrison, T. H. (2018). Building adaptive capacity to climate change in Tropical Coastal Communities. *Nature Climate Change*, 8(2), 117–123. <u>https://doi.org/10.1038/s41558-017-0065-x</u>
- Saguye, T. S. (2017). Assessment of farmers' perception of climate change and variability and its implication for implementation of climatesmart agricultural practices: The case of GezeGofa District, southern Ethiopia. *Journal of Geography & Natural Disasters*, 07(01). https://doi.org/10.4172/2167-0587.1000191
- 76. Shiferaw, B., & Holden, S. T. (1998). Resource degradation and adoption of land conservation technologies in the Ethiopian Highlands: A case study in andittid, North Shewa. Agricultural Economics, 18(3), 233–247. <u>https://doi.org/10.1111/j.1574-0862.1998.tb00502.x</u>
- Simtowe, F., Zeller, M., &Diagne, A. (2009). The impact of credit constraints on the adoption of hybrid maize in Malawi. *Revue d'ÉtudesEn* Agriculture EtEnvironnement, 90(1), 5–22. <u>https://doi.org/10.3406/reae.2009.1960</u>
- Uddin, M., Bokelmann, W., &Entsminger, J. (2014). Factors affecting farmers' adaptation strategies to environmental degradation and climate change effects: A farm level study in Bangladesh. *Climate*, 2(4), 223–241. <u>https://doi.org/10.3390/cli2040223</u>
- Ragasa, C., &Ulimwengu, J. (2017). Challenges in rebuilding the agricultural extension system in the Democratic Republic of Congo. Building Agricultural Extension Capacity in Post-Conflict Settings, 35–61. <u>https://doi.org/10.1079/9781786390592.0035</u>
- Uzokwe, U. N., & Okonkwo, J. C. (2012). Survival strategies of women farmers against climate change in Delta State and implication for extension services. *Banat's Journal of Biotechnology*, *III*(6), 97. <u>https://doi.org/10.7904/2068-4738-iii(6)-97</u>