

RESEARCH IN INSTITUTIONS OF HIGHER EDUCATION IN AFRICA: CHALLENGES AND PROSPECTS

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Abstract

Purpose: The paper discusses challenges, implications and prospects of research in institutions of higher education in Africa. It posits that research has been accorded insufficient attention and resources by many African governments and institutions of higher education by extension.

Methodology: It involved review of relevant literature from textbooks, Journal Articles and personal experiences.

Findings: The challenges of research in Africa are not purely academic. They are caused by failure of the governments to put in place policies that recognize the fundamental impact research activities could have on governance and efficient use of public resources. Consequently, research has been accorded insufficient attention and resources by governments and institutions of higher education.

These are manifested in deficiency in training of student researchers, preference for synthetic research rather than innovative and creative types, theoretical approach to teaching research resulting to inadequately prepared personnel to meet international standards. Besides, poor remuneration of researchers has resulted in movements of staff from institutions of higher education to lucrative jobs in the country and brain drain. This has impacted negatively on the quality of research in terms of skills, facilities and the general research environment.

However, use of ICT will make the research process easier and improve dissemination. There is need to encourage partnerships between private and public institutions and collaboration locally and regionally.

Keywords: Research, higher education, Africa

Practical Implications:

Research plays a pivotal role in the systematic development of new knowledge and is central to the effectiveness of all higher education. One of the core missions of higher education is to advance, create and disseminate knowledge through research and provide service to the community, constant supply of qualified young researchers to assist societies in cultural, social and economic development. Through research, higher education contributes to innovation for mobilization of resources. However in many African countries, research is faced with numerous challenges.

Value:

This paper has brought out the challenges ailing research in Kenya and by extension other developing countries and made recommendations on them respectively. One of the recommendations of this paper is the need for fundamental reforms in research to support

innovation, and reinforce its long term orientation to meet the needs of African societies. Of special importance is enhancement of research capacities in higher education institutions as a way of ensuring quality research.

Introduction

Institutions should ensure that all members of the academic community engage in research and are provided with appropriate training, resources and support through genuine partnerships with public, private sector and civil society. Academic teaching must be embedded in research to make it successful and realize its aim of building an academically sound mind. Teaching in higher institutions of learning should be performed by research experienced teaching staff as tenets for enlightened professionals with definite self-interest and conscious of public interest. This enhances the role of higher education institutions as places of research and seedbeds of training for future generation of researchers. Research enhances contribution of higher education to innovation through mobilization of co-operation between governments, higher education institutions, industry, and business enterprises. Furthermore, strong link between research and teaching forms a basis for successful teaching and learning process. In essence research and teaching contribute to a constant supply of qualified young researchers. It is evident that educational research has been done within outlined categories and has influenced development of education to varying degrees. It can further be argued that the impact of any research depends on the attitude with which the exercise is approached. Efforts in research have encountered a variety of constraints in Kenya especially in matters relating to research environment. These includes research capacity; financial constraints, other resources (physical development of research institutions), research and policy, relevance, publication of findings, Social, political and cultural context in which research processes occur, as well as information technology.

Research Capacity

Research capacity is discussed in form of technical skills and competencies of individuals engaged in research. Due to severe shortage of local funding for research in African states, there ensued competition for limited international funds for short term research projects. Training in research methodology has also been deficient which can be attributed to the inadequately prepared teaching personnel, higher teaching staff student ratios and inadequate practical exposure of students. This is also to a greater extent blamed on evasion of mathematics and science-based subjects as well as analytical methodologies that use computer technology by students.

Researchers have tended to prefer synthetic (research that does not venture into unknown) rather than creative research that leads to innovations. They mainly concentrate on gathering and integrating what has already been done by others. By extension this suppresses creative research in which the researcher executes innovatively and imaginatively though referring to others to produce new ideas and practices.

Increasing highly educated population has been slow in developing countries. It is therefore necessary to make the best use of scientific manpower that is available in short term. For instance, at graduate level many institutions do not have adequate research programmes. In some universities students are quickly introduced to the process of identifying and stating the problem and then plunged into methods. Crucial aspects like development of instruments such as questionnaires and discussion guides, sampling and data analysis are not effectively covered. Because of this approach many studies have been conducted but very few are methodologically sound. In Tanzania and Malawi, inadequate skill base among researchers made it difficult to conduct high quality research and lack of government investment in research sector meant that local researchers have not had expert training that meets international standards (Stephenson and Monique, 2008).

Research is a labour intensive and skill oriented undertaking. It involves identifying, locating, reading through many documents, developing instruments, sampling, actual data collection, analysis and interpretation skills some of which can only be gained through experience. Unfortunately programs in many Universities in Africa focus on methods with little emphasis on methodology.

Weaknesses in research should be examined in the context of existing education systems in Africa. Education in Africa was mainly inherited from colonial systems which experienced serious crisis in terms of limited capacity in schools, focus on examinations, acute shortages of teaching learning materials and lack of trained and experienced teachers.

From primary, through secondary to university, students should be given the type of education that inculcates self discovery and application of what has been learnt to real life situations. Students should learn through explanation, discussion, analysis and critical reflection. Research should start early in primary and secondary schools where students learn basic principles and engage in simple projects. At the university level teaching and supervision of students should be assigned to experienced professors.

Many governments are remarkably short sighted; they pay huge sums of money for their nationals to receive higher education abroad and then fail to provide them with adequately paid employment or facilities when they return home (Atomic Energy Agency, 1981). Consequently the phenomenon of overseas graduates trying to remain in their country of training is well known in developed countries. The only long term solution is to improve status and facilities in home countries. Sending only those who already have jobs and established commitment to their institutions or a career at home policy is one way of ensuring that studies abroad facilitate our national requirements. The New Partnership for African Development (NEPAD) has made effort to reverse brain drain and enhance African's human resource capital.

Poor commitment of educational researchers is often due to poor remuneration. High quality researchers often quit teaching and research in preference for other more lucrative careers in business, industry and politics while those who remain in the profession often opt for research with rather unorthodox objectives such conducting educational research not because of its value but because it provides an opportunity for "eating". This monetary pre-occupation has led to acrimonious struggle among researchers for often irrelevant donor promoted projects or consultancies. This was viewed as commercialization of research (Mwiria, 1992). In face of limited funding many research projects are sponsored by foreign agencies and therefore more often they suits their interest and not those of the African nations. Many partnerships are unilaterally made with the assumption that donors know the African needs or that African institutions face dire need that they would accept any assistance that come their way regardless of what strings are attached. Such institutional partnerships have made no real contributions to capacity building of African institutions and the general human resource base. Hence in this era of globalization private partnerships with local organizations that understand the environment will be more beneficial to enhance research that will suit the needs of the society.

Financial constraints

The level of development of countries in Africa depends on the rate at which countries are able to generate information through research and how they progressively use such information to strengthen their social, political, economic and technological infrastructures.

This notwithstanding, financial constraints impact virtually all aspects of research including its mission, processes, participants' integrity, as well as dissemination of findings.

This is the reason why developed countries invest highly in establishing institutions and networks that support research activities associated with ground breaking discoveries and innovations such as internet. Unfortunately governments in Africa spend very little money

building supportive environment for research perhaps because of other competing entities including food, health care, education and other basic social services. Except for national censuses and government appointed commissions, the national budgets of many African countries do not allocate specific funds to research. Funding of research is largely left to NGO'S, UN system and other agencies such as Ford foundation and Africa academy of sciences. In some countries, public utilities such as electricity, communication system, water, sanitation and transport network are either lacking or in deplorable state.

Ideally local universities should play a critical role in discovery, storage and dissemination of knowledge. In view of this, post graduate programs hardly get enough funding to build the research base yet students undertaking postgraduate studies are expected to conduct research as part of their programs (Mugenda, 2008). In addition professors are expected to continually engage in research activities and extend the frontiers of knowledge in their areas of expertise yet they are pre-occupied in hopping from regular to parallel programs and supervision of large numbers of students.

One way of supporting research in universities is through fundraising. However fundraising efforts in these institutions are very limited and so are sources of funds along with the lack of research culture. Private companies in Africa rarely conduct research compared to private sector in the developed world.

There is need to have collaborative research among various universities as well as private sector to boost research activities and help to build the necessary infrastructure that support continuing research in local universities. However experience has shown that collaborative research sometimes can be problematic in relation to matters of copyright of results and innovations or products arising from such research (Mugenda, 2008).

Consequently such collaborations are dogged with suspicion among participant and many do not go to the end. This is happening to a large extent at sub-regional level. For instant most universities in the east African region, collaborate in research and other areas under inter-university council of East Africa. However such collaborations need to be increased in order to reach a larger proportion of teaching staff in these universities. Such research is mostly conducted on consultancy basis which creates undue competition and does not even engage the local researchers. This is especially true for locally owned companies.

Perhaps it will take time and a great deal of sensitization for top executives in such companies to realize the benefits of investing in research and embracing a culture of continuous search for information as basis for crucial decisions and development.

Due to financial constraints some students especially at undergraduate level have no option but to look for ways and means of maintaining themselves through unethical practices such as stealing, pick-pocketing, dealing in illegal drugs and in some cases prostitution. This exposes them to more dangers like death and HIV/AIDS. Such practices leave them with inadequate time for concentrating on their studies and more so research. Such learners have become the new generation of “student hustlers” engaging in all sorts of businesses to make ends meet. However some have genuine financial problems while others are competing to maintain high standards of living to match their campus mates from wealthy backgrounds and remain fashionable “ubaby”. It is worse when students can go into any length of plagiarism including photocopying assignments of their fellow students or full research documents to present to their supervisors, buying complete proposals and even complete projects in the name of passing examinations or hiring fellow students or even outsiders to do their assignments. In many cases student researchers come to their supervisor with a full proposal to their first meeting which raises more questions than answers. Such students leave University with good academic papers which they present when seeking jobs but with little or no practical experience in research topics they claim to have researched. They are people of questionable backgrounds and end up mismanaging the limited resources in the companies/firms when entrusted with managerial roles. In the year 2007 higher education

institutions in South Africa released reports on plagiarism involving students in both undergraduate and postgraduate programmes as well as lecturers. Most of these students were made to repeat courses or expelled altogether while the lecturers were dismissed or forced to resign. This was mainly attributed to the technological highway that has posed challenges in universities globally. Most Universities are battling with plagiarism. For students and experienced scholars in this new age, technology creates a great temptation to plagiarise (Smith, 2007). Consequently organizations like Glatt and Turnitin company have been created specifically to deal with plagiarism by making it possible to detect it in submitted documents and instituting legal suits.

However poor research culture is also to blame in circumstances where the concept of research is associated with a condition to fulfil academic requirements for degree courses and not directed towards solving a problem. Young academics are introduced to research only at a later stage with limited or no practical elements. The situation becomes more critical in the case of working students who have financial and time constraints as they have family responsibilities and are engaged at their work places. Their time for searching for knowledge especially at the post graduate level is limited.

Research and policy

Research need to provide communities and decision-makers with useful recommendations and possible actions for resolving fundamental problems. Such research provides pragmatic, action-oriented recommendations for addressing issues, questions or problems. Policy research is linked to public agenda and results are useful for development. Unfortunately policy research is not common or popular with governments in Africa.

Governments in developed countries recognize the important role that research can play in policy development. For example, in 1996, a Policy Research Initiative was created by the Federal Government of Canada to develop a research strategy for the country in preparation for complex public policy challenges the country was likely to face over the coming years. Its goal was to build a solid foundation of expertise and knowledge upon which sound policy decisions could be based on and in so doing, contribute to building a strong and vital Canadian Policy Research Community (Policy Research Initiative, 2001). In Tanzania and Malawi researchers felt that policy makers' lack of understanding and respect for research limited the extent to which research is used for policy formation. Researchers also lacked skills and resources for dissemination of findings. On the other hand, the shift towards evidence-based policy formation, demand for research outputs that can provide clear and concise policy relevant findings (Stephenson and Monique, 2002). This study further established that some researchers were reluctant to disseminate findings that have political implications especially those in conflict with the national politics.

However, research community is beginning to respond to the needs of individual organizations and societies. The shift to this new paradigm has occurred for a number of reasons including the call to make research more accountable, the demands for an evidence-based approach to planning and decision-making, the desire for social scientists to be recognized as major players in health research, and the realization that there is a wealth of untapped social science and local knowledge which could be used to create a more equal and healthy society (Lyons, 1999).

Other Resources

In the long term there is need for policy framework that will allocate funds to support research. There are very few developing countries supporting their scientists at a level which make national research programmes self-sustaining and significant. Probably not more than US \$2000 million is spent on scientific research by all developing countries at the present time. Overall this is a very small proportion of total expenditure, particularly if one realizes

that such research is the basis of all advances in agriculture and technology, the twin goals of most developing countries. We need to look to expenditure of at least many times this amount in the medium term. Considering international aspects, it is clear that "big science" is becoming too costly for many developed countries, and they are finding a solution through the joint funding of laboratories and projects. In view of this, countries in Western Europe have collaborated to pursue advanced nuclear physics research through European Organization for Nuclear Research.

For many developing countries including Kenya research facilities are too costly and obsolescence is quite acute. This has crippled many laboratories as importation of spares is more difficult and costly. It is therefore essential to concentrate facilities at few sites where they are efficiently utilized and maintained. In some cases there is no one available to carry out even minor repairs of such equipments. In addition there are few research institutions and those available have poor facilities such as libraries and documentation centres. Many countries disperse their effort between too many research institutes that are poorly furnished and to make matters worse, these institutes are often located in urban centres, hence making them inaccessible to researchers in remote rural areas.

In addition existing research facilities have inadequate equipments such as computers and photocopiers for processing outputs. Infrastructure to support research in many developing countries is deficient in amenities such as telephone facilities, roads and electricity. Exchange of information and research findings among institutions is therefore seriously hindered. Kenya has hatched a series of new strategies to reform its higher education sector, which call for new university campuses to be created in rural areas and funding to be upped to enable more students to be enrolled in the coming years. The government's plan to increase their allocations to higher education and the current extension of fibre optic cables to rural areas is a welcome move in the right direction.

Poor research facilities have for a long time been attributed to poverty that hinder African governments from providing required institutions with equipments and infrastructure for effective research. While this is true for some poor countries, it may not hold in some cases where government officials with little or no regard for research have fraudulently channelled billions to personal accounts in developed countries, thereby enriching themselves at the expense of research programmes. Along with these, many cases of donor funds released in the name of research end up in pockets of a few. The little funds committed to research have limited impact when it comes to application of research findings.

Research relevance

It is imperative for African institutions to develop their own teaching methodologies by integrating the African languages verbal and non verbal and ensuring teaching aids are as far as possible locally produced. The curriculum materials and methods cannot be culture free for it is impossible for human beings even curriculum developers to free themselves from their own culture. To be most effective, research methods have to be tailored to the needs of the learners and those of the society. One way by which Africa may look to herself is by an examination of methodologies and techniques of traditional African education including traditional practices for bringing up the young and learning through practice or lifelong education. Inquiry into such methods may reveal practices that can be adopted directly or with little adaptation. Great emphasis on research through practice is perhaps a striking feature of traditional African society and in line with current demands of linking education with productive work. It is evident that the areas of traditional educational methods and techniques have not yet received the research attention it deserves (United States International University, 2005).

In South Africa the University of Venda has undertaken widespread reforms of the curriculum that has involved infusion of indigenous knowledge and technology into

curriculum from such diverse fields as traditional art and craft, traditional cosmetics, traditional foods and medicine, knowledge of the environment and African civilization. The curriculum is designed to be learner centred, problem-based and project driven.

Publication of findings

Publishing findings forms a window through which research information is released to the public through written documents, posting such information in a website and distributing copies of such work with the consent of the author through periodicals, books, scholarly journals, and magazines (Mugenda, 2008). While research productivity in terms of articles, in the rest of the world is increasing fast, the relative position of Africa as knowledge producer is decreasing gradually. Sub-Saharan Africa contributes around 0.7% of world scientific output, and this figure has decreased over the last 15 to 20 years. Except for South Africa, lack of incentives to publish was also a problem due to starting with very little research funding from the government. When researchers are encouraged to publish their research findings in books, periodicals, scholarly journals, or magazines, it facilitates wider sharing of findings among researchers, professionals and policy makers. Experience has shown that such sharing helps to set standards to be emulated by potential researchers as they thoroughly describe methods.

However, most of the researches conducted in Africa continue to gather dust in some rooms in many universities while many researchers are forced to seek publication in foreign journals. Publishing in these journals is often a slow and frustrating experience and even when such material is accepted for publication the information is not readily accessible to local researchers, professionals or communities who need it most. This has resulted to lack of locally published books in research and other professional areas. Kobia (2006) noted that Africa as a continent continue to experience “book famine” as locally published books and journals are very few in various disciplines. Deprivation of knowledge discourages the culture of reading and makes it impossible to achieve mass education.

A study by Centre for Higher Education Transformation (CHET, 2011), concludes that the knowledge production output of the academics scores at flagship African universities is not strong enough to enable universities to make a sustainable contribution to development. In other universities, the study found that “each academic was likely to publish on average only one article every 10 or more years.”

Research as a fundamental mission of higher education will need to be reinforced and shall call for substantial increase in the number of academic journals and implementation of coherent publication policy at the national and regional levels.

Social, Cultural and Political Influence

A culture of secrecy and fear of unknown prevalent in African societies just like in many other societies that are not exposed to the world have continued to impact on research negatively. The greatest concern is ethnic chauvinism necessitating the need to keep tribal secrets and keep away intruders. In many communities during initiation candidates are required to keep community secrets and be aware of strangers which is not favourable for a healthy research environment. Even today people are not generally open to researchers and often give false data which is dangerous when it comes to implementing findings.

Incongruent political patterns also affect research. Leaders in Africa have often not demonstrated readiness to accept the truth, seek or incorporate it in legislation as it tends to threaten them politically. Political situation in many African states may be blamed for failure to integrate research, in planning and policy making. The tension and wars that have erupted and prevailed have rendered educational research impractical and certainly unsustainable in some regions. This has partly contributed to insecurity that makes it very difficult for many countries to progress in research. In Kenya most educational research outputs have had an insignificant impact on guiding decision-making.

This political situation poses philosophical hurdles in the meaning and objectives of research as perceived by researchers. It determines the purpose or drive which brings us to the question, “is research done to quest for truth, for political ends, or for money?” According to Mwiria (1992) researchers could be truthful and aim at nothing but the truth or be dishonest and aim at nothing but money. On the other hand the researched groups may wish to cooperate in research deceitfully with the primary aim of being paid. This is a significant feature where poverty drives people desperately to look for income from any possible source. Decision makers on the other hand tend to be more opportunistic than realistic in the realm of educational policy. In many cases research whether donor or government funded has been used and abused to further political ends rather than its legitimate educational ends.

As for the teacher in the class the concern in implementation of research results is not a priority. There is very little in terms of research for the “good of the establishment” or for the good of the pupil”. It is apparent in many African countries that teachers are often concerned with earning their daily bread. The prevailing culture of self-satisfaction is increasingly gaining a central place. This partly explains why corruption is generally prevalent in the society as exemplified by the case of embezzlement of Free Primary Education funds in Kenya.

The reason that governments of many developing countries do not support scientific research more enthusiastically than they do, is because they regard research as a chasm into which money is poured and nothing of apparent value comes out. It is inevitable, probably desirable, that most research in developing countries should be applied or mission oriented.

Applied research need not really be restrictive as there is always room for original and basic approaches

Information Technology

In developed countries information technology has helped drive research standards that make the research process easier and faster. Literature review can easily be done through the internet and various packages since analyzed data are readily available in the market. However use of IT in research is hampered by lack of resources in many African countries (Mugenda, 2008). High cost has kept computer technology beyond the reach of many teaching staff and students. There have been attempts by foreign donors to donate computers to institutions but the need is overwhelming compared to supply. Such initiatives have also been hampered by lack of supportive infrastructure such as electricity in rural areas, lack of proper maintenance and replacement of hardware and computer skills among users. There have also been cases of organizations in developed countries off loading used computers to institutions of learning some of which are in poor working conditions and become obsolete. Some donated computers work for only a short time before collapsing. Some donors could be using the third world countries as a destination for their e-waste which is hazardous to life (human and animals).

In some institutions of higher education teaching staff are ill equipped in computer technology with the consequent poor transmission of such skills to learners. Lack of modern ICT infrastructure and skills in the education system in many countries in Africa is a painful embarrassment in education development in the continent. Education sector should take lead in advancing information technology to the society to enhance development in other sectors not only to reduce a dependence on foreign skills and support but also create employment for the African youth.

UNESCO (2005) notes that internet application has not only become a way of reducing cost but also a way of maximizing efficiency and effectiveness without reliance on paper work. Essentially African universities need to maintain up-to-date websites that provide information on all their activities and potential ones. They should also operate through interactive linkages between organizations thereby expanding their own resource pool. It is

important to note that various universities have invested heavily in connectivity and interconnectivity as is the case of University of Nairobi and Kenyatta University in Kenya. These institutions are reaping benefits in terms of internal and external communication in relation to courses offered, examinations, registration and general management promoting efficiency and accountability. Such systems have enhanced access, monitoring and tracking students' information, and quality assurance by extension.

Information Technology has also made great strides in Open and Distance learning, offering a powerful channel for bringing education to groups that have previously been excluded. In the future, it is almost certain to take place increasingly across regions.

Conclusion

From the foregoing discussions, it is clear that academic teaching should be conducted by research experienced staff and embedded in research with a view to making these institutions places of research and seedbeds of training for future generation of researchers.

However, research in Africa is characterised by low technical skills and competences of the faculty and high faculty/student ratios contributing to inadequately prepared research graduates, with the consequent poor research culture. The problem is exacerbated by brain drain occasioned by sending students abroad who choose to stay in their countries of training.

Financial constraints associated with meagre budget allocation to research leads to few institutions of research that are ill-equipped and sometimes too obsolete for modern use. As a result of this research funding is sometimes left to donors who have their own interest which may not concur with the needs of the local people. Furthermore, most research findings are not disseminated due to high expenses of publishing. Social, cultural and political environment in Africa also impacts research negatively.

It has been a challenge to access research materials in Africa from other parts of the world due to lack of computers and electricity which are necessary for Information Technology.

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