



Comparative Study of Native and Invasive Species in Abakaliki Area

Boma Aron Philips

Environmental Science and Management Technology, Federal Polytechnic
Ukana, Akwa Ibom State

Corresponding Author: Boma Aron Philips bomaaron@gmail.com

ARTICLE INFO

Keywords: Comparative Study, Native and Invasive Species, Abakaliki Area

Received: 19, June

Revised: 20, July

Accepted: 30, August

©2025 Philips: This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This article examines the diversity, distribution, and ecological implications of native and exotic vegetation species in Abakaliki. Invasive species are a major driver of biodiversity loss, endangering ecosystem functions and the survival of native species. Field surveys and quadrat sampling will be utilized to compare species richness and abundance across disturbed and undisturbed locations. This invasive species is an introduced species that harms its new environment, adversely affecting habitats and bioregions, causing ecological problems. The phrase can also be applied to native species that become destructive to their native environments after human modifications to their food web.

INTRODUCTION

A species of invasive plant, the phrase can also refer to native species that, as a result of human changes to their food chain, become detrimental to their natural habitat. Since the 20th century, invasive species have become serious economic, social, and environmental threats worldwide. European rabbits (*Oryctolagus cuniculus*), domestic cats (*Felis catus*), and carp (*Cyprinus carpio*) are examples of invasive animals. Notable invasive plant species include the kudzu vine, giant hogweed (*Heracleum Mantegazzianum*), Japanese knotweed (*Reynoutria Japonica*), and yellow stantistle.

The term "invasive plants" refers to alien species that people have introduced beyond their historical biogeographic bounds and that can thrive, reproduce, and spread in their new habitats, often having adverse environmental and socioeconomic effects. Another way to describe it would be a species that is endemic to its area, has managed to overcome biogeographical dispersal barriers with human help, has a population that is self-replacing, and has self-sufficiency.

Invasive plants are non-native or exotic plants that can proliferate rapidly outside of their native boundaries, replacing native populations and spreading over great distances. Their introduction results in economic or environmental harm or harm to human health, and increasing anthropogenic activities create soil disturbances that favor the growth of competitive invasive plant species at the expense of native plants. Even though the idea of plant invasion across continents has existed for several millennia, it is thought that during human travel, invasive plants are likely more prevalent and have the capacity to exhibit more significance in terms of growth, competitive abilities, or fecundity.

It has also been demonstrated on multiple occasions that invading plants are capable of rapid adaptive evolution. The threats posed by invasive plants were supposed to be causing serious harm to cropland, aquatic, and wildland habitats. However, the potential danger posed by invasive species is overstated, and invasive plants can show stronger growth traits even in lands that have been degraded by contaminant remediation. According to this perspective, an effort was made to determine whether invasive plants may provide more robust development characteristics even in contaminated areas, and as a result, could be used for the cleanup of toxins. By presenting an understanding of the existing state and future directions of contaminant remediation utilizing plants, particularly invasive plants, an attempt was made to explore the use of invasive plants in pollutant cleanup.

Invasive Plant Species May Harm the Communities of Native Plants and Animals

Because they have turned into bullies, invasive plant species are a concern on a global scale. communities' struggles against new invasive plant species and the harm they could cause worldwide. invasive plant species and the possible harm they could cause to the environment, economy, and crops. Nonnative organisms that drastically alter or disturb the ecosystem are known as invasive species. Its colonizing species may migrate naturally to new locations. Although they are frequently brought to new areas by the actions of

other species, human activities like international trade and pet ownership are thought to be the most frequent means of introducing invasive plants, animal germs, and other organisms.

Objectives of this Paper

- To examine how the environment affects invasive species' ability to spread.
- To determine and categorize the study area's dominant native and invasive plant species.
- The objective is to examine the environmental elements that impact the proliferation of invasive species.
- To suggest suitable conservation and management tactics for invasive species.

LITERATURE REVIEW

Non-native organisms that establish, spread, and negatively impact native ecosystems, human health, or economies are referred to as invasive species. They can also be described as alien species that humans have brought outside of their historical biogeographical boundaries, frequently having discernible effects on the environment or the economy. It may alternatively be described as a species that is native to its area, has managed to overcome biogeographical barriers to dispersal with the help of humans, has a population that can support itself, has a self-sustaining population, and can expand across great distances.

METHODOLOGY

To learn more about the different native flora and creatures that are found in these places, interviews were conducted within the communities. Furthermore, in order to assess the survival qualities of the different species from different sites, they were gathered and evaluated for chemical and microbiological pollutants.

Statistical Analysis

To ascertain whether there was a significant difference, the study was constructed as a paired sample t-test and examined using SPSS (2016).

RESULT AND DISCUSSION

The result indicated that this was an indication that. There was a significant difference ($P < 0.05$) in the average daily. The result of linear body parameters is indicative. In accordance with the research study, which involved visiting a few chosen farm places to look into how the plant species are surviving and reproducing. According to the findings, these plant species are found on a large number of farms, which ultimately explains how they reproduce and spread, ensuring their continued survival. Data Collection Using tape, data on the following linear body measurements that show growth performance were gathered every week.

Statistical Analysis

SPSS was used to analyze the study, which was planned as a paired sample t-test. Native and Invasive Species in the Abakaliki Area are the primary

focus of this study. In this section, the research questions developed for this study were discussed in light of the results of the data analysis. Results from relevant empirical research that support or contradict the current study's conclusions were equally included in the findings discussion.

CONCLUSIONS AND RECOMMENDATIONS

To lessen the difficulties associated with the diversity, distribution, and ecological impacts of native and invasive species—which are a major contributor to the loss of biodiversity and endanger ecosystem services and the survival of native species—these communities need to be made aware of the significance of these plant species' existence as well as the threats that societies face, particularly about our ecosystem.

Key recommendations include:

1. Humans should not facilitate the spread of non-native organisms.
2. We should educate the residents of our community about the risks associated with the establishment and spread of these plant species in our ecosystem.
3. We teach and educate people about the damaging effects that certain plant species have on the environment, human health, and economies.
4. It should be the responsibility of our varied governments at all levels to educate our farmers on the health and environmental effects of these plant species.

FURTHER STUDY

This research still has limitations, so further research on this topic is still needed.

REFERENCES

- Abogan, O P., Akinola, E., and Baruwa, O. (2016), 'Non-oil export and Economic growth in Nigeria,' *Journal of Research in Economics and International Finance*, 3(1), 1-11.
- Akintola, G. (2017). Problems of agricultural development in Nigeria Accessed online on May, <https://www.naij.com/1097406-problems-agricultural-development-nigeria.html>
- Aminu, U. and Anono, A. (2019), 'An Empirical Analysis of the Contribution of Agriculture and Petroleum Sector to the Growth and Development of the Nigerian Economy,' *International Journal of Social Science and Education*, 2(4), 1-11.
- Amire, C. M. (2016). The Effect of Agricultural Productivity on Economic Growth in Nigeria. *Journal of Advances in Social Science and Humanities*, 2(4).
- Anyanwu, J. C. (1997). The structure of the Nigerian economy (1960-1997). Joanee Educational Publishers. *Scientific Research Journal (SCIRJ)*, Volume

Central Bank of Nigeria, Statistical Bulletin (2021)

Granger, C.W.J. (1986). Developments in the Study of Cointegrated Economic Variables. *Oxford Bulletin of Economics and Statistics*, 48, 213-227.

Gujarati, D.N. (2004). *Basic Econometrics*. 4th Edition, McGraw-Hill Companies.

Ideba, E.E., Iniobong, E., Otu, W., and Itoro, N. (2019), 'Analysis of Agricultural Public Capital Expenditure and Agricultural Economic Growth in Nigeria,' *American Journal of Experimental Agriculture*, 4(4), 443-456.

Izuchukwu, O. (2017). Analysis of the contribution of the agricultural sector to Nigerian economic development. *World review of business research*, 1(1), 191-200.

Kuznets, S. (1973). Modern economic growth: findings and reflections. *The American Economic Review*, 63(3), 247-258.

Odetola, T. and Etumnu, C. (2017). Contribution of Agriculture to Economic Growth in Nigeria. The paper was presented at: The 18th Annual Conference of the African Econometric Society (AES), Accra, Ghana, at the session organized by the Association for the Advancement of African Women Economists (AAWE), 22nd and 23rd July, 2013. Electronic copy available at: <https://ssrn.com/abstract=4432800> 24

Oguntade, A. E., & Mafimisebi, T. E. (2015). Pricing and operational efficiencies in the livestock feed market in Ondo State, Nigeria. *Revista de Economia e Agronegócio-REA*, 8(2).

Oje-Okoro I (2019) Analysis of the Contribution of the Agricultural Sector to the Nigerian Economic Development. *World Review of Business Research* 1: 191-200.

Onunze, M. T. (2017). The impact of agricultural development on Nigeria's economic growth (1980-2016)

Organisation for Economic Co-operation and Development OECD. (2001). *Measuring Productivity: Measurement of Aggregate and Industry-level Productivity Growth: OECD Manual*. Organisation for Economic Co-operation and Development.

Oyinbo O, Rekwot GZ (2018). Agricultural Production and Economic Growth in

Nigeria: Implications for Rural Poverty Alleviation. *Quarterly Journal of International Agriculture* 53: 207-223.

Rostow, W. W. (1960). *The process of economic growth* (No. HB199 R65 1960).

Singh, B. B., Ehlers, J. D., Sharma, B., & Freire Filho, F. R. (2002). Recent progress in cowpea breeding. FATOKUN, CA; TARAWALI, SA; SINGH, BB; KORMAWA, PM, 22-40.

Todaro, M. P. and Smith, S. C. (2003). *Economic development*. 8th ed, Singapore: Pearson Education.

Tolulope, O. and Chinonso, E. (2019). Contribution of Agriculture to Economic Growth in Nigeria. Paper presented at the 18th Annual Conference of the African Econometric Society, Accra, Ghana. pp. 1-28.