

Research Training: The Kenyan Experience

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Introduction

The future lies very much in the hands of nations that are capable of developing their human resources to cope with the challenges of life. The setting free of the human brain to develop fully enables a community to find solutions to social and economic challenges through the application of scientific knowledge. The fulfillment of the huma

Establishment of infrastructure alone is not a sufficient condition for the success of research and science in a community. Once such infrastructure is established, it should be maintained and sustained if the culture referred to above is to take root. The economic turmoil engulfing most developing countries has directly affected the sustenance of human resources development and installed infrastructures. This paper analyses the efforts Kenya has made on these two fronts and proposes possible alternatives.

Research In Universities

Research in Kenya, as in most developing countries, is tied very closely to the public universities. At present, the Kenyan government spends 35% of its total recurrent budget on education, of which about 20% of the Ministry of Education budget goes to the public universities. Universities in Kenya date back to 1956 when the Royal Technical College was established in Nairobi. The college enjoyed the affiliation of the University of East Africa at Makerere in Uganda when it became its first constituent college in 1963. It became a fully fledged University in 1970. The basic scientific disciplines of biology, physical sciences and engineering sciences were established during the Royal Technical College days. These were followed by courses in commerce, veterinary medicine, agriculture, social sciences, medicine, etc., not necessarily in that order.

The institution was able to attract some of the best brains not only in Kenya but from most parts of the world. The criteria for joining the university either as a student or as academic staff were competitive merit and excellence.

Financial resources during these formative years were plenty compared to the present resource starvation years. The university also enjoyed very generous international donor support, a support that has almost dried up. The list of international organizations that were at the University of Nairobi reads like a "Who is Who": The British Council, the Ford Foundation, the Rockefeller Foundation, US AID, British ODA, NORAD, CIDA, etc. Evidence is there that the presence of these organizations greatly assisted the development of human resources and infrastructure. Their pull-out has been followed by the near collapse of the system.

Due to rapid demographic population increase and socio-political demands, Kenya had to increase the number of universities in a very short

time. Today, Kenya has five public universities and one constituent college; three chartered and eight unchartered private universities with a total student population in both public and private universities of 42,995, of whom 26.5% are female. Table 1 gives the total breakdown of enrollment in university institutions in 1994/95.

Table 1- Total Student Enrollment in University Institutions in 1994/95

Today, the enrollment pressure has broken the barrier of academic excellence and exclusivity that used to be there. Until the late 80's, one had to have a Ph.D. to be employed as a lecturer in any of the Kenyan universities.

This employment rigidity was done away with in the 1987/88 academic year, when the Kenyan universities had to admit a double intake of students. Today, one finds masters degree holders as lectures in all our public universities. Table 2 gives the higher degree qualification of academic staff by university.

Table 2. Higher Degree Qualification of Academic Staff by University in 1994

University Institution	Staff	B.A./ B.Sc.	M.A./ M.Sc.	Ph.D.	
University of Nairobi	1553	52	518	348	
Moi University	566	31	253	124	
Kenyatta University	618	21	365	190	
Egerton University	623	48	231	63	
Jomo Kenyatta University of Agriculture & Technology	260	—	4	6	
Catholic University of Eastern Africa	—	—	18	45	(42 part-time staff)
University of East Africa, Baraton (1995)	—	9	37	20	
Pan Africa Christian College (1995)	—	1	11	6	(All part-time)
St. Paul's Theological College (1995)	—	—	5	6	
Scott Theological College (1995)	—	3	11	9	(10 part-time staff)
Nairobi Evangelical Graduate School of Theology	—	—	3	17	(7 part-time staff)
Kenya Highland Bible College	—	3	5	1	(4 part-time staff)
Nairobi International School of Theology	—	—	5	5	
United States International University	—	44	15	—	(only 4 full-time staff)
Daystar University	Data not available				

Table 2 reveals some very startling statistics. Unlike in the past, most public universities in Kenya are today manned by masters graduates. These same staff are themselves postgraduate students or dropouts. They are expected to direct masters and Ph.D. studies which have a heavy research component. The four big private universities survive because of their proximity to public universities from which they draw their part-time staff. The fact that part-time staff forms a major component of private universities infer that research is undeveloped in these institutions.

postgraduate students, Table 1 indicates that there are 1678 registered students doing masters and Ph.D. courses at all University institutions. Given the Kenyan population of 21.4 million people according to a 1989 census, it is clear that postgraduate courses in my country are underdeveloped. Part of the reason for this under-development arises from scarcity of postgraduate funding. The other is related to lack of functioning scientific equipment or non-availability of state of the art technology.

These are vicious circles - one leading to the other. Lack of equipment is used as reason for the few highly trained Kenyans to relocate to where such equipment exists, usually the developed world. Lack of funding means that fewer students can be trained, and fewer trained students leads to lack of qualified staff available for teaching at university level. It is possible that this circle could be broken by increasing funds for postgraduate training and installing new equipment. Such a strategy will in itself not be enough, unless remuneration packages reflect the socially and market acceptable levels for each profession.

Research Institutes

Most university research tend to be basic. There is some applied research being carried out at university institutions, but it is not mission orientated. Kenya's success in some agricultural fields has been attributed to applied research carried out at research institutes. Today, Kenya has established the following research institutes.²

- *Kenya Agricultural Research Institute*
- *Coffee Research Foundation (*)*
- *Tea Research Foundation (*)*
- *Kenya Marine and Fisheries Research Institute*
- *Kenya Trypanosomiasis Research Institute*
- *Kenya Industrial Research and Development Institute*
- *Kenya Forestry Research Institute*
- *Kenya Medical Research Institute*

* The Tea and Coffee Research Foundations have been set up by the respective industries.

In addition to these national research institutes, international research organizations such as the International Centre for Research in Agroforestry (ICRAF); the International Centre for Insect Physiology and Ecology (ICIPE) and the International Laboratory in Animal Diseases (ILRAD) are established in the country. Unlike the former institutes, the latter have received favorable funding from the international donor community. As a result, they have been able to attract and retain staff of high caliber and motivation. They also have well established infrastructures for research.

The national research institutes that depend solely on government funding have experienced the impact of economic stagnation. They too have experienced difficulty in recruiting and retaining staff. Replacement of existing or purchase of new equipment has been a problem.

Therefore, it is safe to conclude that high quality research is possible in Africa given the Kenyan experience. However, for it to survive, it is essential that resources be made available for staff training, purchase of state of the art equipment and decent remuneration of staff. Presence of these three ingredients would go along way towards establishing sustainable research activities in Africa.

International Cooperation

The experiences gained so far indicate that establishment of mutually interactive collaborative research cooperations add substantial impetus to continued research. Exchanges of information and persons involved in research bring out the competitive spirit. Researchers who are able to attend conferences and present scientific papers are most likely to stay in research for the love of knowledge. It is difficult to quantify the numbers involved, but conversations with several colleagues in my discipline convince me that they value most international linkages. It is unfortunate that during these times of economic hardships, funds for international linkages have received the first guillotine of the exchequers.

Internationally supported research programs have become even more rare. Most donors of research support have found it wise to tie their funding to political conditions and conditionalities at a time when scientists in developing countries need theirs³⁹n³9yd³⁹n

science and not bad politics. However, the tragedy of our time is that even the basic tenets of science have been sacrificed on the altar of politics. Perhaps time is ripe for us to bring back the pursuit of scientific knowledge - no matter where - for the benefit of humanity.

It is also important that we scientists in the developing world support science by taking full responsibility in spending whatever financial resources availed to us in a transparent and accountable manner.

References

1. Rémi Barré and Pierra Papon. Indicators: Purpose and Limitations. World Science Report 1993. UNESCO Publication, p. 136-150
2. Science and Technology Act. 1975.