



THE NIGERIAN ACADEMY OF SCIENCE

# **PREDATORY** **ACADEMIC** **PRACTICES AND NIGERIA**

## **Stemming the Tide**

**A CONSENSUS STUDY REPORT**



**THE NIGERIAN ACADEMY OF SCIENCE**

# **Predatory Academic Practices and Nigeria: Stemming the Tide**

**A Consensus Study Report**

## **Predatory Academic Practices and Nigeria: Stemming the Tide**

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## Acronyms

|         |  |
|---------|--|
| ACE     | Africa Centers for Excellence  |
| AJRH    | African Journal of Reproductive Health                               |
| APC     | Article Processing Charge  |
| BMC     | BioMed Central   |
| COPE    | Committee on Publication Ethics                                      |
| COVID   | Corona Virus Disease   |
| CPDPGCS | Committee of Provosts and Deans of Postgraduate Colleges and Schools |
| CSR     | Corporate Social Responsibility                                      |
| CVCNU   | Committee of Vice-Chancellors of Nigerian Universities               |
| DOAJ    | Directory of Open Access Journals                                    |
| DOI     | Digital Object Identifier  |
| GDP     | Gross Domestic Products  |
| IAP     | InterAcademy Partnership   |
| ISC     | International Science Council  |
| JCEPS   | Journal for Critical Education Policy Studies                        |
| JSTOR   | Journal Storage  |
| NAL     | Nigerian Academy of Letters  |
| NAS     | Nigerian Academy of Science  |
| NASAC   | Network of African Science Academies                                 |
| NgREN   | Nigerian Research and Education Network                              |
| NLN     | National Library of Nigeria  |
| NRF     | National Research Fund   |
| NUC     | National Universities Commission                                     |
| NYA     | Nigeria Young Academy  |
| OA      | Open Access  |
| PRISMA  | Preferred Reporting Items for Systematic Reviews and Meta-Analysis   |
| SDI     | Specially Designed Instruction                                       |
| STI     | Science, Technology, and Innovation                                  |
| TETFund | Tertiary Education Trust Fund  |
| WANNAS  | West African Network of National Academies of Science                |

## About the Nigerian Academy of Science

The Nigerian Academy of Science (NAS), established in 1977, is the foremost independent scientific body in Nigeria. NAS is uniquely positioned to bring scientific knowledge to bear on the policies/strategic direction of the country and is also dedicated to the development and advancement of science, technology, and innovation (STI) in Nigeria. The objectives of the Academy are to promote the growth, acquisition, and dissemination of scientific knowledge, and to facilitate its use in solving problems of national interest. Over the years, the Academy has done this by:

- Providing advice on specific problems of scientific or technological nature presented to it by the government and its agencies, as well as private organizations.
- Bringing to the attention of the government and its agencies, problems of national interest that science and technology can help solve.
- Establishing and maintaining the highest standards of scientific endeavours and achievements in Nigeria, through the publication of journals, organization of conferences, seminars, workshops, and symposia, as well as the recognition of outstanding contributions to science in Nigeria, and the development of a working relationship with other national and international scientific bodies and academies.

As with other national academies, NAS is a not-for-profit organization with a total membership (since inception) of 298 Fellows elected through a highly competitive process, and who have distinguished themselves in their fields both locally and internationally. Some of her members have served as Vice-Chancellors of universities, Directors-General of government parastatals, and Ministers in federal ministries. The Academy, given its prestige, also can attract other experts from around the country and internationally as needed. NAS is Nigeria's national representative on such bodies as the International Science Council (ISC) – the umbrella body for all science associations and unions,

and the InterAcademy Partnership (IAP) – the umbrella body for all national science academies globally. The Academy is also a founding member of the Network of African Science Academies (NASAC), and the West African Network of National Academies of Science (WANNAS).



## Foreword

In 2023, the Nigerian Academy of Science (NAS) set up a committee to conduct a consensus study on predatory academic practices in Nigeria. The primary objective of the study was to determine the extent of these practices in the country, engage a broad network of stakeholders to examine the drivers of the problem, and seek their views on how to address the challenge. The overarching goal was to provide actionable recommendations to researchers, institutions, as well as policy makers to curtail predatory academic practices in Nigeria while also strengthening the growth of credible research publishing.

The Committee conducted desk and literature searches and reviews, a targeted survey of actors in the research landscape, and an inclusive virtual workshop of relevant stakeholders. The Committee has thus drawn evidence for this study from a broad cache of activities, including the participation of academicians, researchers, librarians, and academic policymakers from across the country, obtaining insights and perspectives on the issues. This report represents a distillation of the data, insights, and perspectives, and it is presented with the Nigerian academic environment in focus.

An important outcome of these activities has been a better understanding of what is meant by predatory journals and conferences; an appreciation of the dangers of the practices to science and innovation; the extent to which they have pervaded the Nigerian research community; the unique damage that they can do to the still developing Nigerian scientific engagement; and what can be done to combat them. The recommendations are appropriately targeted at the various sectors of the academic system since the issues are multi-sectoral in nature.

## **Expert Committee and Study Secretariat**

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- ❖ Musbau Akanji FAS – Professor of Biochemistry, Kwara State University, Ilorin, Nigeria.
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- ❖ Kristiann Allen – Associate Director, Policy & International Engagement, Koi Tū Centre for Informed Futures, University of Auckland, New Zealand.
- ❖ Susan Veldsman – Director, Scholarly Publication Unit, Academy of Science of South Africa (ASSAF).

Although the reviewers provided valuable comments and suggestions, they were not asked to endorse the final draft of this report.

The NAS also thanks the IAP for providing the funds for executing the consensus study.

## Chapter 1 – Introduction

Scientific journals and conferences play a very crucial role in disseminating research findings and fostering the advancement of knowledge in various fields. The dissemination of research findings provides an unrestricted integrated global communication access to current scientific findings and represents a key performance indicator for academic achievements<sup>1-3</sup>. Academic conferences provide a platform for researchers to meet and engage with colleagues, thus fostering networking and collaboration. Face-to-face interactions at conferences can lead to the exchange of ideas, the formation of research partnerships, and the initiation of new projects.

While there are several avenues for research dissemination, including theses, monographs, books, dissertations, conference proceedings, journal publication represents one of the most valued channels by many scholars due to the rigorous peer-review process that typically precedes publication<sup>3</sup>. The peer-review process provides a platform for experts in the field to evaluate the quality, validity, and significance of research before publication. This ensures that only good quality and reliable research is disseminated. Also, journals are more highly rated than other means of research dissemination because they create visibility for authors and their institutions, providing indexed and archived repositories that ensure the permanent availability of the publications for use<sup>3,4</sup>. In general, research dissemination is fundamental to the growth of science and human knowledge through its contribution to the expansion of scientific understanding, knowledge, and solutions to challenging national and global problems. The open exchange of research findings remains a key cornerstone of a dynamic and thriving scientific community.

## 1.1 What are Predatory Practices?

The term Predatory Academic Practices (PAPs) refers to deceptive practices employed to trick researchers to publish and/or present at conferences in exchange for money<sup>3</sup>. Predatory publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by the use of false or misleading information, deviation from best editorial and publication practices, a lack of transparent and credible peer-reviewed process, and/or the use of aggressive and indiscriminate solicitation practices<sup>5</sup>. Recently, over 15,500 predatory journals have been identified<sup>6</sup> and this is expected to continue increasing in the coming years<sup>7</sup>. Other reports have indicated that two-thirds of publications in predatory journals originate from Asia and Africa, predominantly India, Nigeria, and Pakistan<sup>8</sup>. This suggests a disproportionate impact of predatory academic practices within African and Asian academia as well as a significant problem among young, inexperienced, and unmentored researchers in those settings<sup>9</sup>.

Evolving publishing practices, and the increasing demand by authors and national funding agencies for open access models of publishing, coupled with the long-standing academic mantra of “publish or perish”, have created an environment for an ever-increasing number of predatory journals to evolve and, unfortunately, flourish<sup>10</sup>. Identifying a predatory journal is not always straightforward and despite efforts to combat predatory academic practices, predatory publishers have continued to develop sophisticated operations that appear to be legitimate.

Predatory academic practices pose a serious challenge to the integrity of researchers, the credibility of new research findings, and the Nigerian scientific community in general. The negative impacts of predatory journals include poor quality of research, poor science communication, low ranking of Nigerian scientists, as well as public mistrust of science/scientists. Many of the predatory journals are open access just as many credible journals also offer that option<sup>11</sup>. While open access publishing has been originally

promoted as a way of fostering transparency and enhancing wider and equitable use of scientific information, concerns are being raised about this mode of publishing due to the emergence of dubious practices by some publishers whose primary interest and focus is profit and not the promotion of access to scientific knowledge. As noted in a report by the InterAcademy Partnership (IAP), *“The distinction between predatory and reputable outlets is growing less apparent (largely as the former make inroads into the latter) and presents a huge challenge for efforts to curb them”<sup>12</sup>*. Emphasizing the dynamic nature of predatory practices and conferences, that report also draws attention to the difficulty of auditing the transparency and good practices of both legitimate and predatory journals and conferences given that both are rarely conducted in the open.

An influential early effort to create awareness about predatory academic publishing was made by Jeffrey Beall who described some of the features of the practice and later developed a list of predatory publishers and journals<sup>1</sup>. Predatory academic publishing is an exploitative business that involves collecting Article Processing Charges (APC) from authors without providing the required editorial, peer-review, and publishing services<sup>13</sup>. Predatory publishers usually promise a shorter submission-to-publication time, which weakens peer-review processes, provided that authors are willing to pay a fee<sup>1,3,13</sup>. Other common characteristics and features of predatory publishers and journals include: title with disjointed scope, spellings and grammatical errors on journals and publisher’s website, false information about journal indexing, lack of article identifiers such as Digital Object Identifier (DOI) on published articles, unsolicited requests for submission of manuscripts, requests for submission of manuscripts using email addresses instead of online submission process, non-professional journal affiliated email addresses for correspondence, and lack of a physical address of the publisher/journal<sup>1,13-16</sup>.

Predatory academic practices are a growing threat to the integrity of scholarship and the expansion of legitimate scientific knowledge<sup>4,17,18</sup>. For example, it has been reported that the number of predatory publications increased from 53,000 to 420,000 between 2010 and 2014<sup>19</sup>. Hence, combating the negative impact of predatory publications will require collective action by researchers, institutions, publishers, and policymakers. Given the widespread lack of awareness of what constitutes predatory academic practices as well as the potential risk they pose to the growth of science, an important step in the process of addressing the scourge is the raising of awareness among relevant stakeholders. This consensus study report is an important milestone in this direction. It builds on previous efforts by the NAS to address the problem by providing the current profile of the practices in Nigeria, and proffering suggestions on how to confront the challenge.

## **1.2 Background to the Consensus Study**

Recent empirical data indicates that Africa contributes only 2% towards the world's research output, accounting for 1.3% of research spending, and only 0.1% of the world's patents<sup>20</sup>. Only 10 countries account for 92.2% of all publications that come from Africa in the following order: South Africa, Egypt, Tunisia, Nigeria, Algeria, Kenya, Morocco, Ethiopia, Ghana, and Uganda<sup>21</sup>. Even though Nigeria may seem to be among the high players in research in Africa, it is not performing very well within the global comity of nations. Between 2005 and 2023, the number of universities in Nigeria rose from 51 to 170 but that increase does not seem to be reflected in commensurate growth in innovative research<sup>22</sup>. This may also be due, in part, to many of the research publications finding outlets in journals that are not captured by international databases and ranking networks because of their predatory status.

In 2022, Nigeria was ranked 50th in terms of the actual number of papers published globally with 13,282 publications and ranked 124th in terms of converting research outputs to actual products.

Also, Nigeria is 50th on the global ranking of research outputs, with H-index (a number intended to represent both the productivity and the impact of a particular scientist or scholar, or a group of scientists or scholars) of 255, suggesting that, cumulatively, research from Nigeria has had limited overall global impact. For example, in the case of the COVID-19 pandemic, while Nigeria accounts for 2% of the world's population, only 2,217 research articles on COVID-19 (0.8% of the global total publications) emanated from Nigeria<sup>23</sup>.

In early 2022, with support from the IAP, the NAS, in collaboration with the NYA, undertook a project aimed at raising awareness of predatory academic practices and their detrimental effects on Nigerian researchers and the scientific community<sup>24</sup>. The project also provided knowledge, tools, and resources for identifying and avoiding predatory journals and conferences, highlighted policies and activities that may be implemented by Higher Education Institutions (HEIs), and other stakeholders to curtail predatory academic practices in Nigeria, as well as fostered collaboration towards addressing predatory practices.

The current consensus study, by the Academy, on predatory academic practices in Nigeria is informed by the findings of those previous activities which suggest that there is a large number of predatory publications by Nigerian researchers and publishers. The NAS conducted this consensus study with the aim of strengthening science research publishing in Nigeria by addressing predatory academic practices, particularly predatory publishing. The approach is to adopt a national perspective to systematically explore drivers or root causes of such publishing, and provide recommendations that integrate the views of various stakeholder groups. In doing this, the consensus study has deployed a range of methodologies, including a survey of researchers around the nation (detailed in chapter 5), in-depth stakeholder interviews with selected representatives of key sectors, and the conduct of a virtual workshop. The expectation is that other than providing materials



for this report, this wide and diverse engagement will also help raise awareness of predatory journals and conferences amongst the key stakeholder communities. The consensus study report is thus an integrated summary of NAS' efforts and activities that are vital for establishing common understanding, raising awareness, protecting researchers, promoting ethical standards, and informing policies that safeguard the integrity of scholarly communication.

### 1.3 Study Statement of Task

The Nigerian Academy of Science (NAS), set up an Expert Committee with the task of conducting a consensus study tagged with the title "*Predatory Academic Practices (PAPs) and Nigeria: Stemming the Tide*".

In implementing its task, the Expert Committee reviewed available evidence and engaged with relevant stakeholders to address the following set of questions:

1. What is the current state of academic/research publishing in Nigeria, including successes, challenges, and prospects?
2. How have PAPs, particularly predatory publishing, evolved in the Nigerian context, and what are the current trends and drivers of this phenomenon?
3. What is the current level of knowledge, prevailing attitude, and response of stakeholders (policymakers, higher education institutions, academic associations, academic libraries, researchers) to PAPs in Nigeria?
4. What is the interplay between open access publishing and predatory publishing in Nigeria?
5. What can be done to increase awareness about predatory academic practices among Nigerian scientists?
6. Are there existing policies (institutional and government) aimed at combating predatory practices in Nigeria? If so, how successful have these been? What policy measures/interventions should be put in place to stem the tide of PAPs in Nigeria, and strengthen academic research publishing?

7. Will Nigeria's academic publishing landscape benefit from a national journal index? If so, what considerations should be made in developing this, and what should be the minimum standards for Nigerian journal publications?

#### **1.4 The Consensus Study Process**

A consensus study is an approach employed by science academies across the globe to provide expert recommendations on issues of scientific and societal importance<sup>25</sup>. All NAS consensus studies follow a particular process that typically brings together an interdisciplinary team of relevant experts to address a specified statement of task (SoT), including proffering possible solutions. Recognizing that the expected outputs/recommendations from the present study are urgently needed, the Academy adapted a rapid consensus study process in which different activities (with outputs detailed in chapter 5) were conducted simultaneously.

The Expert Committee commenced its work with an inaugural meeting during which members were provided with an overview of the consensus study process. There were discussions on conflicts of interest and biases, a projected outline of the study report, and a review of the SoT.

Three main sources of data were used:

1. A comprehensive review of the literature, including a desk review of previous work by the NAS.
2. An interactive virtual stakeholders' engagement event was held with participants including representatives from Committee of Provosts and Deans of Postgraduate Colleges and Schools in Nigerian Universities (CPDPGCS), National Universities Commission (NUC), Committee of Vice Chancellors of Nigerian Universities (CVCNU), National Library of Nigeria (NLN), Higher Education Institutions (HEIs), Association of University Librarians of Nigerian Universities (AULNU), Nigerian scientific publications, scientific unions and associations, and relevant Ministries, Departments, and Agencies (MDAs) and

early career researchers (ECRs). The aim was to gather a broad range of perspectives and recommendations on predatory academic practices in Nigeria.

3. A questionnaire survey was conducted to collect information from various stakeholders (selected using a stratified random sampling technique) about their knowledge and experience of predatory academic practices in Nigeria.

Once all the data was collected and analysed, a draft report was prepared utilizing all the information generated from these activities to distill the study's key findings and recommendations. The draft report was thereafter further reviewed and approved by the Committee, following which it underwent external review before finalization.

## Chapter 2 – The Research Publishing Landscape in Nigeria

### 2.1 Overview of the Research Publishing Landscape in Nigeria

Research publication is the act of publishing the findings from research in peer reviewed journals. Without publications in journals, no one can be called a scientist; and indeed, would not be doing science<sup>26</sup>. As indicated earlier in this report, Nigeria is ranked low globally in terms of research output. For example, in 2022, with an H-index of 255, the country was ranked 50th globally. Within Africa, the country tends to be among the highest-ranked countries, along with such countries as South Africa and Egypt. But that is only with respect to the total number of research publications. When the population is taken into account, such as ranking based on publications per one million of the population, Nigeria again becomes one of the poorly ranked nations on the continent<sup>27,28</sup>. These statistics further emphasize why the country needs to pay particular attention to the quality of the research generated by her scientists. Nigeria does not have the luxury of dissipating limited research resources on poor quality research that will not contribute meaningfully to the growth of knowledge, may stymie the development of innovations, and may also lead to poor decision making. Addressing predatory academic practices in the country is, therefore, vital.

### 2.2 Successes of the Research Publishing Landscape in Nigeria

As highlighted by participants at the stakeholders' workshop, despite the challenges and gaps in the governance of research publishing in Nigeria, there have been notable successes and positive developments within the Nigeria landscape. Some of these include the following:

- i. **Increase in Research Output:** Nigeria has experienced a significant increase in research output over the years, with a growing number of publications in various academic disciplines. This demonstrates a growing interest in research and scholarly activity within the country.

- ii. **Emergence of Quality Journals:** Several academic journals published adhere to high standards of peer review, editorial oversight, and publication ethics. These journals provide platforms for Nigerian researchers to disseminate their work and contribute to the global body of knowledge.
- iii. **Open Access Initiatives:** There is a growing awareness of the importance of open access publishing models in Nigeria. Many institutions and researchers are embracing open access initiatives, making research findings freely accessible to a wider audience, and facilitating knowledge sharing and collaboration.
- iv. **Capacity Building Efforts:** Various capacity building initiatives/efforts that are aimed at enhancing researchers' skills in publication ethics, academic writing, and research dissemination have been implemented. Workshops, training programs, and mentorship opportunities help researchers navigate the publishing process more effectively.
- v. **International Collaborations:** Nigerian researchers are increasingly engaging in collaborations with international partners and institutions. These international collaborations facilitate knowledge exchange, provide access to global publishing platforms, and enhance the visibility and impact of Nigerian research output.
- vi. **Government Support:** The Nigerian government has shown a commitment to promoting research and innovation through initiatives such as the establishment of research funding agencies (such as TETFund) and the provision of grants and scholarships to support research activities.
- vii. **Quality Assurance Mechanisms:** Efforts to address issues of predatory publishing and research misconduct are ongoing. Organizations such as the Committee on Publication Ethics (COPE) and the Nigerian Academy of Science are working to promote ethical publishing practices and ensure the integrity of Nigerian research publications.
- viii. **Recognition and Incentives:** There is increasing recognition of the importance of quality research for academic and

professional advancement. Institutions and funding agencies are beginning to prioritize quality over quantity of publications and provide incentives for researchers to publish in reputable journals. For example, the 2014 Declaration on Research Assessment (DORA), to which several thousand institutions across the world have committed themselves, has as its central goal the advancement of scholarly research through the assessment of quality rather than quantity of research<sup>29</sup>.

- ix. **Advancements in Science and Technology:** Improvements in technology and access to digital platforms have made it easier for researchers in Nigeria to collaborate with colleagues, access research information/literature, and publish their works in reputable online journals.

These successes demonstrate progress in the Nigerian research publishing landscape, and therefore provide a foundation for further development and improvement. Continued investment in research infrastructure, capacity building, and governance mechanisms will be crucial for sustaining and enhancing these achievements.

### **2.3 Challenges and Prospects of the Research Publishing Landscape in Nigeria**

While there have been successes, several challenges that affect research productivity in the country were highlighted during the stakeholders' workshop on predatory academic practices. Some of these challenges include the following:

- i. **Low Scientific Curiosity:** Publication is only for personal reasons (academic promotion) rather than to promote scientific inquiry.
- ii. **Low Research Expertise and Resources:** There is a limited number of persons with adequate research skills as well as state-of-the-art research facilities to perform cutting-edge research in science and engineering.

- iii. **Inadequate support and Funding for Research:** Nigeria allocates only 0.13% of her GDP to research compared to 0.8% in South Africa, for example.
- iv. **Poor Research-Policy Interface:** Lack of appreciation of research and poor integration of research evidence in policy making.
- v. **Inadequate Collaboration:** There is limited or no appreciation of the benefits of multidisciplinary, trans-disciplinary research, and the triple helix principles.
- vi. **Brain-drain:** There is depletion of skilled human resources for research through uncontrolled emigration to other countries.

There have been some notable efforts towards boosting research in Nigeria such as the establishment of the Tertiary Education Trust Fund (TETFund), the National Universities Commissions' Special Presidential Scholarship Scheme targeting first class honors degree holders for postgraduate programs, the Nigerian Research and Education Network (NgREN) to link universities for better performance, as well as the World Bank African Centers of Excellence (ACE) project now targeting 18 Nigerian universities.

In general, the Committee notes some of the activities and steps that have the prospects for improving the quality of research and publications in Nigeria. Some of these include:

- i. Encouraging and empowering researchers, through training and re-training, to give premium to research quality and ethics.
- ii. Increasing support for research by policy actors – including increased funding and improved environment for research and innovation.
- iii. Reviewing the teaching curricula to include training on research methods from the undergraduate through to postgraduate and post-doc levels.
- iv. Standardizing the criteria for promotion in Nigerian universities based on quality of research and publications in reputable journals.

These steps are necessary to respond to the observation that, in general, research and publication in reputable journals are still not given sufficient emphasis in Nigeria. The fact that Nigeria has one of the highest numbers of publications in predatory journals is an attestation to this<sup>8</sup>. This highlights the need for policymakers, tertiary level institutions, research institutions, and researchers themselves to rise to the challenge of ensuring that the country strives to achieve global preeminence in research and innovation.



## **Chapter 3 – Predatory Publishing in the Nigerian context**

### **3.1 Evolution of Predatory Publishing in the Nigerian Context**

The goal of research is to advance knowledge, and publication in academic journals is one of the main outlets through which this is done. No one benefits if research results are not shared or if they are shared in channels that lack credibility and are not trusted. Historically, academic journals were published in print format often owned by universities and learned societies, that are characterised by stringent editorial practices, including strong editorial boards and peer review systems, all promoting legitimacy and trust among researchers. The first scientific journals began in 1655 and, until the mid-1800s, all papers were of a descriptive style before Pasteur introduced experimental papers that stressed reproductivity, which is now the rule<sup>30</sup>. Peer review is a vital step in promoting research quality and integrity, and is crucial for enhancing the growth of science. It is not a perfect system, and views are constantly being offered on how to improve it, especially in the context of the evolving complexity of scientific endeavour<sup>31</sup>. Nevertheless, it remains the gold standard for evaluating the credibility of journals.

Predatory journals exploit academic publishing for financial gain while providing minimal or no editorial or peer-review services. They negate standard publishing practices by prioritising profit over academic quality and integrity. Therefore, they lack the credibility and recognition associated with legitimate scholarly publications (Figure 1). Consequently, publishing in a predatory journal can harm a researcher's reputation and academic career.



Figure 1: Characteristics of Predatory Journals<sup>32</sup>

Several estimates and studies have been conducted to gauge the prevalence of predatory journals, but the numbers vary widely depending on the criteria used to define the term "predatory". Cabell's International maintains a blacklist of predatory journals and publishers. In 2018 the list contained 13,900 journal titles, with most of these journals based in developing countries, even though some publishers from developed countries are also culprits. In the update in September 2021, it listed several hundred journals and publishers as predatory. On the other hand, the Directory of Open Access Journals (DOAJ), which continues to strive to improve its rigor and quality, aims to be a directory of reputable and high quality open-access journals. It actively works to index high-quality open-access journals and exclude predatory ones. The directory shows that a significant number of open-access journals are reputable.

Some of the reasons why scholars fall victim to predatory journals include:

- i. **Lack of Awareness** – Some researchers, particularly early career researchers or those from regions with limited access to academic resources, may not be fully aware of the existence and characteristics of predatory journals. They

might fall victim to predatory journal solicitations due to their inexperience.

- ii. **Pressure to Publish** – Academics often face significant pressure to publish their research as a measure of their productivity and success. Predatory journals often promise quick publication, which can be tempting for researchers trying to meet publication quotas or deadlines.
- iii. **Career Advancement** – In many cases, individuals may be aware that they are submitting to predatory journals but do so to pad their publication record or enhance their CVs for career advancement. This is unethical and can have serious consequences if discovered.
- iv. **Misconceptions Regarding Peer Review** – Some researchers might not fully understand the importance and benefits of rigorous peer review or may not have confidence in their work's quality. They may view publishing in predatory journals as a way to bypass a more critical peer review process.
- v. **Lack of Funding** – Predatory journals sometimes offer publication services at lower costs compared to reputable journals. Researchers with limited research funding may be drawn to such outlets to take advantage of lower fees.
- vi. **Deceptive Marketing** – Predatory journals often employ aggressive marketing tactics, including spam emails and professional-looking websites. Researchers may be deceived by these tactics, thinking they are dealing with legitimate journals.
- vii. **Language Barriers** – Researchers whose first language is not English, or who are from regions where English is not the primary language of academic communication, may find it challenging to distinguish between legitimate and predatory journals.

### 3.2 Current National Efforts to Tackle Predatory Practices

Efforts aimed at raising awareness, improving academic publishing practices, and providing alternatives to predatory publishing are being made by various stakeholders in the academic community,

including universities, libraries, publishers, researchers, and academic societies. Awareness campaigns have been launched to educate researchers and students about the risks of predatory journals.

Workshops, seminars, and online resources are often provided to help researchers identify and avoid predatory publishers. Organizations like Cabell's International, DOAJ, and the “Think. Check. Submit” initiative maintain lists of predatory journals and directories of reputable journals.

Institutions and universities have implemented policies and guidelines to discourage researchers from publishing in predatory journals, as some institutions now require their faculty to publish in recognized and peer-reviewed journals to receive promotions or tenure.

Many reputable journals have strengthened their peer-review processes and editorial standards to ensure the quality and integrity of published research. These transparent peer-review practices help distinguish them from predatory counterparts.

Academic publishers and organizations have developed and promoted ethical publishing guidelines. Initiatives such as the Committee on Publication Ethics (COPE) provide resources for both publishers and authors to maintain ethical publishing practices. Efforts have been made to support legitimate open-access publishing models that provide free access to research without resorting to predatory practices. Funding agencies and institutions increasingly require researchers to make their work openly accessible. These efforts are at various stages of implementation and are yet to deliver stable and sustainable impact on the research and publishing landscape in the country. They nevertheless hold promise and may be strengthened by the adoption of the recommendations in this report.

Researchers at the University of Lagos (UNILAG), Akoka and Obafemi Awolowo University (OAU), Ile-Ife, have taken decisive steps towards proffering lasting solutions to the sensitization of academia about research ethics. With a collaborative grant funded by the International Research & Exchanges Board (IREX), a research team drawn from UNILAG and OAU designed sensitization materials to improve the overall quality of research in both universities and by extension, Nigeria with a demonstration of how the e-Platform for ethical approval application management (Electronic Management System for Ethical Approval Applications) works.

<https://unilag.edu.ng/?p=32059>

OAU is proactively enhancing its policies and procedures to ensure that all research conducted under its auspices adheres to the highest ethical standards. The University guidelines on responsible conduct of research clearly define what constitutes misconduct and the procedures for reporting and investigating allegations which will be circulated once approved by the University Governing Council. This transparency will help create an environment where researchers feel safe and supported in coming forward with concerns. As part of the process towards improving the University's proactive response, a training of all heads of Departmental Research Committee was organized by the University Research Office in collaboration with the Center for Bioethics and Research of the University of Ibadan.

<https://oauife.edu.ng/obafemi-awolowo-university-gearing-up-to-institute-systems-and-structure-to-prevent-and-address-research-misconduct/>

The NAS organized a public lecture themed Combating Predatory Academic Activities, in collaboration with Covenant University to create awareness against researchers and scholars patronizing predatory journals and conferences.

<https://covenantuniversity.edu.ng/information/more/covenant-news/456-2nd-nas-ambassador-lecture-researchers-scholars-warned-against-patronising-predatory-conferences-journals>

### 3.3 Drivers of Predatory Publishing in the Nigerian Context

Predatory publishing, characterized by deceptive or unethical practices in scholarly publishing is a global problem, and efforts to stem its tide are also global<sup>33</sup>. Nevertheless, several contextual factors may be relevant to its prominence within the Nigerian academic publishing landscape. Some of these drivers of predatory publishing identified during the stakeholders' workshop include the following:

- i. **Lack of Awareness:** Many researchers, especially those new to academia, may be unaware of the distinction between legitimate and predatory journals. This lack of awareness makes them susceptible to falling prey to predatory publishers who exploit their desire for publication.
- ii. **Weak Regulation:** The regulatory framework governing academic publishing in Nigeria is inadequate. This allows predatory publishers to operate with impunity, taking advantage of loopholes and lax oversight.
- iii. **Pressure to Publish in International Journals:** Nigerian researchers feel compelled to publish in international journals to gain recognition and meet academic requirements. Predatory publishers exploit this desire by posing as international, reputable journals when, in fact, they have no credible standing in the academic community.
- iv. **Quality of Research Output:** In some cases, researchers resort to predatory publishing because their research does not meet the standards of reputable journals. Predatory publishers offer an easy route to publication without rigorous peer review, allowing subpar research to be disseminated.
- v. **Career Advancement:** For early-career researchers, particularly graduate students, and junior faculty, getting published is crucial for career advancement. Predatory publishers exploit this vulnerability by offering seemingly easy paths to publication, allowing researchers to pad their

curriculum vitae with publications that may be of dubious quality.

Addressing these drivers requires a concerted effort from various stakeholders, including academic institutions, funding agencies, publishers, and researchers themselves. Strategies to combat predatory publishing in Nigeria include a good understanding of these drivers, and thoughtful attention to what may work in mitigating them.

### **3.4 Open Access Publishing, Predatory Publishing, and Academic Publishing in Nigeria**

The interplay between open access (OA) publishing, predatory publishing, and the development of academic publishing in Nigeria is nuanced and needs careful consideration. Open access publishing aims to make scholarly research freely accessible to anyone, anywhere, without financial or legal barriers. In Nigeria, as in many other countries, OA publishing can play a crucial role in improving access to research outputs, promoting knowledge dissemination, and fostering collaboration. It can also enhance the visibility and impact of Nigerian research on the global stage. The existence of open access journals has meant that researchers and others interested in research evidence can have access to required information even when they are based in settings where, due to resource constraints, neither they nor their libraries have access to subscription-based publications. Indeed, the opening of the knowledge space and promoting equitable access to information is the main reason for the initiation and growth of open access publication. Researchers based in countries such as Nigeria are great beneficiaries of open access publication.

Payment to sustain open access publication comes from the researchers or their funders, rather than through subscriptions to journals. Nevertheless, open access publication is still organized such that manuscripts are taken through rigorous peer review and editorial considerations before a decision on acceptance for

publication is made. Thereafter, a request for publication payment is made. That is, payment does not affect the rigor of peer review and editorial quality.

Some authors have suggested that the Open Access (OA) publishing model has provided the commercial business model to predatory publishing<sup>34</sup>. The model received impetus from research funders who have keenly supported open access publication as a way of enhancing the utility of outputs from research supported by them. However, predatory publishing follows a process that negates the central role of peer review in the evaluation of the quality of research work, while presenting itself as an open access platform. Thus, in predatory publishing, payment may be demanded upfront before any peer review or editorial vetting is conducted on a manuscript, or a semblance of peer review is promised but is never delivered. The overarching goal is to sell a publication platform to the unwary researcher without availing them the benefit of an independent and credible review of the research work. The researcher loses by being denied the assessment of their work that could help to improve it, and the society is shortchanged by being offered poor quality publications that can neither meaningfully help in advancing knowledge or providing a credible basis for evidence-based policy or practice. For a country, such as Nigeria, where there is still considerable shortfall in needed research, predatory publications constitute an unaffordable waste of scarce resources. There is the additional detrimental effect on the credibility of Nigerian research and the reputation of its scholars.

In general, the development of academic publishing in Nigeria is influenced by both positive and negative factors. On one hand, initiatives promoting OA publishing, such as institutional repositories and OA journals, contribute to the growth of scholarly communication and research dissemination. On the other hand, the proliferation of predatory publishers undermines trust in the academic publishing ecosystem and hampers the recognition of genuine scholarly contributions from Nigeria.



In situating the interplay between the publishing landscape in Nigeria, open access publishing and predatory practices within the context of the Nigerian academic community, the following implications can be inferred:

- a. **Quality and Credibility:** Predatory publishing poses a challenge to the quality and credibility of Nigerian research outputs. Researchers may unknowingly publish their work in predatory journals, leading to a lack of rigor and reliability in scholarly communication.
- b. **Access to Knowledge:** Open access publishing initiatives can improve access to knowledge for researchers, students, and the public in Nigeria. However, the presence of predatory publishers may obscure genuine OA options, making it difficult for users to distinguish between trustworthy and unreliable sources of information.
- c. **Research Funding:** The prevalence of predatory publishing can waste valuable research funding by enticing researchers to pay publication fees for substandard or non-existent services. This diverts resources away from genuine research endeavors and undermines the impact of research funding initiatives in Nigeria.

## Chapter 4 – Governance of Research Publishing in Nigeria

Research governance concerns setting standards to improve research quality and safeguard the public. It involves enhancing ethical and scientific quality, promoting good practice, reducing adverse incidents, ensuring lessons are learned, and preventing poor performance and misconduct<sup>35,36</sup>. To ensure proper governance in academic publishing, some policies, decisions, and rules need to be made and implemented by universities, research institutes, and other relevant stakeholders. Governance in academic publishing involves adhering to the latest ethical standards in research and publishing as the reputation of any university or research institute depends on the quality of research and education it generates. Guidelines for academic publishing should relate to honesty, integrity, and responsible conduct. Research must be ethically done and reproducible, while results must be clearly presented and there must be no fabrication or falsification of data (Figure 2).

Among the major issues that require attention is that of gifted authorship. This relates to authors who do not satisfy the criteria for authorship and are co-authors based on status and favour. It is a requirement of ethical authorship that all authors must make substantial intellectual contributions to the research being reported in terms of the conception or design of the work, and or the acquisition, analysis, and interpretation of data. Additionally, all authors must review the manuscript before submitting it for possible publication.

Other common unethical practices include the practice of editors and editorial board members circumventing credible peer review process to publish in their own journals, sometimes with the aim of targeting their own promotion. Some journals are set up for the sole purpose of achieving this goal and once achieved, the journals cease to exist. Arranged peer review, whereby reviewers are

selected to provide a pre-determined assessment report, is another of such unethical practices.



**Figure 2: Ethics of Publishing<sup>37</sup>**

**4.1 Relevant National and Institutional Policies and Frameworks**

In early 2022, with support from the InterAcademy Partnership (IAP), the NAS, in collaboration with the Nigeria Young Academy (NYA), undertook a project to raise awareness of predatory academic practices and their detrimental effects on the Nigerian scientific community. Suggested interventions, from this project, included the need to strengthen the capacity of researchers, establish and enforce institutional policies on research misconduct, review academic appraisal policy to focus on quality and not quantity, investigate the possibility of curating a database of safe and reputable journals, as well as develop local journals.

Several institutions and universities have implemented policies and guidelines to discourage researchers from publishing in predatory journals, with some institutions requiring faculty to publish in recognized and peer-reviewed journals to receive promotions or tenure. Also, many journals have strengthened their peer-review processes and editorial standards to ensure the quality and integrity of published research. These transparent peer-review practices help distinguish them from predatory counterparts.

Academic publishers and organizations have developed and promoted ethical publishing guidelines and initiatives such as the Committee on Publication Ethics (COPE) which provides resources for both publishers and authors to maintain ethical publishing practices. Efforts have been made to support legitimate open-access publishing models that provide free access to research without resorting to predatory practices. Funding agencies and institutions increasingly require researchers to make their work openly accessible.

Postgraduate schools and colleges are at the center of producing researchers with requisite qualifications (PhDs, Master's, and other degrees and certificates) needed to attain the highest academic ranking. They conduct commissioned research, go into partnerships with agencies and institutes in knowledge production, and demand that students turn in high impact journal publications as part of requirements for graduation which promotes tendencies to patronize predatory publication outlets. There is also a lack of adequate financial support for students and other categories of researchers who are then only left with options like patronizing predatory outlets. Consequently, predatory publishing among postgraduate researchers is rampant. Postgraduate researchers are often in great haste to meet expectations: publish or perish syndrome, certification as status symbols, and to climb the academic ladder as fast as possible. Another key issue with postgraduate researchers and predatory publications is the comparatively longer time taken by legitimate subscription journals to get an article published. This is discouraging to researchers who need a minimum number of published articles within a period, and often leads them to publishing in predatory journals.

Therefore, postgraduate schools/colleges do have an important role to play in addressing the problem of predatory publishing. They could do so by establishing quality control measures to

discourage patronage of predatory publishers, drawing up and updating lists of acceptable journals by the various fields and disciplines, providing funding support and mentorship to students and staff to patronize quality publication outlets, and rewarding staff and students with quality publications. In addition, institutional journals should strive to acquire sufficient reputation to enable their indexing in credible databases such as DOAJ, Scopus, Journal Storage (JSTOR), and PubMed.

Additionally, Nigerian universities should encourage and strengthen indigenous journal publications for the promotion of academic scholarship. Publication targets for postgraduate students and researchers should not be too stringent to allow enough time to carefully select journals for publication. It is also important to understand that the quality of an article is partly due to the peer review process so setting arbitrary minimum requirements that are counterproductive can lead to patronage in predatory publishing. There should also be constant orientation/re-orientation of postgraduate researchers on the best ethical practices regarding article publication.

Academic libraries are uniquely positioned to support efforts to address the problem of predatory publishing. Among the steps that they could take include avoiding subscription to predatory journals or publications by developing strict acquisition policies. A good example of what libraries can do is the range of steps taken by the University of Lagos Library in addressing predatory publishing. The steps include the provision of basic education in scholarly publishing, through periodic information and literacy programmes for faculty members and students, and on red flags in academic publishing; engaging the University Vetting Committee to ascertain publishing outlets and level of plagiarism; and collaborating with reputable global publishers like Elsevier and Emerald to sensitize and train editors of faculty and departmental journals in the University on publishing high quality journals and creating platforms that support technical requirements for indexing in

quality publishing outlets. The University of Lagos also joined the Crossref international community in 2021 to enable the library to generate DOIs for articles submitted to faculty and departmental journals, which has created an online presence and visibility for some of the journals. The library also subscribes to Scopus to guide faculty members in their choice of publishing outlets, and with the deployment of an Institutional Digital Repository, the library actively supports open access publishing models and the improvement of scholarly communication.

In addition to these efforts, academic libraries can also create watch lists on their websites where they indicate those that are acceptable by their institutions in diverse disciplines and flag those that may be predatory.

#### **4.2 Funding for Research in Nigeria**

Regarding predatory academic practices, there are at least two ways in which research funding in Nigeria can either exacerbate or reduce the growth of the problem. The Nigerian research environment is characterized by grossly inadequate local funding support. The funding from bodies such as the National Research Foundation, Tertiary Education Trust Fund, and the National Universities Commission is too small to sustain the growth of a vibrant research culture in which mentorship constitutes the training ground for research apprenticeship. A flourishing research landscape requires research funding sources that promote quality research through meritorious and competitive bidding for support. Such a system will nurture a critical mass who will imbibe the centrality of quality and credibility to the growth of knowledge in general, and scientific knowledge in particular, and the need to avoid the dilution and distortion of scientific evidence through predatory academic practices. Avoiding the damage to academic reputation that publication in outlets that lack legitimacy cause will be one of the things the mentees will learn from their mentors within such system.

A second way in which a vibrant research funding landscape can help, in addressing the scourge of predatory practices, is through the setting of standards. Success at securing funding support can be tied to the credibility of where research outputs are published. Researchers that are aware that publication in predatory outlets will put them at a disadvantage for securing grant support will be quite wary of utilizing such outlets. If, in addition, securing funding support becomes a part of the assessment for promotion and elevation within academic institutions, academics will strenuously avoid predatory academic practices, whether publications and/or conferences. Nigerian researchers would quickly appreciate that maintaining a track record of high-quality research outputs and demonstrating the potential impact of the proposed research can enhance their credibility and attract funding from both local and external sources.

#### 4.3 Challenges and Gaps in Governance of Research Publishing in Nigeria

The governance of research publishing in Nigeria faces several challenges and gaps, which hinder the quality, visibility, and impact of academic output. Some prevailing issues include:

- i. **Quality Assurance:** Ensuring the quality of published research is a significant challenge. Predatory journals, which prioritize profit over scholarly integrity, often accept low-quality or even plagiarized manuscripts. This undermines the credibility of Nigerian research publications.
- ii. **Ethical Standards:** Inadequate adherence to ethical standards, such as authorship criteria, conflicts of interest disclosure, and research integrity, can diminish the trustworthiness of published research. Lack of awareness and enforcement of ethical guidelines contribute to this challenge.
- iii. **Access and Affordability:** Access to research publications is often limited, due to subscription costs and paywalls, hindering researchers' ability to access relevant literature. This restricts

- knowledge dissemination and collaboration within the academic community and slows down research progress.
- iv. **Capacity Building:** Many researchers in Nigeria may lack the necessary training and resources to effectively navigate the publishing process. There is therefore a need for capacity building initiatives to enhance researchers' skills in academic writing, publication ethics, and research dissemination.
  - v. **Infrastructure and Technology:** Inadequate infrastructure and technological resources, such as access to reliable internet connectivity and research databases, relevant software applications, and equipment can impede the ability to conduct and publish high-quality research.
  - vi. **Peer Review Process:** The peer review process, which is crucial for maintaining the quality of scholarly publications, may be compromised due to factors such as outdated journal peer review process (e.g. absence of efficient online system), lack of transparency, bias, and inconsistencies in review standards. Inadequate number of reviewers, lack of training in the review process and absence of reward for the review effort all hamper the system of peer review.
  - vii. **Research Misconduct:** Instances of research misconduct, including plagiarism, data fabrication, and falsification, undermine the credibility of research publications. There is a need for robust mechanisms to detect and address such misconduct effectively.
  - viii. **Recognition and Incentives:** The lack of recognition and incentives for publishing in reputable journals may discourage researchers from prioritizing quality over quantity in their publication endeavors. This can perpetuate a culture of quantity-driven research output.
  - ix. **Collaboration and Networking:** Limited collaboration and networking opportunities with international researchers and institutions may restrict the access of Nigerian to global publishing platforms and collaborative research projects.



Implementing policies and initiatives to promote research integrity, improve access to publications, enhance capacity building, and foster collaboration can contribute to strengthening the governance of research publishing in Nigeria. Additionally, raising awareness about publication ethics, and providing support and resources to researchers can help improve the quality and visibility of Nigerian research output on the global stage.

## Chapter 5 – Profile of Predatory Publishing in Nigeria

### 5.1 Introduction

As earlier stated, among its mandate, the Committee was tasked to review the trends and drivers of predatory practices, the level of knowledge, attitude, and extant response of stakeholders to predatory practices in Nigeria. In doing this, the Committee considered the geographic, institutional, and disciplinary spread of the use of predatory outlets of research dissemination as well as the general awareness of researchers. The Committee also engaged with diverse groups of stakeholders to collectively identify actions that can be taken to stem the tide.

### 5.2 Methodology

Three approaches were used to study the profile of predatory publishing in Nigeria:

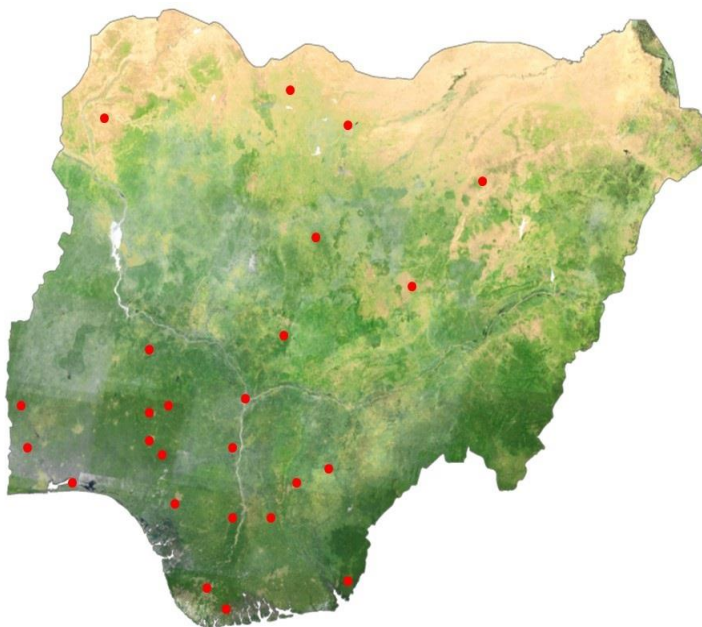
1. A search of the literature about the extent of involvement of Nigerian researchers in predatory publishing;
2. A questionnaire survey of respondents from various stakeholder groups; and
3. A virtual workshop, of selected participants from diverse stakeholder groups, was hosted to deliberate on predatory academic practices and offer perspectives on how to address the challenge.

**Literature Search:** A systematic literature search and review was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement<sup>38</sup>. For this study, we examined only publications without restriction on the year of publication using the Google Scholar ([www.google scholar.com](http://www.google scholar.com)) search engine. Appropriate text words in title, abstract and keywords were used in a search that was carried out in two steps. Firstly, individual terms and text words were searched using the Boolean operators (AND, OR): ('predatory publications' OR 'predatory journals' OR 'predatory academic journals' OR 'predatory scholarly publications') AND ('Nigeria'). The

second phase of the screening involved all Nigerian publishers and journals on the Jeffery Beall's list of July 2023. The Committee is aware of the controversy surrounding the Beall's list, including its initial creation, withdrawal and re-emergence as well as the availability of other lists created by other bodies. Its use in this report is influenced by the fact that several Nigerian universities base their decision about whether a publication is predatory or not on the list. African Journals Online (AJOL) which has about 300 Nigerian journals on its list to determine which might be classified as predatory was also screened.

In addition, all the journals highlighted by respondents to the questionnaire (see below) were screened to broaden the scope of the search. Eligible studies focused on all forms of academic research publications and Nigerian authors. Confirmation on whether a journal identified by respondents is predatory was based on checking the profile of the journal against previous definition of what constitutes predatory publishing.

**Questionnaire Survey:** To obtain the perspectives of scholars and researchers on the phenomenon of predatory practices, we conducted an open and all-inclusive national survey towards gauging knowledge, attitude, and experience of predatory journals. A total of 207 respondents were selected from across the country to participate in the study. Selected participants were from diverse disciplines and universities. They also included administrative staff (such as librarians and information science officials), members of the Committee of Vice-Chancellors, researchers, lecturers, and journalists/media persons. Figure 3 shows the geographical spread of the respondents.



**Figure 3: Map of Nigeria showing the spread of predatory academic practices survey**

**Virtual Workshop:** The Academy organized a virtual stakeholders' workshop on the 6th of September 2023. The workshop participants were drawn from across various relevant sectors and stakeholder groups. The aim was to obtain their perspectives on predatory academic practices in Nigeria and to offer suggestions on how to stem the tide.

### 5.3 Results of the Literature Search

The systematic research approach using the appropriate and selected terms<sup>39</sup> on Jeffery Beall's list returned one Nigerian journal publisher called International Research Journals (Lagos, Nigeria). As of 2023, the International Research Journals publishers host 16 research journals with a total publication count of 4208 articles of which 92.1% are articles authored by Nigerians with the highest articles published in 2011, 2012, 2013, and 2023 (Figure 4A).

We categorized and ranked the number of Nigerian articles listed in the identified predatory journals and observed that natural

science, medical science, and engineering/technology contribute the highest numbers of predatory articles from Nigeria, while the least was observed for philosophy, arts, and languages (Figure 4B). We suspect that this pattern might reflect disciplines and research areas where the bulk of Nigerian research output is produced.

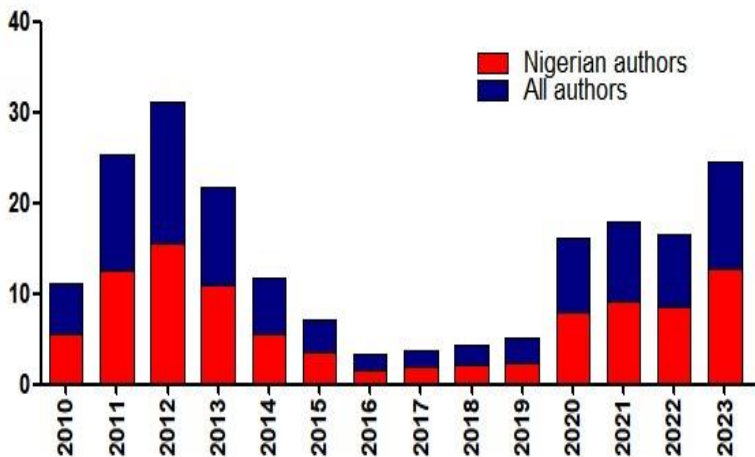


Figure 4A: Trends of Nigerian authors and other predatory articles published on Beall list from Nigeria.

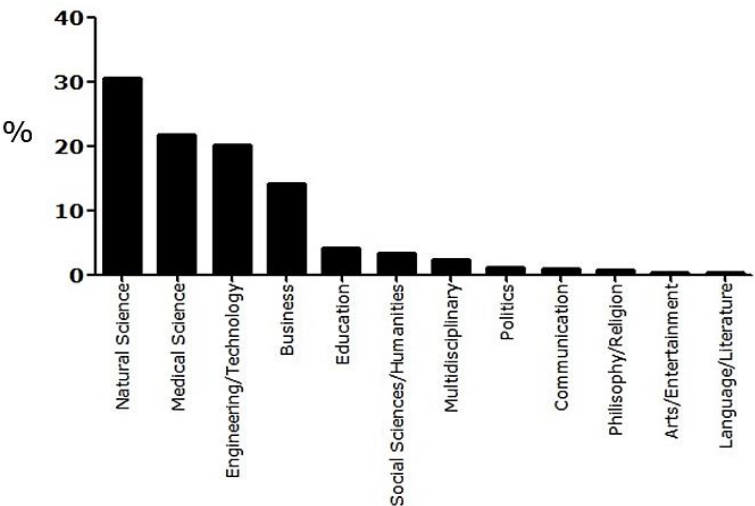
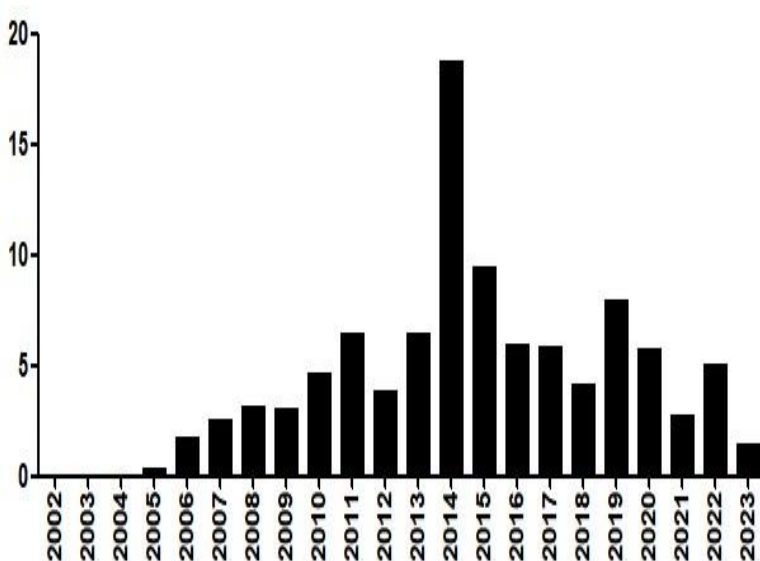


Figure 4B: Distribution of predatory journal publications across disciplines in Nigeria.

#### 5.4 Results of the National Survey

A total of 207 respondents from all over the country participated in the study. Most (56.6%) were between 31 to 50 years in age, majority (69.6%) were males, 33% had doctorate degrees while 30% were professors. At least a third have published between 10 to 40 research articles. Regarding factors influencing the decision of where to publish, 36% would consider impact factor while 34% would consider journals with a presence on an indexing database. Most (59%) would be prepared to publish in journals listed on a national index. A great majority (89%) of the respondents were aware of predatory academic practices including journals and conferences, and 32.9% have published in such journals. Only 14.5% of the respondents were aware of Nigerian journals with predatory characteristics. While a majority (91%) considered predatory practices a serious problem in Nigeria, only 42% indicated that there was a punishment for publishing in a predatory journal in their local universities.

Additionally, we conducted a systematic search of all the 58 predatory publishers and journals listed by respondents on the national survey and identified 10,414 published articles with Nigerian affiliations. Typically, these were journals that lack credible and transparent peer review process and present false or misleading information about their editorial policies, have implausibly short turn-around time from submission to publication and publish articles for a fee. The trends of the published articles, in regard to the total number appearing per year, show a steady rise until 2010 when some sort of plateau was reached, albeit with a big jump in 2014 (Figure 4C).



**Figure 4C: Trend in predatory journal publications by Nigerian authors identified through the information provided by survey respondents**

## 5.5 Summary of Main Findings from the Literature Search and Stakeholders' Survey

The following are the main findings from the literature search and response from the participants in the survey of stakeholders;

- One Nigerian publisher (International Research Journals, (Lagos, Nigeria) is included in Jeffery Beall's list of predatory publishers. The publisher is very active, having published a total of 4208 articles as of 2023. Of these, 92.1% are publications by authors with Nigerian affiliations.
- Natural science, medical science, engineering, and technology disciplines constitute the highest percentage of predatory articles from Nigeria.
- No university, zone, or region in Nigeria is free from predatory academic practices as these practices cut across the country with respect to the location of the authors.
- Impact factor and indexing status are important factors that determine the choice of journals for publication by Nigerian authors.

- e. There is a high degree of knowledge and awareness of predatory journals and conferences among Nigerian academics and researchers, including an acknowledgement of the seriousness of the problem and a need for attention to stem the tide. For example, a review based on extensive bibliometric analysis confirmed the 58 journals listed by respondents in the national survey as having predatory profile and that 10,414 articles were published in these journals between 2010 and 2022 by researchers based in Nigerian institutions. However, the survey also showed that many Nigerian academics and researchers were unable to clearly identify Nigerian journals and conferences with predatory characteristics.

A limitation of the current exercise is that it was not designed to conduct the extensive bibliometric study analysis that would be required to determine the total number of research articles published by Nigerians in a defined period, and to fully estimate the total number of predatory publications produced by Nigerian researchers. Rather, the aim is to provide an overview of the predatory academic practices in the country. Nevertheless, to set the findings in context, a cautious comparison of the statistics provided here can be made with those in a report by a group of South African authors. That report estimates the total number of publications by South African authors in predatory outlets between 2005 and 2014 to be 3906, constituting 3.4% of the total number of research papers by South African authors over the period<sup>14</sup>. The authors estimate the total amount of public money that support the work resulting in these publications to be between 100-300 million South African Rands. Given that Nigeria does not produce as many research papers as South Africa, it is plausible to surmise that the proportion of predatory publications to the total publication outputs of Nigerian researchers will be higher than 3.4%, and that the wasted funds will also be as high, if not higher.



## 5.6 Stakeholders' Engagement Workshop Inputs

Some participants at the stakeholder's engagement workshop used some terminologies to describe some activities and actors in the predatory academic environment such as pseudo-academics, pseudo-research, as well as pseudo-researchers and pseudo-professors, all as a way of painting the picture of a serious problem in Nigeria. They noted that, unfortunately, even though stakeholders in academic communities are aware of predatory publication/journal articles, they have often failed to act or have pretended not to be aware of it. They noted that predatory academic practices are rampant in the Nigerian university system and suggested that, to address this problem, the patronage accorded to predatory journals/publications by universities and other institutions should be discouraged. One way of doing this is to delist predatory publications from score-able publications and remove predatory articles from all forms of academic assessment. Additionally, it will be very important that the National Universities Commission (NUC) develops a unified national minimum benchmark (covering all academic ranks) for all ranks of academic promotion and appointment across the Nigerian university system and issue a circular to this effect to all institutions. The national guidelines for academic publishing should relate to honesty, integrity, and responsible conduct, while research must be ethically conducted and reproducible, with results clearly and honestly presented without fabrication or falsification of data. Furthermore, the issue of gifted authorship should be discouraged among Nigerian academics and researchers. As a rule, all co-authors in publications must show their credit author statement to satisfy the criteria for authorship. This implies that all authors must make substantial intellectual contributions to the research in terms of the conception or design of the work, the acquisition, analysis, interpretation of data, and must review the articles before submission for possible publication.

The workshop participants identified the following groups as being negatively affected by predatory publishing; researchers, departments, universities and other academic institutions, funders, scientific bodies such as academies, and the country at large. The participants concluded that the problems and challenges of predatory academic practices are real and identified the role of all stakeholders including government and policy makers in addressing the problem in Nigeria. All stakeholders (National Universities Commission, Committee of Vice-Chancellors of Nigerian Universities, university management and librarians, heads of research institutes and ministries of education) were therefore encouraged to be involved in confronting the issues.

The following are highlights of the observations and suggestions made by the participants at the workshop (Panel 1):

| Infrastructure  |
|---|
| <ul style="list-style-type: none"> <li>i. Improve research infrastructural development: Research facilities and equipment need to be constantly maintained or replaced to enable researchers conduct high quality research, as low-quality research would most likely be published in predatory journals.</li> <li>ii. Foster academic mentoring: The purpose of mentoring is to grow using the nourishment provided by the knowledge and experience of someone further along in the field. If early career researchers are properly guided by mentors, good and reputable journals would be their targets for publishing.</li> <li>iii. Libraries should facilitate the indexing and listing of all Nigerian institutional journals for increased visibility and reputation to enhance patronage and impact.</li> </ul>  |
| Resources   |
| <ul style="list-style-type: none"> <li>iv. Provide resources for publishing: Nigerian universities should assist their staff and students with funding to facilitate payment of publication costs that are required to publish in reputable open access journals.</li> <li>v. Strengthen local publishing: Academic policy makers should conduct an assessment survey of all journals in Nigeria to identify the journals that meet accepted standards for academic publishing. Additionally, capacity strengthening engagements for publishers and editors of local journals should be organized to guide them on the ethics of good research.</li> </ul>  |
| Assessment practices  |
| <ul style="list-style-type: none"> <li>vi. Emphasize quality research output over quantity: The evaluation of academics for appointments/promotion should be based on engagements with all important aspects of the research enterprise: the grants they have applied for and those that have been secured; collaborations established, presentations at good conferences, among others and not on an exclusive emphasis on number of papers published.</li> <li>vii. The NUC may insist on publications for promotion being strictly in journals of a quality to be listed in bibliographic index such as Clarivate, Scopus, PubMed and Scimago.</li> <li>viii. Institutions should recognize and reward appropriately collaborative research outputs which are more likely to be of higher quality than studies conducted and published by single authors.</li> </ul> |

## Chapter 6 – Conclusions and Recommendations

### 6.1 Conclusions

Predatory academic practices are rampant in Nigeria. Every geographical region of the country is represented in the distribution of institutions where researchers who participate in predatory practices are based. There is also a broad diversity of disciplines involved. The practices in which Nigerian researchers are prominent include publications in predatory journals and participation in predatory conferences. These practices pose significant risk to the growth of science in the country. By excluding the gold standard of credible peer-review process through which research standards are enhanced in preference for pecuniary gains, predatory practices promote mediocrity, poor research quality and retard innovations. In a country with inadequate amount of research to address and help promote national developmental targets, predatory practices constitute a waste of limited material and human resources by deploying a considerable proportion of existing resources to activities that do not advance credible and reproducible knowledge. These practices also do considerable damage to the credibility of science in/by Nigerian and Nigerian researchers as well as fuel public distrust of scientific activities. Members of the Nigerian academic community agree that steps should be taken to stem the tide of these practices.

### 6.2 Recommendations

In view of the multi-sectoral approach required to address the challenge posed by predatory academic practices, the Committee makes the following recommendations (see Table):

1. **Researchers:** Researchers should avail themselves of the information necessary to assess journals and conferences for credibility and determine predatory outlets. Consequently, they should thereafter avoid the use of such outlets for the dissemination of their works. In addition, Nigerian researchers should also avoid contributing to the practices by refusing

invitations to conduct peer reviews for such predatory outlets as such peer review process is often a sham.

2. **Academic institutions:** Academic institutions should offer opportunities for continuous education of their faculty about responsible, honest, and ethical conduct of research. They should also promote and recognize mentorship as a way of building a critical mass of researchers with a broad range of research expertise, including peer review and research quality assessment.

Academic institutions should also design academic assessment approaches that discourage exclusive emphasis on quantity of publications but promote quality, collaborative networks, grants application and procurement, and participation in editorial activities. They should clearly set out sanctions for participation in predatory practices, be it publishing or conference attendance. All outputs in predatory outlets should not receive positive scores for academic promotions. Research grants provided by institutions should explicitly discourage publications of the results of research projects in predatory outlets.

3. **Academic libraries:** Academic libraries should provide professional assistance to researchers to identify predatory outlets and should actively avoid subscribing or stocking journals from predatory publishers. Libraries should strive to have access to at least one credible international research indexing, such as Web of Science or Scopus and provide such access to researchers. Academic libraries should also step-up advocacy for digital publishing of academic journals published in Nigerian universities. This will help to improve the standard and quality of articles published and will eventually improve the visibility of Nigerian researchers and institutions.

4. **Academic Libraries** in collaboration with the National Library and NAS could collaborate to develop a cloud index database of credible and reliable journals in Nigeria as well as journals with red flags. This effort could also include engagement of the National Library with International Standard Number provider to develop policies that could further help in stemming the proliferation of predatory publications.
5. **National Academies:** Academies should commit themselves to giving regular attention to the problem of the changing landscape and sophistication of predatory academic practices to help researchers stay informed and updated. National academies should also have a policy of actively discouraging predatory publications by ensuring that such publications attract sanctions in any consideration for fellowship or other preferments.
6. **The National Universities Commission:** The National Universities Commission should conduct regular audits of credible Nigerian journals and academic publishers and disseminate its findings to institutions and researchers. While recognizing the autonomy of universities to assess and determine preconditions for academic promotions, the NUC should encourage institutions to abide by a set of minimum standards which should include a provision to not consider publications in predatory outlets for promotion. The NUC should include an assessment of predatory practices in the regular conduct of its accreditation exercises.
7. **The Nigerian government:** The government should promote quality research and innovations in the country by setting up one or more institutions with the mandate to fund research and innovation. Such institutions should be adequately funded, and they should operate through a process of assessing applications for research funding based on transparent assessment of merit and competitiveness. The process should

emphasize quality, particularly the ethical conduct of research and impose sanctions on predatory practices. As previously recommended by the Association of University Librarians of Nigerian Universities (AULNU), and as a way of providing access to academic journals and literature, the government should facilitate the availability of reputable databases, such as Science Direct and Scopus, to Nigerian researchers that can be accessed across the country's university libraries. This would help overcome the financial difficulty that universities have in subscribing to such databases.

**Table 1: Indicative targeted actions and responsible stakeholders**

| <b>Intervention</b>  | <b>Target</b>                                     | <b>Responsibility Holder</b>                               |
|--|---|--|
| <i><b>Maintain scholarly integrity</b></i>                                     | Researchers                                       | Higher Education Institutions, Researchers                 |
| <i><b>Continuous Awareness Creation</b></i>                                    | Early Career Researchers                          | Higher Education Institutions, Mentors, Academic libraries |
| <i><b>Promote quality over quantity</b></i>                                    | Whole research community                          | Higher Education Institutions, funders                     |
| <i><b>Provide helpful resources</b></i>  | Research community                                | Academic Libraries   |
| <i><b>Advocacy for digital publishing</b></i>                                  | Researcher, Nigerian Journals                     | National Library   |
| <i><b>Advocate for enabling policies</b></i>                                   | Research community, Higher Education Institutions | Academies  |
| <i><b>Fostering effective governance structure for academic publishing</b></i> | Nigerian Journals, Academic publishers            | National Universities Commission                           |
| <i><b>Provision of grants to support meritorious research</b></i>              | Researchers, Research institutions                | Federal Government   |
| <i><b>Access to reputable databases</b></i>                                    | Researchers, University libraries                 | Federal Government   |

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#### **Additional Reading;**

“The Crisis of Academic Research and Publishing in Nigerian Universities,” in Adebayo Olukoshi and Paul Tiyambe Zeleza (eds.), *African Universities in the Twenty-First Century, Volume 2: Knowledge and Society*, Dakar: CODESRIA, 2004, pp. 363-375.

## **Appendix**

### **Stakeholders' Survey**

#### **Background Information**

##### **1. Age**

- 20 – 30
- 31 – 40
- 41 – 50
- 51 – 60
- 61 – 70
- 71 – 100

##### **2. Gender**

- Male
- Female

##### **3. Current academic position/rank**

- Professorship
- Readership
- Doctorate
- Master's degree
- Post graduate Student
- Other

##### **4. Discipline/Specialization**

##### **5. Organization/University**

##### **6. State**

#### **Publishing History**

##### **7. How many journal articles have you published?**

- None
- 10 – 20
- 20 – 40
- 40 – 50
- 50 – 100
- 100 – Above
- Other

**8. What do you consider when choosing a journal to publish in?**

- Impact factor
- Indexing status
- Publishers
- Editorial board
- Country/ location of journal
- Other

**9. Would you choose to publish in a journal with a national index?**

- Yes
- No
- Maybe

**10. Are you aware of predatory academic practices, including predatory journals and conferences?**

- Yes
- No
- Not sure

**11. If yes, what are they?**

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**12. Have you or your co-authors ever published in a predatory journal?**

- Yes
- No
- Maybe

**13. What did you do when you realized it was a predatory journal?**

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**14. Do you know any predatory journals in your research area?**

- Yes
- No
- Maybe

**15. If yes, list them?**

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**16. Do you know any Nigerian journal with predatory characteristics?**

- Yes
- No
- Maybe

**17. If yes list them?**

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**18. Do you think predatory practices are a serious problem?**

- Yes
- No
- Somewhat
- Maybe

#### **Addressing Predatory Academic Practices**

**19. What do you think are the root causes of predatory practices?**

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**20. How do you think predatory academic practices can be eradicated?**

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**21. Is there any punishment for publishing in a predatory journal in your university?**

- Yes
- No
- I don't know

**22. What is your organization/university doing to curb/eradicate predatory practices?**

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**23. What else can be done to curb predatory practices in Nigeria?**

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