Research Application Summary pp: 109 - 112

Harnessing agricultural science for the people: Are African Universities doing enough?

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Introduction

The mandate of higher education institutions such as universities includes teaching, research and outreach. Over 70% of African populations survive on agriculture. The onus is on African universities to conduct relevant research to generate the requisite knowledge and appropriate technologies to address the challenges of food and nutrition security. Teaching, research and outreach in agricultural sciences must therefore top the agendas of African universities. The fact that hunger, malnutrition, famine and poverty continue to stalk most African communities is a challenge the continent's universities must address.

The question is: are African universities doing enough to address the agricultural challenges facing the continent, especially in sub-Saharan Africa? A second and more pertinent question is: are African governments doing enough to support their agricultural research universities? This paper raises fundamental questions about policy, funding and research prioritization in African Universities. How much political will do governments and their agricultural research institutions themselves have to mobilize human and material resources for agricultural research and development? Do both governments and universities fully appreciate the key role of research to enhance agricultural production, processing and marketing? What are the African university teaching, research and outreach programs modeled on?

African University agricultural research focus

Famous universities such as Timbuktu in West Africa and Alexandria in Egypt speak to a great tradition of academic excellence in Africa's pre-colonial history. Colonial and post-colonial African universities have become revered ivory towers representing the highest level of emancipation from the burdens of the African village and contributing little the socio-economic upliftment of the masses.

Agricultural research in many African universities has been project-based and piece-meal, failing to focus on understanding the socio-cultural context of African agricultural systems and their interaction with the physical environment, and thereby missing the link between the science and the people's way of life. Instead of using science to improve the African agricultural systems and practices from within, university scientists have sought to impose foreign models of production and to displace tried and tested local systems with very little

success. The call is for African agricultural scientists to be original and to study the real world around them.

Agricultural research agenda

The research agenda of African universities is more often than not set by foreigners whose perception is that African agriculture is lagging behind and needs to be modernized. The challenge is on the African scientists to focus on African crops: e.g. sorghum, pearl millet, bambarra nuts, cowpeas and others. A mind-set change is required among African scientists and governments to accept that local food crop that are better acclimatized to the continent must be thoroughly researched to generate knowledge that allows for their promotion, production, processing and marketing.

Incentives for African agricultural scientists

Is the African Union (AU) creating a conducive environment for African scientists to research on pertinent African problems? The Kwame Nkrumah Scientific Awards to identify the best African scientists sponsored by the African Union have criteria that favour scientists who were educated and are well published in journals outside Africa. Research impacts of the scientist's works in Africa count for only 10% of the final score so that those African scientists whose major scientific footprint is in Africa receive limited recognition. The above scenario acts as a negative incentive for African scientists to be educated and to work and develop their academic careers in Africa.

When then will the Universities have enough manpower and incentives to work in Africa on African problems?

Promotion criteria for research scientists. In most African universities academic staff are promoted on the basis of their research and publication output. More weight is given to publications in refereed international (non-African) journals thereby creating bias against locally published research tackling local problems.

One can argue that the practice of promoting overseas publication of local research results deprives the African academia, libraries and development agents of relevant scientific data for making relevant management decisions. With the advent of the internet, African studies published overseas are becoming available but only to the digitally connected relatively few Africans.

Overall, promotion and publications policies of African universities tend to limit accessibility of relevant published agricultural scientific information. Are African Universities doing enough to make their research and teaching programs relevant to the needs and aspirations of the people?

The relevance of published research to African agricultural problems receives much less weighting in promotion procedures. Compare with China for example: to be promoted to the

rank of a full professor, one's research must demonstrate impact on the economy of the country. African universities emphasize the publication of research ahead of its relevance and application to national development.

Funding and ownership of agricultural research. Very little or no research funding is availed by African governments to their universities. The private sector, which contributes significant research funds in more developed countries, is poorly developed in Africa. Where international firms operate in Africa, they source research services from their mother countries. So it remains for African governments to support local research.

Clearly, the pervasive expectation by both African governments and university authorities that overseas donors will fund research in African universities is misplaced. This perception reflects ignorance on the central role of research in any nation's development. African academics must lobby their governments to leverage more funding for agricultural and other research.

Value of agricultural research. The importance and value of research is poorly appreciated in Africa. African University authorities encourage their academics to respond to research grant calls from abroad (mostly Europe and America) and are satisfied as long as research is undertaken regardless of its irrelevance to the local economy.

Can Africa advance economically without deploying its own troops (researchers) to fight its own development battles?

The disconnection between the African university research agenda and the real problems of the people in the village raises questions about the relevance of higher agricultural education on the continent.

What needs to be done?

First African governments must accept that Africans have the primary responsibility to research and find solutions to their own socio-economic challenges. They must develop policies that recognize and financially support universities to conduct agricultural research in order to solve the food production, processing and marketing challenges within local communities. Only solid sustained scientific research will solve Africa's development challenges.

As Woomer (2004) aptly put it "*Support for agricultural science is society's insurance against malnutrition and famine*" the two scourges haunting sub-Saharan Africa. Woomer goes on to outline various practical approaches to impact-oriented agricultural research

And Eicher (2003) has asked a very fundamental question that throws the gauntlet to Africa: *"Will African political leaders make the same hard choices (made by Asian leaders) in building strong national agricultural science bases or will they continue to rely on bottom-up, quick fix projects and a gaggle of food aid subscriptions? Only time will tell".*

Secondly universities must adopt research and staff promotion policies that recognize and reward impact-oriented research carried out by academics among local communities to solve local problems.

The RUFORUM Model

Thirdly, the RUFORUM approach for postgraduate training in agricultural sciences provides a functional model that African universities should adopt with appropriate modifications, across all university academic disciplines (Patel et al., 2004). Research, teaching and learning occur as scientists together with farmers and other collaborating stakeholders tackle real life problems in the field. In the process the university fulfills its outreach and development mandates becoming truly a university of the people.

References

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