



# Open access in Angola: a survey among higher education institutions

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## Abstract

Open access (OA) to research publications is of global relevance, both in terms of provision and consumption of scholarly content. However, much of the research, practice, and models surrounding OA have been centered around the Global North. In this study we investigate how and to what degree higher education institutions (HEIs) in Angola interact with the concept of OA to journal publications through their policies and practices, a country where the end of the civil war in 2002 marked a new start for growth in teaching and research. This study is based on an online survey conducted in 2020 among research management units of Angolan HEIs. 23 valid institutional responses were received of 44 invitations sent (52% response rate). The results suggest that Angolan HEIs have moderate awareness of OA but practical incorporation into academic processes has remained slow, however, this can be seen to be connected to the overall slow progress in ramping up research intensity in the country. Seven of the responding institutions reported to be involved in publishing scholarly journals, all of them OA. Overall Angolan HEIs have few institutional repositories, and have so far placed little value on OA in the context of academic career advancement.

**Keywords** Open access · Angola · Higher education institutions · Journals · Repositories

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## Introduction

One of the cornerstones of universities, differentiating them from other levels of education institutions, is the focus on research-based teaching. Research-based teaching necessitates teachers being able to access, and contribute to, the scholarly research literature in a given subject. Though there is large heterogeneity among countries in the Global South, there have been some common key tensions in creating an equitable environment for access and participation in global research. One key barrier is language, where English has become established as the default language for global scholarly publishing, adding a threshold for academics in non-English speaking countries to participate. Another key barrier relates to business models of international journal publishing that create financial thresholds for participation, both through subscription-fees or article processing charges (APCs) for publishing in open access (OA) journals.

In the Global North scholarly publishing has grown and been shaped over centuries together with the gradual establishment and expansion of university education and research in the surrounding societies. How this relationship has developed around the world differs, as many countries and regions have been struggling with poverty, political unrest, and even war that has slowed down or hindered the capability to develop a strong local HEI sector. There is a lack of knowledge on how countries that have more recently been building or rebuilding higher education and research sectors are interfacing with scholarly journal publishing. OA has become a central concept to scholarly publishing and offers many new ways that individuals and institutions can interact with a global audience, but at the same time there is concern that some of the ways that OA is funded creates new barriers to equal participation (e.g. Gray, 2020; Raju & Claassen, 2022; Siler et al., 2018).

Raju et al. (2020, p. 55) state that “[...] open access is viewed as a means for social justice because it gives opportunities to everybody to acquire knowledge through growing opportunities for equal access to information”. The authors combine the concept of social justice through OA with Ubuntu, which is a South African ethical rule focused on the loyalty of people and the relationships between them, talking about OA as a form of improve this process. The authors argue that the OA movement must recapture its social justice and inclusivity imperatives in support of the equitable dissemination of Global South scholarship, including African scholarship.

In this study we investigate how and to what degree HEIs in Angola have come to interact with the concept of OA to journal publications through their policies and practices. The country has been strengthening its HEI sector since the end of the civil war in 2002 and as such provides a unique opportunity to study what role OA has for local institutions as well as on the aggregate national level.

In the next section we will briefly review key research and developments concerning Africa in the relation to scholarly journal publishing and OA, going from a broad continental context towards the more specific of sub-Saharan Africa, and at towards the end focusing only on Angola. The section that follows provides a brief historical and current review of higher education in Angola, ending with a listing of the key research questions guiding the study documented in this paper. This next section presents the methods used in the investigation, outlining the design of the institutional survey and its data collection approach. This is followed by a results section, and a discussion section where the findings are reflected against existing research on the topic. Finally, the paper ends with a brief statement of conclusions concerning the main takeaways of the study.

## Open access development in Africa

OA offers African scholarship unprecedented opportunities to reach previously inaccessible audiences—nationally, regionally, and internationally. Thus, failing to embrace OA would mean missing a great opportunity to improve the dissemination, visibility, and impact of research findings from the African continent (Hervé & Nkoudou, 2020, p. 35).

According to Raju et al. (2020, p. 54) colonialization, post-colonial inequality and deprivation in Africa has “[...] relegated Africa to the periphery of the world’s knowledge production”. Africa has been building up capacity for more intensive engagement in research, with varying degrees of intensity between the countries. A recent investigation found that there has been an 700% increase in peer-reviewed publications by Africa-based researchers over the past 20 years when looking at the research field of education, and this is only considering what is indexed in the Scopus database (NORRAG, 2017). That investigation as well as other outputs from the NORRAG project also shed light on the diversity in academic development levels between African countries. A common distinction in the literature is consideration for sub-Saharan Africa a separate entity, but even so there are large discrepancies between the many countries included in the sub-Saharan region. For example, South Africa is considerably more advanced than Angola, as is also Namibia which is Angola’s nearest neighbor.

However, the continental context should also not be neglected since there are many initiatives that span multiple African countries, such as African Union and their Agenda 2063 that has set a common aspiration where “Well educated and skilled citizens, underpinned by science, technology and innovation for a knowledge society is the norm [...]” (African Union, 2015, p. 2). One of the most notable achievements for disseminating journals published in Africa to the world is African Journals OnLine (AJOL), which is a journal portal that has been running since 1998 and was in June 2021 hosting 527 journals of which 270 were OA (ajol.info, n.d). Such regional portals that provide a common technical infrastructure for multiple journals have been and continue to be a key infrastructure for enabling OA publishing globally (Björk, 2017). There are plans to develop Open Science practices more broadly in Africa as well through the “African Open Science Platform” which could be also be used for purposes of scholarly publishing (Soodyall & Smith, 2019). The platform aims to link researchers, innovators, and funders with the goal to scale up their work. Among the projects eight priorities, one concerns improving knowledge production, and another intra-African research collaboration (Academy of Science of South Africa, 2019). In this sense, is clear the advances of African countries trying to be engaged with OA procedures that have been adopted in other continents, but it is important to remark the slow way they had been done because they need to develop infrastructure and related services, and they need resources and commitment to succeed. This is a long-term engagement that has only just started, and every African country must face it in their own way under their own circumstances.

Since economic circumstances for academic institutions vary greatly across the globe there are several initiatives that focus on facilitating access to subscription-based journal content at low or no cost to the eligible institutions. Research4Life, which has been running since 2002, manages five different programs that collectively provide access to the tens of thousands of subscription-based journals for local non-profit institutions in low- and middle-income countries. Angola and most Sub-Saharan countries, excluding South Africa, are eligible to get free access (research4life.org, n.d.). In addition to such access

being valuable for supporting teaching at institutions, research has shown that access provided through such programs to developing countries has an impact in facilitating published research conducted in the region (Mueller-Langer et al., 2020). However, barriers for interacting with the global scholarly literature are not only related to costs and subscriptions, but poor access to the internet, frequent blackouts, poor information technology infrastructure, and lack of skills (Raju et al., 2020).

It is over ten years since Rotich (2011) called out for increased African involvement in scholarly publishing, involvement that would reach outside of regional audiences through the help of OA, either by journals publications or development of institutional repositories (IR). Hervé and Nkoudou (2020) argue that since the formal beginning of the broader movement towards OA, the Budapest Open Access Initiative (BOAI) in 2002, African countries have persistently been reliant on western initiatives to achieve progress. Hervé and Nkoudou (2020) describe how African researchers do not have the same possibilities to self-archive and contribute themselves to the circulation of their work even through green OA, exposing a difficulty for the adoption of OA in African universities. In the same way, the authors state that “[...] the fact that African policy makers do not always prioritize research funding in their countries makes them dependent on the scientific agendas of donors, most of whom are from the North.” (Hervé & Nkoudou, 2020, p. 32).

Ezema and Onyancha (2017) provide an overview of IRs on the African continent. The overview based on data from 2014 showed that Africa represented 3.4% (136) of the 4055 repositories in the Registry of Open Access Repositories (ROAR), where over 60% of the African repositories were based in South Africa, Egypt, or Nigeria with no repositories in Angola. The situation is similar in 2021 where 3.9% (179 of 4598) of ROAR-registered repositories were in Africa, with none in Angola. Kakai et al. (2018) investigated the use of IRs for East African counties in particular (Kenya, Tanzania, Uganda). The study found that 40 out of 145 universities had an IR, and that most repositories held less than 1000 items each. The authors proposed that one explanation for the low use being lacking researcher awareness, and the lack of mandates supporting more strict use of them.

At the start of 2021 there were 194 active African OA journals included in the Directory of Open Access Journals (DOAJ), publishing a total of 7897 articles in 2020. In terms of global shares in the DOAJ this is 1.4% of journals (14,175 active journals total) and 0.75% of article output (1,061,256 articles total in 2020) (Crawford, 2021). Based on the study over half of all African journals are published by universities. The only three African countries with over ten journals were South Africa (109), Morocco (27), and Algeria (25). Three journals were based in Angola, all being free from APCs and publishing a total of 71 articles in 2020; SAPIENTIAE, Revista Órbita Pedagógica, and Revista Angolana de Ciências. All three journals publish in Portuguese, Spanish, and English. Two of the journals are within the broader research field of Social Sciences, and one is focused on Education and Pedagogy. Artigas and Gungula (2020) provide a closer inspection of the history and publication activities of SAPIENTIAE.

Chisita and Chiparousha (2019) conducted interviews with academic library staff and faculty members from universities in Zimbabwe in order to establish the current status and support for OA. In February 2019, 6 out of the 19 universities in Zimbabwe were found to have IRs. Only two universities had slightly over 1000 items in their IR, while the rest had considerably less. Most interviewed library representatives reported support for publishing in OA journals, however, stating that researchers still need support and resources to get rid of misconceptions regarding the quality of OA journals. One university had been tracking web access to repository items since 2015 and could observe the impact of OA through tens of thousands of accesses to items coming from users in the USA, China and South

Africa. Technical challenges and preservation concerns were also raised by library representatives, but also that open-source software can mitigate some issues.

The topic of OA has recently been on the surface in Angola. During July and August 2020 Óscar Ribas University in Luanda, Angola in cooperation with UNESCO, the Ministry of Higher Education, Science, Technology and Innovation (MESCTI) in Angola, and Redalyc/AmeliCA of the Universidad Autónoma del Estado de México arranged a series of webinars on the role of OA and how journals can be created, potential platforms they can be managed on, indexed, and how to establish accreditation for national scientific journals. The webinars assessed capacity building needs in OA so that the Angolan representatives of scientific journals and technical-scientific book publishers can play an active role in publishing openly licensed research ([unesco.org](https://unesco.org), 2020). Through this it can be perceived that there is interest by the government and the institutions for OA, but they are in the initial stages establishing OA as a reality in the country.

### Higher education development in Angola

The status of higher education in Angola is deeply intertwined with the unique history of the country where in particular Portuguese occupation and the civil war have impacted the development. As such higher education in Angola is in a completely different position when compared with e.g. European countries where higher education has grown over centuries in tandem with a scholarly publishing system that has evolved together with the environment. This section can only provide a brief summary of the central events of relevance to Angolan higher education development, more extensive histories and reviews about it are provided by Kempner and Jurema (2012) and Almeida Patatas (2016) on which this section is also heavily based.

There was no higher education in Angola until the second half of the twentieth century, when the Catholic Church opened institutions in 1958, in Luanda and Huambo. Before that the main option for the population was to obtain higher education through Portugal. In 1962 the Estudos Gerais Universitários 44 (EGU) was created with the Ultramar Ministry and Education Ministry in charge. In Luanda there was an institution focusing on medical, science and engineering, one in Huambo which focused on agronomy and veterinary, and one in Lubango focusing on literature, geography, and pedagogy. The two first years of education were performed in Angola with the rest in Portugal, which made higher education inaccessible to large parts of the Angolan people (Almeida Patatas, 2016).

The EGU became the Universidade de Luanda in 1968, and in 1969 the University Hospital was opened. When the civil war broke out after the independency in 1975 many teachers left the country and the development of higher education in Angola came to a halt. The government put effort into maintaining some activity in higher education during the war, but the circumstances were challenging with destroyed infrastructure, low pedagogical and economic resources, and a fundamental lack of security on the streets (Almeida Patatas, 2016). Overall, the investment in scientific research was low prior to 1997, leading to a lacking link between teaching and research (Kempner & Jurema, 2012).

The end of the civil war in 2002 marked a significant change for the circumstances of higher education in Angola. Post-war there emerged a need to improve the level of education in the population to increase skill and salary levels in the population. In many countries the growth of an education system is a natural process that evolves incrementally over time and geography of a country, but in the case of Angola the starting point was almost a clean slate. The government designed initiatives to improve the quantity and quality of

the education system as part of country reconstruction. The Universidade Agostinho Neto (UAN) was the only public university up until 2009, when a reorganization of the higher education network took place. New public institutions similar to the UAN were created in different regions of the country (Almeida Patatas, 2016; Kempner & Jurema, 2012). After 2002 higher education grew rapidly e.g. by UAN increasing student numbers from 9000 in 2002 to more than 60,000 spread across 18 campuses by 2010 (Langa, 2014). As the number of HEI institutions has continued to grow during the last ten years, some challenges have been identified which relate to e.g. student dropout rates, insufficient number of courses in popular subjects, exclusion of applicants with financial or mobility difficulties, and low number of researchers (Almeida Patatas, 2016).

Increased emphasis on developing the higher education sector in Angola is demonstrated in many documents published by the government in the last three years, e.g. the National Development Program (2018–2022) presents the national steps and policies to develop the country in all areas, and specific in higher education they point on “[...] improving the quality of Higher Education and development of Scientific Research and Technology” (authors’ translation) (Angola National Development Program, 2018). OA is not mentioned in this national plan but an emphasis on increased research is clearly communicated.

In 2018 there was a reform to the academic career rules in the MESCTI where university teachers were encouraged to also publish as researchers. This is related to the Presidential Decree of 201/11 issued on July 20, 2011 (pnfq.gov.ao, 2011) which established the implementation of Science, Technology and Innovation indicators by MESCTI. These indicators were designed to monitor investments, scientific and technological production, and the integration of the results obtained in society. One of these indicators is the share of GDP dedicated to research, where the goal is to work towards 1% rather than the 2018 level of 0.07% (Agencia Angola Press, 2018). One of the ways productivity is measured is through the creation and maintenance of scientific journals with compliance with international standards (Legal Regime of Avaliação e Acreditação da Qualidade das Instituições de Ensino Superior, 2018).

In 2019 Artigas and Gungula (2020) reviewed the current status of private universities in Angola’s capital Luanda and journals that they publish through information available in the Angola Formative portal (angolaformativa.com, n.d.). 19 private universities were listed with 4 of them having webpages that were not accessible at the time of the study. Two of the universities published journals, Instituto Superior Politécnico Metropolitano de Angola (IMETRO) and Universidade Óscar Ribas (UÓR).

As of 2020 there is a total of 44 HEIs in the country listed on the website of the MESCTI. These institutions are the main focus of the study documented in this paper. The primary aim of this multi-institutional study is to set out to explore how and to what degree HEIs in Angola have come to interact with the concept of OA to journal publications through their policies and practices.

More specifically the research questions concerning Angolan HEIs this study is aims to respond to are:

## Background information

1. What is the size of the researcher population at institutions?
2. What is the volume of research output in terms of journal articles?

3. What kind of preferences are there for publishing in different languages? What about international indexing of journals?
4. What kind of strategies, if any, are used by institutions to stimulate and encourage research productivity?

### OA-specific information

1. Has training and education concerning OA been arranged for faculty?
2. What is the level of presence of institutional OA policies? What has motivated their creation? What kind of recommendations or requirements do existing policies include?
3. Do institutions have or make use of an institutional repository for OA? Are faculty encouraged to make use of the repository?
4. Is the phenomena of predatory journals somehow acknowledged at an institutional level?

For countries where the background factors have more readily available existing data and research available asking such questions would likely not be needed, however, in the case of Angola it is relatively unexplored territory so some additional information is needed to better understand the role of OA in the overall research dissemination activities of Angolan HEIs.

## Methods

### Data collection procedure

This study used a multi-institutional online survey as the main instrument to collect data. The survey consisted of 42, mostly close-ended, questions. The questions in the survey were informed by a survey instrument used in a recent previous study focusing on OA-related institution-level responses (Boufarss & Laakso, 2020). The survey was created and administered using Google Forms, distributed in Portuguese but with questions and answers translated into English for the results analysis on behalf of the authors. Contact information for HEIs in Angola were gathered from the list of the MESCTI. A contact list of the key personnel in charge of/or involved with research at those institutions was compiled in August 2020. Responses were solicited between August and September 2020. A personalized email invitation with a link to the online survey was sent to all persons listed in the HEIs contact list. Only one response was accepted per institution. In line with “the ethical principles of research with human participants and ethical review in the human sciences in Finland” (TENK, 2019), our survey invitation included a summary of the study, an informed consent, ethical reassurances, and the right to withdraw from the study. Reminder emails, slightly reformulated from the initial invitation, were sent at weekly intervals to non-respondents. By the end of the survey period, 23 institutions out of 44 responded to the survey.

## Results

Since the survey contained 42 questions the responses to all of them are not all summarized here, we focus on the questions most central to providing insight into the current status and future direction of scholarly publishing and OA in Angola.

**Table 1** Researcher population in the responding HEIs

Category	Count	%
Fewer than 20	14	61
20–50	5	22
51–100	3	13
More than 100	1	4

## Background information

The first section of the survey focused on background information and more general issues concerning the responding institutions. A question in this part queried the approximate size of the researcher population at the institution, where 61% (14 institutions) reported fewer than 20 researchers. Here the definition of what constitutes a researcher is a faculty member whose duties include research, which based on the 2018 MESCTI guidelines also includes university teachers. The full breakdown of responses can be seen in Table 1.

The next question in the survey queried the type of institution that was responding. The distribution of answers was as follows: 57% (13 institutions) were public institutions, 39% (9 institutions) private institutions and 4% (1 institution) answered “Other”.

In order to better understand the current level of journal publishing activity at the institutions a background question asked the respondents to estimate the number of articles published in OA journals or subscription-based journals during the last 12 months. Overall, the numbers were low with the average number of articles being 7 for OA journals and 4 for subscription-based journals. 5 institutions reported no publications in OA journals with 7 institutions declaring no publications in subscription-based journals. Only 5 institutions had 10 or more articles published in OA journals during the last 12 months, with the corresponding number being 2 for subscription-based journals. 7 of the institutions reported to be involved in publishing a peer-reviewed journal of their own, with all 7 being OA.

The following question was “What do you perceive to be the preferred/encouraged publication channels at your institution?”. The results are visualized in Fig. 1. As was reviewed in the introduction of this paper many journals in Angola, and internationally, are multilingual so the variables related to language give some indication of what priority there might be when given a choice. The results speak for strong support for the Portuguese language independent of the journal being international or local, with secondary preference for international journals in Spanish and English, with low priority for local journals in English. The preference for journals indexed in Scopus or Web of Science were mixed, with 10 institutions responding “Essential” and “High Priority”, and 7 institutions “Low” or “No Priority”.

The next question concerned strategies to increase research productivity: “Please indicate which of the following strategies to increase research productivity have been adopted in your institution? Please select any that apply”. The results are listed in Table 2 in descending order of frequency. Organizing conferences and symposiums, training and professional development, and encouragement of national and international collaboration were the top three responses, with all being included in 70% or more of the institutional responses.

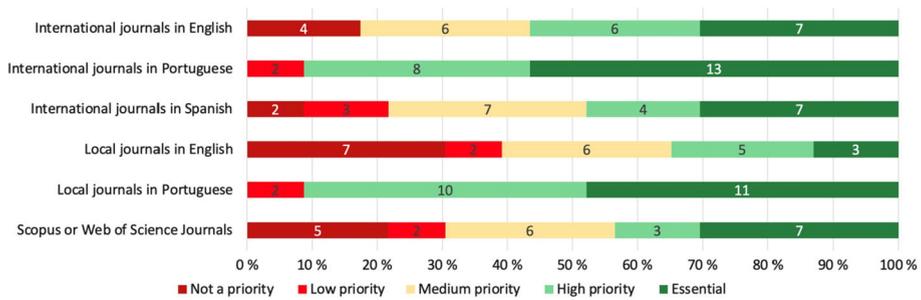


Fig. 1 Preferred/encouraged publication channels at institutions

Table 2 Strategies to boost research productivity

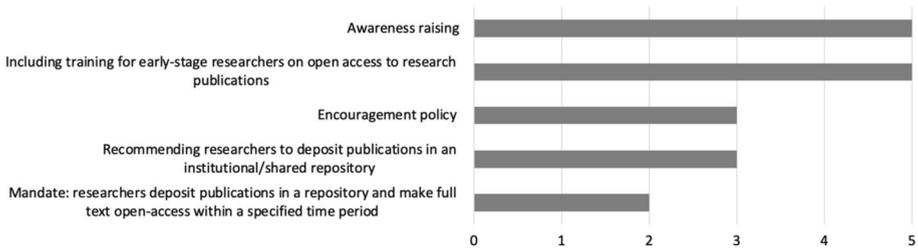
Strategies	Count	% of respondents
Organize conferences and symposiums	19	83
Provide research related training and professional development	16	70
Encourage institutional, national and international collaboration	16	70
Recruit faculty members who have extensive research experience	13	57
Setup research teams	12	52
Create research centers in different disciplines	10	44
Allocate time for faculty to work on internal and external research projects	9	39
Integrate research components in the curriculum to stimulate students contribution in research activities	8	35
Establish a researcher reward program	2	9

### Open access, policies, and mandates

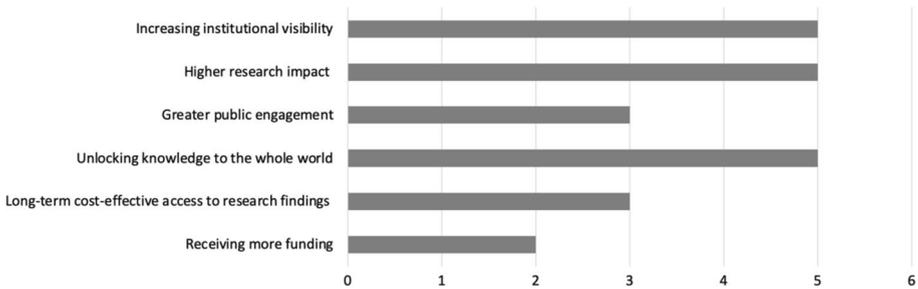
The first question concerned how familiar the respondents considered themselves with the term “Open Access” which 9% considered themselves experts in the subject, 61% answered having a clear idea about what it means, 22% answered having some idea about what it means, 4% having heard of it but did not know what it means, and 4% never having heard of it.

The following question queried into how training on OA might be offered at the institution with the following question “Does your research administration office provide education on OA for the university community in any of the following ways? Please choose all that apply”. 11 institutions (48%) ticked “No education on OA is provided”, while the most common forms of education were “Public lectures, information sessions or seminars” (9 institutions, 39%), “Lectures, information sessions, or seminars for specific departments or programs” (6 institutions, 26%), “Printed materials (e.g., brochures, posters, leaflets) about OA” (6 institutions, 26%), “Webpage(s) about OA” (5 institutions, 22%), and “Other” (1 institution, 4%).

The next question queried into the existence of an institutional policy on OA to research publications. 6 (26%) institutions reported having one, 4 (17%) reported not



**Fig. 2** Main elements of OA policies



**Fig. 3** Main motives for implementing OA policy

have one but was planning to implement one in the next 12 months, and 11 (48%) did not have one but had intention to formulate one but the policy was not going to be developed in the next 12 months. 2 institutions (9%) did not have or planned to develop an OA policy.

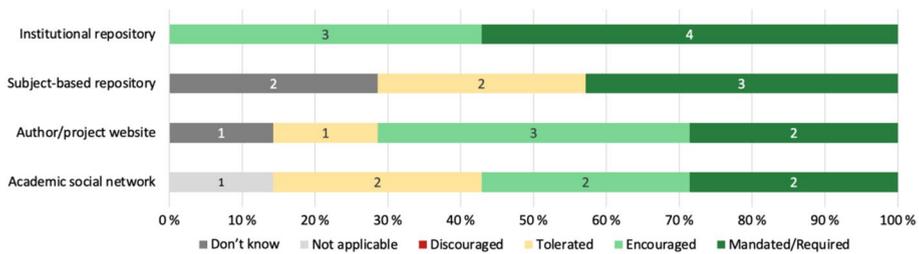
The 6 HEIs that reported having an OA policy were presented with two follow-up questions related to the policies. The first one was “Please indicate what are the main elements of your OA policy to research publications. (Please select all that apply)”. The results are provided in Fig. 2.

The results indicate that 5 out of the 6 policies were designed for awareness raising, and for facilitating inclusion of OA training for early-stage researchers. 3 out of the 6 policies were intended as encouragement for OA, and for recommending researchers to deposit publications in an institutional/shared repository. Only 2 out of 6 policies mandated researchers to deposit publications into a repository and make the full-text OA within a specified time-period.

The second follow up-question to the 6 institutions that had an OA policy was “Please indicate what are the main motives for implementing an OA policy to research publications at your institution? (Please tick all that apply)”. The results are provided in Fig. 3.

The next three questions revolved around payment of APCs for OA journals. The first question was “Do you have a formal policy for funding OA publishing?”. No institutions reported having such a policy, with 3 institutions (13%) responding having one under review, with the rest of the 20 institutions (87%) answering “No”.

The following question was “If your institution has paid any article processing fees (APCs), how much did the institution approximately spend on APCs in 2018 and on how many articles?”. 1 institution (4%) answered a lack of information about any paid fees, 18 institutions (78%) answered that they have not paid any fees for any articles, while 4



**Fig. 4** Various ways of self-archiving and how the institutions position themselves with regard to their use

institutions 18% answered between 1 and 4 articles and with no total amount exceeding 1000 USD.

The third question related to APCs was “If your institution didn’t pay any APCs, please indicate if any of the following factors were reasons? Please select any that apply.”. This question was answered by all but one institution, which also included the four institutions that had some APC payments as per the previous question. 16 institutions (70%) ticked “We don’t have a budget to support APCs”, 9 institutions (39%) ticked “The decision on publishing venue is left to the researchers”, 2 institutions (9%) ticked “We prefer our researchers to publish in paywalled journals, and 2 institutions (9%) ticked “We are not familiar with OA publishing venues”. 1 institution (4%) ticked “Other”.

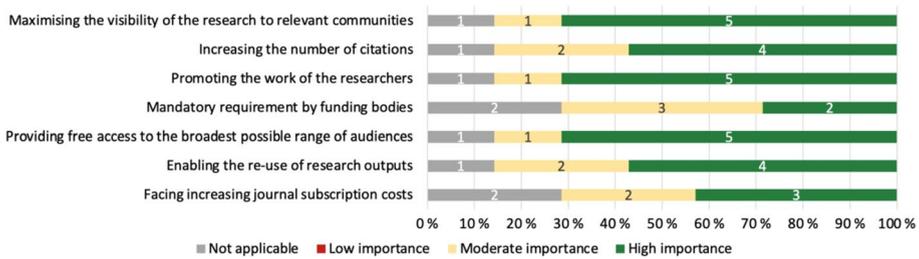
## Repositories

A set of questions were related to document repositories. The first question was “Does your institution have an institutional repository/shared repository?”. 6 institutions (26%) responded with having their own IR, 1 institution (4%) reported participating in a shared repository, and the remaining 17 institutions (74%) reported not having an IR.

One of the two follow-up questions to the 7 institutions that had their own or shared IR related to repositories was related to what potential role different types of self-archiving play at institutions. The question was “At your institution, are the following ways of self-archiving research outputs generally...” and the distribution of answers can be seen in Fig. 4.

Regarding IRs, 4 institutions mandate/required researchers to self-archive in them while 3 institutions encouraged their use. For subject-based repositories 3 mandate/required their use, 2 tolerated, and 2 responded “Don’t know”. Author/project websites had 2 institutions mandate/requiring their use, 3 encouraging, 1 tolerating, and 1 that responded “Don’t know”. Academic social networks were reported to be mandated/required by 2 institutions, encouraged by 2 institutions, tolerated by two institutions, and one institution that answered “Not applicable”.

The second follow up question to the 7 institutions that had their own or a shared IR was related to the perceived impact of various factors on researcher self-archiving and read “How important are the following factors in encouraging your researchers to self-archive research publications in a repository (green route/green OA)”. The responses to this question can be found in Fig. 5.



**Fig. 5** Factors encouraging your researchers to self-archive research publications in a repository

The most important factors were: maximizing visibility (5 institutions reporting high importance), promoting the work of researchers (5 institutions reporting high importance), and providing free access to the broadest possible range of audiences (5 institutions reporting high importance). The least important factors were mandatory requirements by funding bodies (2 institutions reporting high importance), and facing increasing journal subscription costs (3 institutions reporting high importance).

### Incentivizing research and researcher promotion

This part of the survey consisted of three key questions related to the publication metrics that are tracked by institutions, the incentives offered by publishing, and potential incentives related to publishing in OA journals specifically.

The first question was “Which of the following metrics are tracked and valued by your institution? Tick all that apply”. 18 institutions (72%) ticked Journal Impact Factor, 5 institutions (22%) ticked Altmetrics, 5 institutions (22%) ticked Citations to individual articles, 4 institutions ticked (17%) ticked H-index, 3 institutions (13%) ticked “Other”.

The second question was “What are the incentives offered by your institution for researchers to publish their research results? Tick all that apply”. Here 16 institutions (70%) ticked Priority in promotion, 4 institutions (13%) ticked Extra funding for research, 1 institution (4%) ticked cash bonuses, 1 institution (4%) ticked Salary increments based on publishing performance, and 2 institutions (9%) responded Other.

The third question was “Does your institution provide any incentives to encourage researchers to publish OA?”. Here the majority, 13 institutions (57%), responded “No”. 8 institutions (35%) responded “Yes” and 2 institutions (9%) responded “I don’t know”.

### Awareness of predatory journals

The survey included questions about how predatory publishing is perceived and potentially handled at the responding institutions. One such question was “Does your institution exclude publication credits from known predatory journals while assessing academic promotion applications?”. 13 institutions (57%) responded “No”, 3 institutions (9%) “Yes”, and 7 institutions (30%) answered “We are not aware of predatory journals”. Another question was “Currently, does your college and or department promotion and tenure committee have a list of journals that are viewed as predatory OA journals?”. 16 institutions (70%) answered “No”, 1 institution (4%) “Yes”, and 6 institutions (26%) answered “Not sure”.

## Discussion

This study set out to investigate how and to what degree higher education institutions (HEIs) in Angola interact with the concept of OA to journal publications through their policies and practices. Though we were able to get a relatively high response rate from institutions in the country, with over half of them responding, the results and study do carry some limitations that need to be acknowledged prior to discussing the results. Since this was a survey-based study without other means of data collection we were not able to confirm the level of familiarity of the queried terms and concepts in the survey. We did have this in mind when designing the survey by having definitions attached to key terminology as well the option to answer “Don’t know” or similar but still there is the potential that answers do not completely accurately represent the actual situation at the institutions. Another factor is related to the inherent complexity of the landscape where options overlap and are not mutually exclusive, which goes for a lot of factors related to journal publishing and OA (multilingual journals, diverse OA mechanisms, indexation inclusion) making it challenging to design surveys that would isolate specific factors without risk of the question being ambiguous. This is something that we did our best to combat through the design of the questions so that each answer would clearly query about one factor at a time. Finally, institutional responses are very valuable in that they can give comprehensive insight into the circumstances that relate to entire organizations, rather than just single individuals. However, one should be careful when making assumptions for all actors in an institution based on a single response, even though it is intended to be representative. We tried to design the questions so that this limitation would be minimized but it is nevertheless an inherent risk with institutional responses that also query about the preferences and actions of its individuals even on a more general level. With those central limitations mentioned we can now proceed with the contextualization of the results to existing research and the global scholarly communications landscape.

Concerning opportunities enabled by digital formats for aiding in post-conflict recovery of higher education, Ezema & Onyancha (2016, p. 21) state that “[...] open access has come not only to mitigate these developmental challenges, but also to localize and globalize scientific information for democratization of scholarship globally. Africa cannot afford to miss this opportunity.”. While OA can be seen to play an integral part in facilitating scholarly communication locally and globally, a fundamental finding of our study indicate that few Angolan institutions employ 20 or more faculty members whose work duties include research, limiting the potential impact of OA as research is still happening on a relatively modest scale. Similarly the results pertaining to publication of research articles by faculty were low, in both subscription journals and OA journals. These findings on the other hand open up the opportunity to scale up research building on the strengths and circumstances introduced by OA.

The question pertaining to languages of preferred/encouraged publication channels revealed that Portuguese had the strongest presence, with Spanish and English coming in second. With local journals often being multilingual for all three languages this is not a concern as authors can select a language based on their own preference, but for international journals there is not always the same freedom, creating a potential threshold if only English is accepted in such forums. There seems to be a divide on the importance of publication outlets being indexed in Scopus or Web of Science, where half perceived it as a high priority or essential, and another half as not a priority or low priority. Nevertheless, the presence of common journal indexing metrics were found to be strongly

integrated into the incentivization and promotion practices of Angolan institutions: in the question relating to which metrics are valued and tracked by your institution the most popular answer was the Journal Impact Factor with 72% (18 institutions).

When asked if the institution publishes a peer-reviewed journal of its own, almost 70% (16) responded negatively. 30% (7) of the institutions have peer-reviewed journals and indicated that their journal(s) were OA. Gungula et al. (2020) found that intention to create scientific journals exists in Angola, however, there is insufficient encouragement from the institutions in charge of improving Angola's science indicators, and with this, achieving the positioning of their journals in the international stage. We think the institutions are now open to the creation of journals as a new step in the way of advance in research, with multilingual journals being particularly attractive concerning the distribution of language preferences in the survey. Leveraging existing OA journal portals (Björk, 2017) such as AJOL, or creating new ones, for hosting content would be an efficient and technically robust way of maintaining such journals.

Similarly to the divide between institutions concerning publishing in internationally indexed journals there is also a separation in what strategies HEIs adopt to boost research productivity. Notably only slightly over half of institutions reported recruitment faculty members who have extensive research experience, or were active in setting up research teams, as strategies to boost research productivity. These two strategies could be seen as foundational for nurturing growth in research activities, and their lack in slightly under half of institutions is noteworthy. Gungula et al. (2020) point out in their study that there is a lack of qualified research groups and research centers functioning in Angolan HEIs and private sectors.

Other issue holding back research growth is the low presence of postgraduate courses and education in Angola. Lopes et al. (2016, p. 59) did a study concerning this and concluded that “[...] it is of crucial importance to continue the investment in researching the quality and the impact of academic-post graduation programs, particularly in post conflict countries, like Angola, in order to meet the targets defined at international Education 2030 Agenda”. During 2020–2021 there have been several international organizations, particularly from France, offering financial aid for specifically this purpose ([marches-publics.gouv.fr](http://marches-publics.gouv.fr), 2021).

Around half of the institutions provided some education on OA, and a quarter of institutions reported having an institutional OA policy in place. While most of these policies were found to be put in place for awareness-raising, encouragement, and as recommendations for making works OA, two institutions had policies that included mandates of depositing publications in a repository within a specified timeframe. Among the institutions that had a policy the main motivations were increasing institutional visibility, reaching for higher research impact, and facilitating long-term cost-effective access to research findings. Through the survey there was indication that APC payments and their tracking were at this point in time not major factors, with the few institutions reporting any APC payments having both a low number of articles (1–4) and with no amount exceeding 1000 USD.

Only a fourth of the Angolan HEIs had their own or participated in use of a shared institutional repository. This suggests that this in particular could be a fruitful area for furthering OA practices, by getting institutions enrolled in use of shared repositories if having an individual one is not feasible. Similarly to the main motives for institutions to have established OA policies the reasons for encouraging researchers to archive in institutional repositories were mainly focused on increasing visibility, impact, and audience to research outputs.

Publishing was found to be incentivized to researchers by most institutions through gaining priority in promotion, but concerning incentives for publishing OA, over half of the responding Angolan HEIs stated that they do not have any. This can be seen to be related to the MESCTI not having any policy concerning a way to increase OA on a national level. In this context, the MESCTI would need to create new ways to incentivize HEIs, and by extension Angolan researchers to keep OA a priority as research activity is ramping up in the country. UNESCO is likely to provide support with this because they have offered financial aid to related projects (UNESCO et al., 2022).

The overall actions, proactive or reactive, that HEIs seemed to take concerning predatory journals was low. 70% of the responding institutions indicated that they do not make use of any predatory journal list for guiding authors publication choices, and over half of the responding HEIs answered that they do not exclude articles or paper published on predatory journals when considering faculty promotion. While the use of lists of journals for these purposes is not generally recommended, raising awareness among authors about journals with questionable practices might still be a useful approach to publish research works in solid journals.

To achieve OA in Africa Hervé and Nkoudou (2020) recently suggested a five-point approach: (1) embrace open science also outside of OA, (2) explore alternative ways for communicating research (aside from a traditional, published journal article), (3) require local criteria for research assessment and evaluation, adapted to African realities, without being constrained to publish in prestigious journals, (4) train and to attune local stakeholders in and to decolonize OA, and 5) develop open-access policies that are sensitive to cognitive justice. From what we can gather from the Angolan context to make progress on such points a lot is still reliant on the actions, or inaction, of MESCTI to encourage institutions to put OA more prominently on the agenda. Our study found that while there are some institutions that have incorporated OA policies and practices, overall OA is not yet a common priority among Angolan HEIs.

## Conclusions

The objective of this paper was explore the role of OA HEIs in Angola. The results show that despite a relatively quick recovery of the HEI sector since the end of the civil war, concerning OA specifically there is still a lack of wider application, knowledge, and culture about it. This study provided a descriptive quantitative mapping of the current status of OA among institutions in the country, but there is a lot of valuable information that our institution-level survey-based study was unable to catch. Future research could approach the issue from an in-depth qualitative perspective through interviews to zoom into e.g. incentives and challenges that local faculty experience with regards to becoming or being active in research. From a metrics perspective future research could also investigate what could be done to improve the visibility of local research outputs in global indexes and databases.

Though the international research community has room to improve its support for globally inclusive open science initiatives that can positively influence countries like Angola that are creating a local research infrastructure almost from scratch, there is nevertheless a need to activate further on the national level as well. We see it is necessary for the MESCTI to build a policy to facilitate related initiatives and to promote the knowledge that is produced in the country within the country, not only from outside, but this could also be done building capacities that helps researchers to trust national journals and the processes

they have to ensure research and diffusion of knowledge. Having a stronger national policy would likely harmonize how different institutions now are implementing OA-related policies and practices in different ways, making cross-institution collaboration easier. International initiatives surrounding open science and OA could improve in their reach and inclusion of countries like Angola as new infrastructures and stakeholder networks are created, so as not to create open solutions that only parts of the world can use. If implemented well, open science practices have the power to connect countries and the world in unprecedented ways, something which is to the benefit of research progress overall.

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