



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Strengthening research capacity of African Agricultural Higher Education Institutions

J. M. ERBAUGH

Director of International Programs in Agriculture Office and Associate Professor in the Department of Extension, The Ohio State University, 113 Agri. Admin Building, Columbus, Ohio, USA

Corresponding author: erbaugh.1@osu.edu

Abstract

The African Journal of Rural Development (AFJRD) is focused on issues that affect sustainable rural development. The articles contained in this issue of the AFJRD, Volume 2 Issue 1 demonstrate the contributions that scientists affiliated with African Agricultural Higher Education Institutions (AHEI) can make to increasing agricultural productivity, food and nutrition security and improved livelihoods in sub-Saharan Africa. These institutions are essential to sustainable agricultural development because they are responsible for training the next generations of scientists and policy makers, communicating science to the general population, and through their research, addressing critical challenges to food security facing the continent.

Key words: Sub-Saharan Africa, sustainable agricultural development

Résumé

La Revue Africaine de Développement Rural traite des questions qui influencent le développement rural durable. Les articles contenus dans ce numéro 1, volume 2 du journal démontrent les contributions que les scientifiques dans les institutions africaines d'enseignement supérieur d'agriculture peuvent faire pour accroître la productivité agricole, la sécurité alimentaire et nutritionnelle et améliorer les moyens de subsistance en Afrique sub-saharienne. Ces institutions sont importantes pour le développement agricole durable car elles sont chargées de former les prochaines générations de scientifiques et de décideurs politiques, de communiquer la science au public et, à travers leurs recherches, d'aborder les questions de sécurité alimentaire que fait face le continent.

Mots clés: Afrique sub-saharienne, développement agricole durable

Perspectives on strengthening research capacity of Africa Agricultural Higher Education Institutions

Over the past five to ten years, a convergence of opinion has re-emerged regarding the fundamental importance of agricultural development to ensuring food security, economic growth and poverty alleviation in sub-Saharan Africa (SSA), where the population is expected to double to 2 billion before 2050 (United Nations, Department of Economic and Social Affairs, Population Division, 2015). Agriculture remains the mainstay for most of the continent's economies. It serves as the primary source of livelihood for 65% of its people, contributes 30% to 40% of national GDPs and accounts for almost 60% of national export incomes (Fulginti *et al.*, 2004; Jayne *et al.*, 2012). Yet, low agricultural productivity, low incomes, malnutrition, and food insecurity persist in many of these largely agrarian countries.

Strengthening the research capacity of AHEIs is central to addressing these challenges.

Technological change, driven by research, is a key factor in driving agricultural productivity growth and development. The AHEIs' provide the institutional foundation for addressing development challenges through research programs that generate new technologies and innovation, and degree training programs that produce the next generation of scientists, educators and leaders. It is the degree training component – the development of human capital – that makes AHEIs indispensable to sustainable agricultural development.

University contributions to sustainable agricultural development throughout SSA have been considerable. However, efforts to strengthen the research capacity at many of these institutions has been constrained by a variety of factors including the poor articulation of AHEI programs with National Agricultural Research and Innovation Systems. This has often left AHEIs on the outside, making it difficult for them to access national and regional funding. In recognition of this, the African Higher Education Centers of Excellence program supported by National Governments through the World Bank has attempted to directly target AHEIs with funding to improve select research and postgraduate programs on campuses in West Africa (ACE I) and Eastern and Southern Africa (ACE II). Limited and variable (erratic) funding has been a chronic limiting factor when it comes to improving the research capacity at AHEIs. Other major limiting factors include burgeoning undergraduate enrollments that leave professors little time to pursue and conduct research, depleted faculty numbers attributable to aging and retirements, and declining research facilities.

Ongoing efforts to strengthen the research capacities at AHEIs reinforce several key themes. First and foremost, research capacity is strengthened by filling the faculty ranks with well trained, dedicated and experienced research scientists. High quality faculty research capacity is essential in order to develop and conduct quality research and to build strong postgraduate degree programs. Reciprocally, strong postgraduate degree programs are necessary in order to improve the scientific and research capacity of AHEIs because research is an essential component of these programs. Strong postgraduate degree programs will boost research output, help fill critical gaps with the “next generation” of well-trained research scientists, and improve other programmatic aspects including instructional quality and outreach to farmer groups and other community stakeholders.

Moving forward, both quality and relevance are key attributes that will need to be addressed to improve these programs. Improving quality will require curricular revisions that anticipate and incorporate changing labor market dynamics, and enhance rigor and training in laboratory analytics and field research methods. A two pronged strategy will be required to improve relevance. First, AHEI research programs need to be better linked-in with the National Agricultural Research and Extension Systems (NARS) so that research topics address national agricultural research priorities. Second, research conducted will need to address farmer and other client needs. An applied problem-solving research agenda that addresses farmer stakeholder needs and national agricultural research priorities will greatly enhance the relevance of AHEI research programs. Other important ways to improve the quality and relevance of AHEI research include use of interdisciplinary teams, on-farm research, participatory methods and research attachments with research institutes and the private sector are also “best-practices” that will contribute to both quality and relevance of the research output.

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), a Network of 66 member universities in Africa (Osiru *et al.*, 2016) has been engaged in several programs to reduce constraints and provide inter-institutional collaborations to boost postgraduate training and research. The research included in this Issue of the AFJRD illustrates how many of the practices and concepts discussed above are being applied to improve postgraduate research programs and

to strengthen the research capacity of its partner institutions. Most recently RUFORUM has collaborated with the United States Agency for International Development (USAID) funded Innovative Agricultural Research Initiative (iAGRI) project in the postgraduate degree training of Tanzania students. Through this collaboration RUFORUM has been able to apply many of the “best practices” it has developed over the years with its partner institutions, including Sokoine University of Agriculture in Tanzania in collaboration with relevant Government agencies such as the Tanzania’s Ministry of Agriculture, Food Security and Cooperative. This issue AFJRD includes six papers from the iAGRI project and seven others that give insight into some of training and research work in the continent. Indeed publication of this issue has been made possible through iAGRI funding.

REFERENCES

- Fulginiti, L., Perrin, R. and Yu, B. 2004. Institutions and Agricultural productivity in sub-Saharan Africa. *Agricultural Economics* 31 (2/3): 169 – 180.
- Jayne, T., Chamberlin, J. and Muyanga, M. 2012. Emerging land issues in African Agriculture: Implications for food security and poverty reduction strategies. Stanford Symposium Series on global policy and food security in the 21st Century. Stanford, CA: Stanford University.
- Osiru, M., Nampala, P. and Adipala, E. 2016. African Faculties of Agriculture within an Expanding University Sector. In: Lynam, J., Beintema, N., Roseboom, J. and Badiane, O. 2016. *Agricultural Research in Africa: Investing in the Future Harvests*, International Food Policy Research Institute, Washington, DC.