

## Nutrition Capacity within Agriculture, Nutrition, and Health Research for Development in Africa: Current Status and Assessment of Future Opportunities

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The CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) is designed to maximize the health and nutritional benefits of agricultural development. A4NH is committed to conducting research that can have greater impact through the support of key development actors and by building the capacity of research and development institutions and individuals in low-income countries. Recognizing that this will require the development of new partnerships between the agriculture, nutrition and health sectors, A4NH commissioned the Swedish University of Agricultural Sciences (SLU) to conduct an assessment of current state of agriculture-nutrition-health (ANH) research capacity in Africa.

The study had four main objectives:

1. To provide an overview of the individual and institutional nutritional expertise available in Africa
2. To describe the existing nutrition research being undertaken
3. To identify the gaps in linking agricultural research with nutrition and health outcomes
4. To delineate activities with African partners for a future development research agenda on ANH outcomes

### METHODOLOGY

The first stage of the study consisted of a desk review to identify the linkages between agriculture, nutrition and health, to synthesize existing areas of research within ANH, and to identify potential areas for future research. This review was used to construct a framework to guide this research study and to draft survey instruments used to collect data.

An online survey was disseminated in December 2013 through professional networks such as LinkedIn and Research Gate and via communities of practice and email lists which focus on agri-



*Gathering of community health workers in Kenya.*  
(M.Snell/Photoshare)

cultural research for development, such as the Platform for African European Partnership on Agricultural Research for Development (PAEPARD). A follow-up survey was sent to participants who responded to the first survey. The surveys investigated the research landscape by focusing on the following: actors in ANH research, ANH interventions and research programs conducted since 2000 and the enabling environment present for creating a research landscape in Africa.

In addition to the surveys, multiple key informant interviews were undertaken with various stakeholders in Africa, in the US and in Europe to identify, analyze current as well as potential research and capacity within the agriculture-nutrition sector in Africa. The interviews which were conducted in-person, over email, and virtually, focused on the challenges faced in conducting ANH research in Africa, the support systems available for researchers and what opportunities a program such as A4NH can provide

## FINDINGS

There were 162 responses to the survey – 70% of respondents were based in Africa in 29 different countries representing 154 different organizations, both local and global. Table 1 lists some of the important local organizations in 7 focus countries that were identified by A4NH.

**Table 1: List of survey respondents' local organization affiliations**

Focus country	Local organizations
<b>Ethiopia</b>	Ethiopian Health and Nutrition Research Institute, Ethiopian Institute of Agricultural Research, Haramaya University, Mekelle University
<b>Ghana</b>	Council for Scientific and Industrial Research, College of Agriculture Education, University of Cape Coast, University of Ghana
<b>Kenya</b>	Kenya Agricultural Research Institute (KARI), Jomo Kenyatta University, Agritech Green Services International, University of Nairobi, Egerton University, Kenya Medical Research Institute, Chuka University
<b>Nigeria</b>	Nigerian Federal Institute for Industrial Research, Ignatius Ajuru, Ahmadu Bello University, University of Port Harcourt, Federal University of Technology Uwerri, Kogi State University, Lead City University, Nutri Connect Agrovet
<b>Tanzania</b>	Mikocheni Agricultural Research Institute, Sokoine University of Agriculture, University of Dar Es Salaam, Open University of Tanzania, Morogoro Center for Food Processing and Training
<b>Uganda</b>	Makerere University, Kyambogo University, Agency for Inter-regional development
<b>Zambia</b>	University of Zambia, Mulungushi University, Zambia National Farmers Union, Zambia Agriculture Research Institute

### Actors in ANH research

Respondents were asked to identify global nutrition research actors that they are working with - 18 such organizations were identified which includes CGIAR centers, global projects such as Feed the Future, UN agencies such as the Food and Agricultural Organisation (FAO) and the World Health Organisation (WHO), international non-government organizations such as Care and

World Vision and universities such as Wageningen University. Respondents were asked to list the regional initiatives or networks they belong to. A diverse group of 36 regional initiatives or networks were identified; most common responses included the Africa Nutrition Society (ANS) and Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). However, only 7 of these had more than 2 members among the respondents.

### Capacity building

Key informants stressed the importance of an African-focused nutrition agenda which engages key actors in nutrition at the individual, institutional and network level in order to achieve successful and sustainable results. Since the Comprehensive Africa Agriculture Development Programme (CAADP) Pillar III, endorsed in 2003 by African leaders, identified food insecurity, hunger and malnutrition as major problems that require immediate action, there has been growing awareness and increase in the focus on nutrition issues in Africa. However, countries are constrained due to a lack of availability of adequately trained human resources. While there has been an increase in nutrition-related programs at universities, according to key informants, the teaching staff available has not kept pace with the increase in enrolment in terms of workload and quality control. There were also concerns among key informants about the lack of home-grown African research, and of knowledge of nutrition not being local or country-specific but rather what is taught and more applicable outside the African continent.

Respondents identified areas where they feel capacity building is most required. Some common responses include: developing writing and communication skills among local staff and training on research methods and survey design. According to a key informant, while talking about the lack of research skills in local organization:

The lack of training among staff members, according to key informants, is also due to dearth of researchers and the high turnover among staff in the field of nutrition, especially in government organizations due to higher salaries in non-government organizations.

*“We have simply become enumerators since our capacities and engagement are limited to data collection and no analysis.”*

Respondents also suggested supporting nutrition leadership mentorship programs and nutritional professional societies to build capacity among local organizations. The major constraints within existing societies were identified to be the unavailability of core funding and lack of engagement with national actors.

In order to gauge where actors in the ANH sector in Africa receive their training from so as to see the capacity building institutes in Africa, the survey asked respondents to list the name of the university where they received their most recent degree. Table 2 lists some of these universities. Most respondents have attended a university located in Africa (about 80%), but there were some who have attended an educational institute in Europe. Amongst the African universities, University of Nairobi was the most well-represented (4.3%), followed by University of Ibadan, Nigeria (3.7%) and the University of Malawi (2.5%). Among the non-African universities, Wageningen University in Netherlands was at the top with 4.3% of respondents having received their last degree from there.

**Table 2: African universities where respondents earned their most recent degrees**

Educational institutes	Country	Percentage
University of Nairobi	Kenya	4.3%
Wageningen University	Netherlands	4.3%
University of Ibadan	Nigeria	3.7%
Ghent University	Belgium	3.1%
University of Malawi	Malawi	2.5%
Jomo Kenyatta University	Kenya	1.9%
Makerere University	Uganda	1.9%
University of Ghana	Ghana	1.9%
University of Zambia	Zambia	1.9%
University of Zimbabwe	Zimbabwe	1.9%

### ANH programs and research

Survey participants were asked to list research and development programs they have participated in. It was found that while respondents were engaged in research on nutrition outcomes, food consumption and nutrition intake, there was a lack of research on health outcomes and household income. The absence of research on these topics, according to key informant interviewees who were asked to explain this result, is due to health and economics being viewed as distinct subjects. Food science, however, emerged as an important area where research is being undertaken currently indicating the involvement of nutritionists in the ANH research sector

Respondents were also asked open-ended questions on identifying the most important issues in ANH research. The themes listed for these questions matched the topics identified as focus areas in the desk review. Survey respondents, however, failed to mention key topics such as linking household income to health outcomes, availability of food and the inequalities in intra-household distribution of food.

Apart from research topics, the survey also identified non-thematic topics necessary for an enabling environment for research.

Examples include: research design (which was considered an important issue by a quarter of respondents) specifically the lack of utilization of participatory approaches, lack of capacity and inadequate communication of research outputs due to the absence of a writing and publishing culture. The survey also underscored the importance of stakeholders in Africa having the capability of designing and determining their research priorities.

## CONCLUSION AND RECOMMENDATIONS

In conclusion, the survey provided an overview of what and how actors are working on ANH research in Africa. The survey findings and recommendations can be summarized into two parts which can be useful for A4NH and other interventions targeting the ANH landscape in Africa in determining future capacity building initiatives and collaborations: (1) research and partnership strategy and (2) capacity strengthening.

### Research and partnership strategy

- There is a lack of research connecting health outcomes with household income. An important intervention area for A4NH would be to bridge the gap between economists and health sciences to encourage collaboration and incorporation of health and economic perspectives in ANH interventions. One way of doing so is by organizing a workshop which brings together global-level actors and the leading African regional networks and creating a space for local, regional and international dialogue.
- Interventions should focus on building an enabling environment for conducting ANH research in Africa. This involves focusing on research design issues such as the participation of the African stakeholders in determining research priorities, communicating research outcomes to the policy circles and local organizations, and building capacity of local organizations and researchers.
- Institutional clustering opens possibilities for collaborative cross-cutting research, with better resourced countries obligated to working with the less resourced ones (low-middle income countries program design and implementation) in collaboration with other CGIAR-centers and other partner consortiums.

### Capacity strengthening

- Capacity building activities need to be sensitive to regional and country level heterogeneities. Special efforts are needed to support institutions in Central and some North African countries as engagement with regions that have greater capacity building needs will contribute towards increasing capabilities of individuals and institutions.



- At the country-level, institutions are centered on a country champion while at the regional-level interventions are decentralized and there is no regional initiative or network that has a critical mass concentrated around it. Capacity building interventions should consider consolidating these networks for effective coordination and knowledge dissemination. One suggested strategy is to coordinate the activities of national champions in regional platforms. Existing platforms such as the African Nutrition Society, and CAADP are potential candidates. However, their capacity needs to be improved espe-

cially in the effective use of networking tools. Facilitation support is also required to synchronize the activities of these networks.

- Increased support in capacity for identifying ANH issues and the leading of research by African actors and institutions would enhance the contribution of African expertise to understanding and addressing agriculture related nutrition and health issues. Scientific communication of research outcomes in policy circles were identified as critical issues for successful ANH interventions.



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