# The present and future growth of scholarly publishing in Africa

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Scholarly publishing in Africa, though still struggling to keep pace with the rest of the world, has made major progress. Many universities in Africa are seriously engaged in scholarly publishing, both in print and electronic formats. The outputs of research are constantly disseminated in universities, at conferences and during seminars; the same are then published as proceedings or in refereed journals. The various initiatives by African universities provide opportunities to researchers to present their findings for discussion before submission for publication in various scholarly journals published by universities or those collaborating with publishing houses. The journals provide an avenue for disseminating research findings from Africa, hence adding to the already existing body of knowledge by researchers from other parts of the world. The advent of electronic publishing has widened the space and opportunity for African researchers to publish their work. Most African universities maintain some sections on their websites for uploading research findings. The uploaded materials, whether proceedings or already published work elsewhere, contribute to the visibility of African research in the world. Scholarly journal publishing, therefore, has the potential to encourage research in Africa.

Key Words: Scholarly Publishing, Africa, Universities, Scholarly Journals

#### Introduction

The world is in the information era. This knowledge society is the result of a swift change from a labour-driven economy to a knowledge-driven economy. However, scholarly publishing in Africa is still struggling to keep pace with the rest of the world. This is an obvious threat to the growth of Africa's economies. The scholarly journal has, for many years, been a means of disseminating and communicating information and knowledge. Scholarly publishing in Africa, although struggling, has (in certain countries on the continent) made great strides in production and distribution in the field. This is evident in the number of conferences they organise, number of scholarly journals published, presence on the internet and the number of academic books published annually. The spirit of this paper is to challenge universities and scholars in Africa to think about how they can improve their scholarly visibility in the academic world. It will provoke those who are entrusted with development of policies and infrastructure, both in national and institutional level, to act and improve the modes and funding portfolios in universities for research activities in Africa.

# Scholarly publishing in Africa

In this paper, scholarly publishing will be looked by considering the number of published articles and cited in various journals, the number of journals listed in African Journal Online (AJOL) and Directory of Open Access Journals (DOAJ). Scholarly publishing in Africa can best be described by comparing publications of articles in scholarly journals in various countries of the continent. (see Table 1)

The table below shows that most publications captured are likely to be the visible ones and may not include all the publications in the countries represented. The publications from the southern African region account for 61.8 percent and South Africa, alone, has publications accounting for over half of the total publications. In actual fact, South Africa's publications are 56.1 per cent of the total. This could be attributed to their management of their scholarly journals and incentives given through payment of subsidy, by the South African government, to the scholars. Journals published in South Africa and not appearing in some identified international indices and meet the minimum criteria for subsidy are listed in approved list of journals by the Department of Education of South Africa (Ministry of Education, 2003). Publications in the listed journals and those indexed in ISI/WoS and International Bibliographical of Social Sciences receive generous government research subsidy for the institutions of the authors affiliation who share the subsidy, sometimes again generously, with the author(s). For example, at the time of writing, one unit (eg.one publication/article) is rewarded by ZAR I20000/USD I5000. The eastern African region contributed publications that represent I8.4 percent from the selected six countries. This is an indication that visibility of publications, as shown in the above table. As mentioned earlier, it may not reflect the true picture, but it is an indication that visibility of publication in Africa is poor.

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Table I Scholarly publications in some selected countries in Sub-Saharan Africa, 2000-2007

| Country      | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Total |
|--------------|------|------|------|------|------|------|------|------|-------|
| South Africa | 4609 | 4732 | 5049 | 4974 | 5394 | 5657 | 6305 | 1077 | 37797 |
| Nigeria      | 884  | 746  | 854  | 855  | 926  | 1223 | 1269 | 204  | 6961  |
| Kenya        | 578  | 597  | 666  | 694  | 662  | 684  | 843  | 159  | 4883  |
| Tanzania     | 253  | 235  | 271  | 316  | 322  | 370  | 473  | 80   | 2320  |
| Cameroon     | 209  | 216  | 263  | 292  | 332  | 344  | 425  | 69   | 2150  |
| Ethiopia     | 244  | 216  | 275  | 300  | 312  | 302  | 333  | 58   | 2140  |
| Uganda       | 191  | 203  | 188  | 244  | 310  | 304  | 382  | 119  | 1941  |
| Zimbabwe     | 263  | 256  | 269  | 251  | 216  | 242  | 234  | 44   | 1775  |
| Ghana        | 198  | 194  | 208  | 206  | 239  | 261  | 305  | 53   | 1664  |
| Senegal      | 202  | 182  | 176  | 239  | 209  | 247  | 224  | 40   | 1519  |
| Eritrea      | 142  | 147  | 155  | 146  | 153  | 148  | 156  | 35   | 1082  |
| Benin        | 134  | 110  | 135  | 126  | 156  | 168  | 216  | 38   | 1083  |
| Botswana     | 129  | 128  | 156  | 135  | 143  | 148  | 186  | 29   | 1054  |
| Malawi       | 132  | 124  | 132  | 132  | 143  | 148  | 167  | 30   | 1008  |

Source: Thompson Scientific, May 2007

This poor visibility of scholarly publishing in Africa can also be seen from the number of scholarly journals that are posted on the directory of open access journals. The number of journals from African countries is very minimal as indicated in the table below.

#### DOAL

Directory of Open Access Journals (DOAJ) aims at increasing visibility and ease of use of open access scientific and scholarly journals. It accepts all open access scientific and scholarly journals that use quality control system to guarantee the content. The publishers of the journals must allow users to read, download, copy, distribute, print, search or link to the full texts of these articles without any charge.

The lack of visibility of scholarly works by African scholars is due to poor sustainability, irregular publication and management and poor distribution of their journals. This is evident by the number of journals from Africa that are listed in various directories and citation indexes. The table above indicates the number of journals listed in the directory of open access journals from North America, United Kingdom and main land Europe, and some countries in Africa. Analysis indicated that the majority of the journals are from the United States of America, with a representation of 18.2 percent, followed by the United Kingdom, a representation of 7.2 per cent of the total listed journals. The whole continent of Africa has journals listed representing 3.2 percent. The majority of journals posted in the directory from Africa are from research institutions and a limited number are from universities who are supposed to be contributing more research papers.

In the 21st century, scholarly publishing should promote knowledge dissemination. Ondari Okemwa (2007) states that scholarly publishing should support knowledge capacity development. He notes that low scholarly publication in Africa limits knowledge generation and diffusion. However, publishers in Africa are so much engaged in publishing textbooks. In other words, publishing in Africa is largely devoted to supporting basic and secondary education. More of the same books covering the same subjects are published annually in Africa. Publishers have ignored key questions that face Africa (Adebowale, 2001).

Table 2 Journal contribution of selected country to DOAJ

|                | Total number of journals in DOAJ |      |      |      |      |      |      |      |      |      |       |
|----------------|----------------------------------|------|------|------|------|------|------|------|------|------|-------|
| Country        | 2002                             | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Per % |
| United States  | 19                               | 221  | 309  | 402  | 463  | 569  | 777  | 952  | 1140 | 1344 | 18.2  |
| United Kingdom | 5                                | 112  | 156  | 197  | 237  | 269  | 301  | 358  | 484  | 529  | 7.2   |
| Spain          | 0                                | 6    | 26   | 89   | 139  | 166  | 228  | 258  | 335  | 401  | 5.4   |
| Germany        | 2                                | 14   | 34   | 70   | 97   | 128  | 155  | 178  | 214  | 242  | 3.3   |
| Canada         | 0                                | 25   | 37   | 48   | 65   | 80   | 105  | 135  | 181  | 225  | 3.1   |
| Italy          | 0                                | 4    | 13   | 31   | 47   | 59   | 71   | 100  | 147  | 195  | 2.6   |
| Turkey         | 0                                | 4    | 11   | 32   | 42   | 54   | 77   | 100  | 136  | 181  | 2.4   |
| Egypt          | 0                                | 0    | 1    | 2    | 4    | 5    | 5    | 6    | 17   | 133  | 1.8   |
| Switzerland    | 1                                | 9    | 13   | 21   | 24   | 26   | 44   | 58   | 79   | 103  | 1.4   |
| Portugal       | 0                                | 1    | 2    | 2    | 9    | 15   | 24   | 38   | 47   | 57   | 8.0   |
| Netherlands    | 1                                | 6    | 8    | 13   | 18   | 21   | 27   | 36   | 41   | 51   | 0.7   |
| Sweden         | 1                                | 7    | 9    | 10   | 14   | 14   | 21   | 22   | 35   | 51   | 0.7   |
| South Africa   | 0                                | 3    | 6    | 7    | 8    | 9    | 13   | 18   | 35   | 43   | 0.6   |
| Austria        | 0                                | 1    | 1    | 18   | 20   | 24   | 30   | 32   | 34   | 38   | 0.5   |
| Finland        | 0                                | 3    | 4    | 7    | 8    | 17   | 21   | 21   | 31   | 38   | 0.5   |
| Greece         | 0                                | 2    | 2    | 4    | 7    | 9    | 15   | 20   | 25   | 37   | 0.5   |
| Denmark        | 0                                | 1    | 3    | 5    | 10   | 11   | 13   | 14   | 20   | 31   | 0.4   |
| Norway         | 0                                | 2    | 3    | 4    | 5    | 7    | 12   | 14   | 23   | 26   | 0.4   |
| Nigeria        | 0                                | - 1  | 5    | 6    | 6    | 14   | 16   | 16   | 22   | 23   | 0.3   |
| Belgium        | 0                                | 1    | 4    | 4    | 5    | 8    | 10   | 12   | 16   | 23   | 0.3   |
| Ireland        | 0                                | 1    | 2    | 3    | 3    | 5    | 6    | 6    | 9    | 9    | 0.1   |
| Tunisia        | 0                                | 0    | 0    | 0    | 0    | 0    | 1    | - 1  | 9    | 9    | 0.1   |
| Kenya          | 0                                | 0    | 0    | 0    | 1    | 3    | 3    | 3    | 6    | 7    | 0.1   |
| Morocco        | 0                                | 0    | 0    | 0    | 1    | 1    | 1    | 4    | 4    | 5    | 0.1   |
| Ethiopia       | 0                                | 0    | 0    | 0    | 0    | 1    | 1    | - 1  | 4    | 5    | 0.1   |
| Uganda         | 0                                | 0    | 0    | 0    | 0    | 3    | 3    | 4    | 4    | 4    | 0     |
| Tanzania       | 0                                | 0    | 0    | 0    | 0    | 2    | 3    | 3    | 3    | 3    | 0     |
| Ghana          | 0                                | 1    | 1    | - 1  | - 1  | 1    | 1    | - 1  | 2    | 2    | 0     |
| Mauritius      | 0                                | 0    | 0    | 0    | 0    | 0    | 1    | - 1  | 2    | 2    | 0     |
| Libya          | 0                                | 0    | 0    | 0    | 0    | 1    | 1    | 1    | - 1  | 2    | 0     |
| Senegal        | 0                                | - 1  | 1    | - 1  | - 1  | 1    | - 1  | - 1  | - 1  | - 1  | 0     |
| Madagascar     | 0                                | 0    | 0    | 0    | 0    | 0    | 0    | - 1  | - 1  | - 1  | 0     |
| Algeria        | 0                                | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | - 1  | 0     |
| Sierra Leone   | 0                                | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | - 1  | 0     |
| Cote d'Ivoire  | 0                                | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0     |

Source: http://www.doaj.org/doaj?func=byCountry&uiLanguage=en accessed on 9/1/2012

Table 3 Number of journals per country

| Country                | No. of Journals |             |     |  |  |  |
|------------------------|-----------------|-------------|-----|--|--|--|
|                        | Total           | Open Access | LIS |  |  |  |
| Algeria                | 2               | 0           | I   |  |  |  |
| Benin                  | 2               | 1           | 0   |  |  |  |
| Botswana               | 3               | 1           | 0   |  |  |  |
| Burkina Faso           | 2               | 0           | 0   |  |  |  |
| Cameroon               | 7               | 2           | 0   |  |  |  |
| Congo DR               | 1               | 0           | 0   |  |  |  |
| Cote D'ivoire          | 4               | 3           | 0   |  |  |  |
| Egypt                  | 13              | 5           | 0   |  |  |  |
| Eritrea                | I               | I           | 0   |  |  |  |
| Ethiopia               | 19              | 7           | 0   |  |  |  |
| Ghana                  | 19              | 4           | I   |  |  |  |
| Kenya                  | 24              | 9           | 0   |  |  |  |
| Lesotho                | I               | 0           | 0   |  |  |  |
| Libyan Arab Jamahiriya | I               | I           | 0   |  |  |  |
| Madagascar             | I               | I           | 0   |  |  |  |
| Malawi                 | 3               | 1           | 0   |  |  |  |
| Mauritius              | 2               | 2           | 0   |  |  |  |
| Nigeria                | 179             | 25          | 6   |  |  |  |
| Rwanda                 | I               | 0           | 0   |  |  |  |
| Senegal                | 6               | 4           | 0   |  |  |  |
| Siera Leone            | I               | 1           | 0   |  |  |  |
| South Africa           | 75              | 9           | 2   |  |  |  |
| Sudan                  | 3               | 0           | 0   |  |  |  |
| Swaziland              | 3               | 0           | 0   |  |  |  |
| Tanzania               | 16              | 1           | 1   |  |  |  |
| Togo                   | 1               | 0           | 0   |  |  |  |
| Tunisia                | 2               | 2           | 0   |  |  |  |
| Uganda                 | П               | 4           | 0   |  |  |  |
| Zambia                 | 2               | 1           | 0   |  |  |  |
| Zimbabwe               | П               | 0           | 0   |  |  |  |

Source: African Journal OnLine (AJOL) -2012 January: http://ajol.info

# African Journal Online (AJOL)

Due to realisation that scholarly works from African researchers were mostly difficult to access leading to under utilisation, being under-valued and under-cited in the international and African research arena, African Journal Online (AJOL) was established to address those challenges. As part of its mission to increase visibility, access and use of African published research output in support of quality African research and higher education, it had hosted over 400 peer-reviewed journals by January 2012.

By 2010, AJOL had 396 journals in various subjects published across the continent that had risen to 417 journals in 2011(AJOL 2012). Over 6363 issues have been published. However, some of the 417 journals are not up to date in publication; thus, frequency of publication is a challenge. In 2011, AJOL had hosted over 417 African-published, peer-

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reviewed journals from 30 countries, accessed by over 150,000 researchers from all over the world, therefore enabling it to accomplish its aim of increasing scholarly communication within the African continent and the rest of the world. There were 69,105 abstracts and 59,222 available in AJOL website for access.

AJOL's policy for journal listing is that the journals must meet the following criteria: be scholarly in content, and contain original research; peer-reviewed and quality controlled; guarantee permission from authors to allow AJOL to operate a document delivery; and journals are published within Africa continent where management of publishing strategy, business development and production operation are all run from African country. Although South Africa leads in scholarly publishing in Africa, it has shied away from uploading its journals on AJOL. This has denied many African scholars the opportunity of accessing research findings and scholarly inputs from South Africa, however, researchers can also access premier South African scholarly journals in SABINET through subscription (see Table 3 above).

The 417 journals from Africa in the AJOL list are distributed, as follows, in regional blocks: West Africa has 212, representing 53.5 percent; Eastern Africa has 69, representing 17.4 percent; Northern Africa has 18, representing 4.5 percent; Central Africa has 3, accounting for 0.8 percent; while Southern Africa has 93, accounting for 23.5 percent. The majority of the listed journals are published in the English language, however, publications in other languages are also accepted and some are listed by AJOL.

# Research in Kenyan universities

Higher institutions of learning are still largely dependent on print resources in accessing knowledge resources. In 2009, during UNESCO's 29th World Conference on Higher Education, the (then) South African Minister for Higher Education and Training, Dr. Nzimande, said that African universities are essentially consumers of knowledge produced in developed countries. The former are the producers and the latter are the consumers of knowledge, which seriously undermines the fostering of the multicultural nature of Higher Education, as virtually all partnerships are one-sided. This demonstrates that universities in Africa are contributing an insignificant amount of scholarly writing in comparison to developing countries. The number of journals and books produced annually by African researchers are still very low. There are seven public universities in Kenya namely; Egerton University, Jomo Kenyatta University of Agriculture and Technology, Kenyatta University, Maseno University, Masinde Muliro University of Science and Technology, Moi University and University of Nairobi. Research funding in public universities in Kenya is largely through internal generated resources. A small percentage is received from the government through National Council of Science and Technology (NCST). NCST is a government statutory body charged with the responsibility of making available to the government advice upon all matters relating to scientific and technological activities, and coordinating research and experimental developments in the country. The council invites proposals from postgraduate students and other researchers on annual basis of selected themes that are considered to be national research priority areas.

George Magoha, the vice chancellor of the University of Nairobi, said research output is regarded as an important yardstick for measuring the success of academic institutions. It is hard for Kenyan universities to support research work because most of them are severely constrained by lack of funds, making most research activities dependent on donor support. However, Kenyan universities are making progress by increasing allocation to their research kitty using internally generated funds. The University of Nairobi has, in particular, intensified collaboration with local and international partners, which has resulted in a substantial increase in available research grants.

Moi University also has research units that collaborate with researchers within and without the University. The Moi University Act gives the University the mandate to carry out research, with the Research Projects expected to: maintain strong relationships with communities, conform to the broad National objectives, supplement teaching and solve problems of the rural communities.

The University sets aside funds under its research grant, which is awarded on a competitive basis. The fund, however, fails to satisfy demand, which forces researchers in the university to seek support from other sources. The research results are disseminated through field days organized by the Projects, at stakeholders meetings, at symposia and during the Moi University Annual International Conference. All the research activities at the University are coordinated, monitored and evaluated by the University Research Committee, under the office of the Deputy Vice Chancellor (Research and Extension). Between 2005 and 2010, the university has organised eight international conferences and symposia that resulted in research findings being presented and published in various journals or conference proceedings.

The university has ten scholarly journals that are published in Schools. They are in the following Schools: Arts and Social Science, Business and Economics, Education (2), Environmental Studies, Human Resources Development, Information Sciences, Law, Medicine, and Natural Resource Management. Though the said journals suffer from visibility syndrome, as most African universities' journals have been made to attract papers from researchers outside Moi University and have not been very successful in doing so. These journals have also been listed on the university website so

as to improve their visibility. Frequency is also another major problem that faces the publication of these journals. This problem has occurred due to the insufficient funds allocated to schools for the publication of journals.

Efforts have been made by the university to set aside funds for research purposes. The university allocates 3 percent of its tuition collection, from the Privately Sponsored Students Programme (PSSP), to research. This type of fund is meant to cover all research activities including: annual international conferences, symposia, journal publication, research grants and conference attendance. From this fund, Schools are allocated KShs 500,000 (approximately US\$6,250 – exchange rate KShs 80 to one dollar) to be competitively awarded to researchers in a School on an annual basis. Another one off amount of KShs 250,000 (approximately US\$3,125) is given to Schools as seed money to start scholarly journals. Such seed money is to start the journal, market it and hopefully to sustain it after the first volume of the first issue. A further KShs 100,000 (approximately US\$1,250) is allocated to Schools for international conference attendance on an annual basis. The amount mentioned above is assumed to be sufficient to cover the travel expenses for about ten or more scholars in a school per year, though it may not even be enough to fund one scholar for a return trip to Uganda or Tanzania, the neighbouring countries of Kenya.

In Maseno University, its research activities are co-ordinated by the office of the Deputy Vice Chancellor in charge of Planning, Research and Extension Services (DVC-PRES). The university has established a centre within the office of DVC (PRES), the Centre for Research and Technology Development whose main role is to enhance the capacity to undertake research and technology development and be the unit to handle research activities. The university also organises conferences, seminars and workshops where research findings are presented. Also, the university is one of the focal institutions for the implementation of the Kampala based Inter-University Council of East Africa (IUCEA) research programme on the Lake Victoria Region (VicRes).

Research activities at Jomo Kenyatta University of Agriculture and Technology are administered by the office of the Deputy Vice Chancellor in charge of Research, Production and Extension. The university has a host of scholarly journals listed by AJOL. The university has demonstrated the ability to attract a substantial amount of research funds from outside the university through collaborations.

# Challenges facing scholarly publishing in Africa

There are many challenges facing scholarly publishing in Africa, including: low literacy levels, poverty, technology and national policies, especially those on information dissemination and financial allocation.

# Low literacy levels and poverty

Scholarly publishing in Africa is hindered by low literacy levels. In some countries, literacy levels are as low as 10%. Poverty is, perhaps, a much more serious factor, as most of the people live below the poverty line. Even the minority that live above the poverty line use most of their income to purchase the basic needs of life – food, shelter, clothing and basic education. Consequently, the market for scholarly works is very small. The literacy rate in Kenya has since increased to 87% mostly due to increased primary school enrolment as from 2003 after the introduction of free primary education. However, most Kenyans have low incomes as well as having a low reading culture. These factors are not supportive of a market for scholarly works. Those who are expected to consume scholarly journals are overburdened by the needs of their relatives who are in poverty, hence they may not have enough time to produce and purchase scholarly works.

# Technology

The most pressing problem is the need to maintain the technology of traditional printing in scholarly publishing, while (at the same time) investing in and developing a new system that relies on digital creation, transmission, and distribution. The costs of simultaneously doing both things are enormous, both to scholarly publishers and to research libraries. The presence of the internet in sub-Saharan Africa is extremely low. This has made Africa lag behind in terms of scholastic publishing. There is also the need to build a capacity of editors and designers. Access to ICT facilities is a pressing need for most publishing institutions. The cost of internet connectivity is still slightly high and slow in most African countries, hence the low content generated in Africa on the World Wide Web. Though fibre optic connection is now in Kenya, the cost of connectivity is still high and connections to universities are very unstable.

#### Marketing and distribution

Available scholarly works in Africa are poorly distributed, barely marketed and hardly accessible. For example, it is easier for a librarian in Africa to find out what books have been published, on a given topic in Britain, than it is to locate relevant titles published in the African continent. Bibliographic resources have not been developed well to enable access to African materials. Scholarly materials published in the University Presses of African Universities are hardly marketed beyond their parent institutions. This has contributed to the poor visibility of such publication, hence the inaccessibility of scholarly

work in Africa. The contributing factor to this is the poor funding and prioritisation of University Presses when allocating funds within the university.

Development of permanent and sustainable local capacity is needed for publishing of scholastic works to succeed. The publishers in the continent should improve their marketing strategies for scholarly works, in order to increase the market for their products. There is also an urgent need to improve and expand technological infrastructure so that publishers can utilize the Online Access System to publish and publicize their publications. Through such efforts, Africa will no longer be scholarly marginalized in the globe. According to Ocholla (2011) Institutional repositories (IRs) act as the mirror that allows the world to interact with our stories or content and enable the sharing of knowledge and creation of better understanding. He further states that enabling knowledge sharing should be our (information science's) primary activity. For this reason, publication from theses and dissertations should be encouraged and supported, at least through IRs. Ocholla (2011) has suggested that there is need to create regular and relevant platforms for conferences, seminars and workshops and support participation in such scholarly gatherings by bringing conferences closer to those who cannot afford far-off locations.

According to INASP (2006), the geographical distribution of document delivery orders of AJOL articles shows that the majority were sent to the less developed countries in Africa, Asia, and Central and South America. This is a clear indication that African published scholarly materials have market outside Africa, if only their visibility is improved through electronic publishing.

## Information policies

Most African countries have no policies on managing information, whether in print or in electronic format. Most government agencies are still operating in a paper based environment and these countries, too, are still struggling to even make the policy decision to move to an electronic environment. It is only recently that Kenya, through a Kenya Communication (Amendment) Act 2008, recognised electronic communications through the mobile, such as emails and short messaging, as binding contracts or as official communication.

#### Financial constraints in libraries

Higher education institutions in Africa have been cutting down fund allocations for their libraries, especially those for book and periodical subscriptions. Rosenberg (2007), as cited in Ifeanyi (2010), argues that journal publications in Africa and their acquisition has been disrupted by: subscription price increase, currency fluctuation, local economic troubles and general underfunding of education and research in Africa. This trend has affected most areas of library operations, including: acquisition, preservation and maintenance of scholarly information materials. Another casualty of this reduction in allocation of funds to Libraries has been training of library personnel, so as to remain informed and knowledgeable of new technologies developments within the library world.

In addition, most African people have very limited disposable income. It is not uncommon that in Africa even academicians/university lecturers/scholars, who rank near the top of the income scale, have difficulty in purchasing scholarly books and journals. A sizeable amount of their income is devoted to meeting other pressing personal and social needs within their extended family circles.

#### Changes in scholarly communication

According to Ondari-Okemwa (2007), communication of scholarly findings are done through attendance of conferences that are organised by institutions, of higher learning, in the region and scholars should do everything possible to attend such conferences. Attendance of such conferences allows scholars to understand the current paradigms in their various areas of research. The lack of understanding about the changes in the communication of scholarly publication is a big challenge. There is a growing sense of urgency about the need to promote a better understanding about the emerging communication systems and also embracing them. This would promote a shared vision of the future about what scholarly publishing entails today and what changes are needed for its success in the future.

### The future of scholarly publishing

In Africa, scholarly publishing should be encouraged by universities and governments, taking keen interest on research and the dissemination of research findings. The global ranking of universities has consistently shown that African universities are ranked at the bottom. Though such results may be disputed, it indicates that output of research in Africa is not disseminated or African scholars never engage in research. There is a need to disseminate research findings to a global audience in a visible medium. African universities have not explored the potential of maximising visibility through e-publishing either through Open Access (OA) of development of Institutional Repositories (IRs). According to Ocholla (2011) the development of IRs in Africa is weak: only 11 of the 53 independent African countries have established 42 IRs, which account for approximately 3% of the world's total. As pointed out by Ifeanyi (2010), journal publishing is a critical

determinant of scholarly output (in any place) in the global academic environment. The measure of that output is the visibility of what a country, university or a scholar has published within a given period of time.

Universities in Africa and more so in Kenya, must increase funds allocated to research and improve the mode of the dissemination of its findings. The funds allocated should not only fund the activity of researching, but should also promote activities that are used to disseminate the findings. The attendance of conferences, seminars and symposia, in some African universities, is viewed as a waste of time and money, hence regarded as a low priority area to allocated funds. There is a need to change and look at such as an opportunity by African universities to increase their visibility in the global stage, as regards to their contribution of scholarly work.

Universities should allocate more money for the purpose of organising conferences, seminars and other forums where research findings are shared. Such meetings should not only target researchers within a particular country, but should be international. In this information age, universities can use limited resources at their disposal and advertise their conferences through postings on their websites. Also, the proceedings of such conferences should be published and disseminated to the widest audience possible.

Published scholarly materials from African scholars have been largely invisible to the global audience, except from works emanating from South African Universities. Though some universities produce large quantities of research materials (in terms of theses and dissertations), there is no evidence (in terms of visibility outside the gates of those universities). There is a need to post most of the research findings on the websites of universities and also encourage the extracting of the major findings and present them in conferences or send them for publication in journals published in other countries, other than where the research was done.

To further increase the visibility, there is need to improve internet connectivity in African Universities. A deliberate effort should be made to increase internet connectivity, with high bandwidth, in universities in Africa and upload published works to increase visibility. The use of internet postings will reduce the amount of money required for the dissemination of research findings. A number of conferences that have been organised by various universities, especially Kenyan, have published their proceedings in hard copy with limited circulation, with web publishing; it will reach more audiences, hence increasing visibility. This should also apply to the publication of scholarly journals that have limited visibility. As indicated earlier in this paper, some African universities publish their journals (that are not even known to some scholars) within the same university. It is, therefore, important that such journals should be listed and their abstracts be posted on the website. It is also important that their frequency be maintained. For this to happen, more articles should be attracted from scholars outside the university, however, this can only happen if the visibility of the journal is addressed.

Universities in Africa should strive to utilise University Presses where there is one existing in a university. Where there is no University Press, there should be an establishment of a publishing office within the library section. According to Bonn (2007), the University of Michigan became involved with scholarly publishing in 2001 so as to develop lower cost publications, scalable mechanisms for publishing online and distributing the journals and other digital scholarly material. This enabled the university to produce 40 publications (as of 2007), most of which were open access. If African universities adopt the same method, they will produce publications at lower costs, more so if their in-house publishing, production and distribution are by electronic format. This would enable them to reach a wider audience.

## Conclusion

The growth of scholarly publishing in Africa largely depends on the production of research output from universities and other research institutions. There are all indications that research is being carried out in Africa, however, the visibility of these research outputs needs to be increased through electronic publishing. The invisibility of research output from Africa has imbedded their use, citing and access in the African and international research arena. The development of IRs, posting journals in DOAJ will increase visibility of research outputs. It will only be meaningful if institutions in Africa, especially universities will establish IRs and make them OA, otherwise the materials deposited will still be not accessible. It has been observed in this paper that progress has been made in some African countries in posting their scholarly journals in a number of website like DOAJ, SABINET and AJOL hence increasing visibility of research output in the international arena. It has also been noted that funding of research in Africa especially in Kenya is still a problem. There is need for most of African countries to borrow a leaf from the South African government of the subsidy format so as to encourage research to publish their research outputs in international cited journals.

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