



Agricultural Extension Training in Africa: Process Skills and Competency Gaps in Undergraduate Extension Curriculum

*Proceedings and Recommendations of Research Dissemination Workshop
Egerton University, Kenya (May 15-18, 2023)*

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July 2023

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Required Citation: Suvedi, M., Oywaya-Nkurumwa, A., Sasidhar, P.V.K., Agwu, A.E., Chanza, C., Dimelu, M.U., Liverpool-Tasie, L.S.O., Anugwa, I.Q., Tchuwa, F., Ifeonu, C.F., von Maltitz, L., Davis, K., Najjingo Mangheni, M., and Elapata, M.S.(2023). Agricultural Extension Training in Africa: Process Skills and Competency Gaps in Undergraduate Extension Curriculum. Proceedings and Recommendations of Research Dissemination Workshop (May 15-18, 2023), Egerton University, Njoro, Kenya.

Disclaimer: This research dissemination workshop was funded by Michigan State University (MSU) through the Alliance for African Partnership (AAP) for a 2021 Partnerships for Innovative Research in Africa (PIRA) grant titled "Strengthening Agricultural Extension Training in the MSU - AAP Consortium Partners in Africa". The views expressed in this report are those of the author(s) and do not necessarily reflect the views or policies of the organizations they represent.

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Acknowledgements

This research dissemination workshop was funded by Michigan State University (MSU) through the Alliance for African Partnership (AAP) for a 2021 Partnerships for Innovative Research in Africa (PIRA) grant titled "Strengthening Agricultural Extension Training in the MSU - AAP Consortium Partners in Africa". We are extremely grateful to Dr. Richard Mkandawire, Director, Africa Office, AAP; and Dr. José Jackson-Malete and Dr. Amy Jamison, Co-directors, MSU-AAP, for the award and administrative help. We would like to acknowledge the support from Derek Tobias for facilitating the grant management and reporting.

In the **USA**, we gratefully acknowledge the support received from Dr. Rebecca Jordan, Department Chair, and Ms. Ashley Lathrop, Research Administrator in the Department of Community Sustainability at MSU for their support in grant management. We gratefully acknowledge their help and support.

In **Nigeria, Malawi, South Africa, Uganda, and Kenya**, we are truly grateful to all national, provincial, and field-level public- and private- sector agricultural extension professionals and postgraduate agricultural extension students for participating in the online survey and FGDs. In **Kenya**, we would like to acknowledge and express our sincere appreciation to the management of Egerton University led by the Vice Chancellor Prof. Isaac Kibwage, for allowing us to hold the workshop at Egerton University. We wish to thank the Deputy Vice Chancellor Prof. Benard Aduda for making time to attend the workshop and officially open it on behalf of the Vice Chancellor. Special mention goes to the Division of Research and Extension, led by the Director, Prof. Nancy Mungai who also graced the workshop and gave the closing remarks. We also acknowledge the Faculty of Education and Community Studies, which hosts two of the Departments whose academic programmes were among those whose curricula were reviewed during the PIRA research. We thank the academic staff and students from the Department of Agricultural Education and Extension, and the Department of Applied Community Studies who participated in the workshop.

We also wish to thank the Management and staff of the Agricultural Resources Centre (ARC) Hotel, Egerton University for providing the workshop venue, facilities and accommodation. Our deep appreciation also goes to the Transport Department which played a critical role in the transportation of international participants between the Jomo Kenyatta International Airport in Nairobi, on the arrival and departure days.

The authors alone accept responsibility for any shortcoming or factual errors in this report.

- Research Team Members

Abbreviations and Acronyms

AAP	: Alliance for African Partnership
ADB	: Asian Development bank
AFAAS	: African Forum for Agricultural Advisory Services
ARC	: Agricultural Resources Centre
BARI	: Bachelor of Agriculture and Rural Innovation
CBC	: Competency Based Curriculum
CCMAS	: Core Curriculum and Minimum Academic Standards
EASs	: Extension Advisory Services
FAO	: Food and Agricultural Organisation
FFA	: Future Farmers of Agriculture
FGD	: Focus Group Discussion
ICT	: Information and Communication Technology
IFAD	: International Fund for Agricultural Development
IFPRI	: International Food Policy Research Institute
IGNOU	: Indira Gandhi National Open University
LUANAR	: Lilongwe University of Agriculture and Natural Resources
MSU	: Michigan State University
NGO	: Non-Governmental Organisation
NQF	: National Qualification Framework
PIRA	: Partnerships for Innovative Research in Africa
RAWEP	: Rural Agricultural Work Experience Program
SAFAAS	: South African Forum for Advisory Services
UNN	: University of Nigeria, Nsukka
USAID	: United States Agency for International Development

1.0 WORKSHOP BACKGROUND

Agricultural training institutions are responsible actors in producing agricultural development professionals and administrators who can shoulder the responsibilities of enhancing sustainable food and agricultural systems and reducing poverty for rural populations across the globe (Baker, 2015). In addition to teaching technical skills, these institutions should offer training on process skills and competencies in response to global changes that have influenced agricultural development (Kaynacki and Boz, 2019). However, the agricultural training institutions in Africa have changed little since their inception and remain averse to change (Davis et al., 2007; Fredua-Kwarteng, 2019). In most cases, the training content reflects the influence of Western universities, and the learning methods and materials are out-of-sync with current agriculture needs in the local contexts (Freer, 2015; Fredua-Kwarteng, 2019). The result is that instructors deliver to students, heavily theoretical knowledge and information that do not meet the needs of employers and smallholder and entrepreneur clients (Freer, 2015). In turn, students have little opportunity to develop critical thinking and problem-solving skills that are necessary to align training content and instruction with employment outcomes.

Therefore, periodic updating of the UG agricultural extension curriculum is necessary for agricultural training institutions to produce graduates with core process skills and competencies that will enable sustainable food security, improved livelihoods, and natural resource conservation. Although there have been few studies on the core competencies of agricultural extension professionals in sub-Saharan Africa (Davis and Terblanche, 2016; Nwaogu and Akinbile, 2018; Olorunfemi et al., 2020), a systematic assessment of agricultural extension training within MSU-AAP Consortium members is lacking.

The AAP-PIRA research team from Michigan State University (USA), University of Nigeria, Nsukka (Nigeria), Lilongwe University of Agriculture and Natural Resources (Malawi), Indira Gandhi National Open University (India), Makerere University (Uganda), Egerton University (Kenya), and Free State University (South Africa) completed a sub-Sahara wide research study titled 'Strengthening Agricultural Extension Training in the MSU Alliance for African Partnership (AAP) Consortium Partners in Africa' with the following research questions and objectives:

1.1 PIRA Project Research Questions

The study addressed the following research questions with focus on MSU-AAP Consortium members --Nigeria, Malawi, South Africa, Uganda, and Kenya.

1. Do extension programs effectively address the needs of current food and agricultural systems?
2. What are the critical job skills and core competencies required of extension workers to effectively plan, implement, and evaluate extension work in today's changing context?
3. Does the undergraduate (UG) curriculum in extension education include education and/or training on these job skills or core competencies?
4. What are the barriers to effectively training extension workers with required core competencies, and how can these barriers be removed?

1.2 PIRA Project Research Objectives

1. Review agricultural extension curricula currently in use at AAP member universities at the UG level in Nigeria, Malawi, South Africa, Uganda, and Kenya.
2. Identify critical process skills and competencies of agricultural extension professionals, process skills gaps, and areas of potential curricular reform.
3. Recommend improvements/reforms of agricultural extension curricula to prepare the next generation of agricultural extension professionals to competently handle EASs delivery.
4. Introduce new/improved curricula among the agricultural extension faculty engaged in training and education in sub-Saharan countries.

Based on the online survey and FGDs findings from five countries, the PIRA research team submitted the following research reports with recommendations (Click to open the report):

- [Overall Research Report - Strengthening Agricultural Extension Training in MSU-AAP Consortium Partners in Africa](#) [pdf]
- [Agricultural Extension and Advisory Services in Sub-Saharan Africa](#) [pdf]
- [Process Skills and Competency Gaps in Undergraduate Agricultural Extension Curriculum in Sub-Saharan Africa](#) [pdf]
- [Developing the Next Generation of Extension Workers](#) [pdf]
- Country Reports
 - [Nigeria](#) [pdf]

- [Malawi](#) [pdf]
- [South Africa](#) [pdf]
- [Uganda](#) [pdf]
- [Kenya](#)[pdf]

Against this background and as catalysts, the AAP-PIRA team have organized a multi-stakeholder research dissemination workshop on 'Agricultural Extension Training in Africa: Process Skills and Competency Gaps in Undergraduate Extension Curriculum' during 15-18, May 2023 at Egerton University Kenya. The three-day invitational workshop was organized in a hybrid format– in-person and online by inviting key agricultural extension training stakeholders including extension and rural development faculty members, university curriculum committee members, extension service providers, and development partners. During the three days, the workshop fostered dissemination of research findings, recommendations and policy implications on how agricultural extension training can be strengthened in Africa with the following objectives:

1.3 Research Dissemination Workshop Objectives

1. Disseminate results of the PIRA-funded research project.
2. Promote innovative UG training content that aligns with local agricultural conditions, thereby promoting creativity among learners.
3. Present training modules developed in part based on the process skills and competency gaps identified by the country level case studies.
4. Advance ways to accelerate actions towards strengthening UG agricultural extension training in Africa.

The workshop strengthened partnerships, networks, linkages, and collaboration with stakeholders with a view to strengthening the training curricula and aligning them better to current needs in sub-Saharan Africa.

2.0 INAUGURATION, TECHNICAL AND VALEDICTORY SESSIONS

2.1 Workshop Activities - Day One

2.1.1 Introduction of Participants

The workshop started with an opening prayer by Dr. Agnes Oywaya-Nkurumwa, Head, Department of Agricultural Extension and Education at Egerton University Kenya and Organising Secretary of workshop. She warmly welcomed the participants and assured them

of an exciting time in Kenya. Dr. Agnes then introduced the principal investigators from each country and requested the PIs to introduce their team members.

2.1.2 Overview of the AAP PIRA Project in Africa

Professor Murari Suvedi gave a brief overview of Partnerships for Innovative Research in Africa (PIRA) grant program titled *'Strengthening Agricultural Extension Training in the MSU-Alliance for African Partnership (AAP) Consortium Partners in Africa'*, team members, objectives and methodology followed in the research project.

2.1.3 Opening of the Workshop and Goodwill Message

The workshop was officially opened by Professor Bernard Adoda, the Deputy Vice-Chancellor of Academics on behalf of Professor Isaac Kibwage, the Vice Chancellor, of Egerton University Kenya. He welcomed the participants to Egerton University, Kenya and noted that the workshop will provide an excellent opportunity for networking and exploring further collaboration amongst the research partners. He remarked that disseminating the research findings will be useful in revealing gaps in the curriculum and ways to bridge them. He asserted that this research is topical and influence the agricultural extension curriculum positively as Egerton University is currently changing its curriculum to a Competency Based Curriculum (CBC).

A goodwill message was delivered by the Vice-Chancellor of the University of Nigeria Nsukka Professor Charles Arizechukwu Igwe. He noted that the research conducted by the team in agricultural extension education is fundamental in driving Africa's socio-economic transformation as the agriculture sector is critical to achieving food security, reducing poverty, and promoting economic growth. There is an urgent need for agricultural extension curriculum revitalization in African universities given the changing trends.

2.1.4 Technical Sessions – Day 1

Technical Session 1: Revitalization of Agricultural Extension and Advisory Services in Africa. The presentation was made by Professor Agwu Ekwe Agwu (University of Nigeria Nsukka).

Technical Session 2: Strengthening Agricultural Extension Training in Sub-Saharan Africa. The presentation was made by Prof. P.V.K. Sasidhar (Indira Gandhi National Open University).

Questions / Comments on the Presentations:

- Why were Francophone countries not included in the project?

- Universities should train agricultural extension professionals on demand from the consumer or train them from their perspective of young people who are trying to be professionals.
- If the project report proposed a process for induction training programs? Will the induction programme be for the employer and how will they induct the agricultural extension workers when they are recruited?
- Youths did not feature strongly in the report in terms of how they could be approached, or trained in the area of handling, and working.
- Online programme especially for in-service training is a serious way to go because the private sector may not afford to go back to the universities.
- There should be harmonization of the internship programmes in the universities so they can have practical experiences. There is no recommendation for harmonization of agricultural extension services.
- There are a lot of challenges in the UG agricultural extension curriculum as noted in the study. If there are some countries the research team can benchmark in some of the parameters? The study noted something very interesting although female students are high in university enrolment to study agricultural extension, however in the field, they are few. If the reason could be due to the nature of the job in the field that is hampering the females from taking on these roles and responsibilities?
- How agricultural extension can capitalize on advocacy and lobbying? Training students on the competence of setting up their agencies/institutions instead of training them for public service is lacking in the study.
- Agricultural extension professionals need skills to carry out lobbying. Though agricultural extension workers are lobbying for resources and negotiating for opportunities, to them it was just a survival tactic and not a skill needed for the job. Therefore, it is important to include it as part of the training UG agricultural extension students need. Also looking at the competencies listed in the study, is it possible to have an opportunity for agricultural extension professionals to specialize because from literature and studies carried out, it has been quoted that agricultural extension professionals know very little of everything.
- If agricultural extension professionals will be called climate extensionists since agricultural extension workers are also working on climate change issues and

adaptation. The agricultural extension degree is a three-in-one degree that includes general agriculture, agricultural extension, and education. The students end up having too much workload. Is there a possibility that in the recommendation of the study, we can have agricultural extension professionals specialising in specific areas that can allow them to hone their skills well and help them become confident in their chosen area?

Response from PIRA Team Members:

- The PIRA research proposal was initially submitted with faculty researchers from MSU USA, UNN Nigeria, LUANAR Malawi, and IGNOU India as partner countries. Later, it was agreed that the study should have a wider coverage, that was how researchers from Kenya, Uganda, and South Africa joined the team.
- In top-down approach, universities and faculties include courses in the curriculum that they think will provide students with the skills they need to function in the profession but if it is required at the field level, no one is certain. That is why one recommendation from the project is to include all the stakeholders in the curriculum development process including the progressive farmers so that they can reflect what is required at the field level.
- The project recommends preservice, induction, in-service training, and short courses in distance/online mode as a way out for improving the agricultural extension training in sub-Saharan Africa. However, the project did not specify ways to carry out induction training because it was left open for specific organizations to design their induction programs. However, the broad recommendation is that universities should focus on the identified eleven major competencies and 97 sub-competencies.
- Online / distance learning programs is a very strong recommendation and fortunately, several countries have recorded successful implementation of online training during the pandemic with some limitations.
- Internship programme exists in all the participating countries, but the duration differs. In some universities, it ranges from 6-8 months while in other universities it is a one-year programme. Maybe in the standardized curriculum, internship could be a six-month compulsory program with specific learning objectives.
- The study had a strong recommendation for improving the coordination between allied departments. It is a very interesting issue because ultimately the stakeholders

to be served are the same, but the organisations lack coordination between them therefore it is an important area. The agricultural department which lacks budgets and has less infrastructure can utilize the university facilities as they possess higher facilities, good infrastructure, and a higher number of human resources. At the same time, to test and improve technologies and to improve new knowledge, universities need support from the field department so they can utilise their services. Therefore, there is a need to sit together and formulate a matrix of how they can benefit from each other so they can match each other's interests.

- On the issue of benchmarking, the study gave an example from South Africa with the National Qualification Framework (NQF). In South Africa, for one to be designated as an agricultural extension functionary, there is a need to have several skills before the person's job role will be recognised. It is an interesting benchmark because it is like being given a license to practice in some professions.
- The focus of agricultural extension training should be more on private service orientation and on entrepreneurship rather than the public sector extension system.
- The Uganda's recent graduates from the Bachelor of Agriculture and Rural Innovation (BARI) programme were all self-employed and venturing into private sector service delivery. The Ugandan team was able to capture some unique competencies they suggested should be captured in the curriculum so they will be able to prepare graduates to function in that space.
 - Graduates recommended that the internship programme should be taken more seriously even though it already exists in the curriculum and the students go out for placements but in terms of implementation, the university does not give it the adequate importance that it requires to prepare them for self-employment.
 - Entrepreneurship - though it exists in the curriculum however four students to be equipped with the necessary skills to be self-employed, it needs to be taken more seriously.
 - There is an emphasis on practical application of technical competencies because when providing advisory services to farmers and other actors, we need to have hands-on skills in technical aspects.
- Specialisation in agricultural extension occurs at the post-graduate level (Master's and Ph.D.) and the emphasis of this study is basically on the UG level. It might be

impossible at the UG level to have areas of specialisation especially when they do not know where they will be employed.

Technical Session 3: Framework for Revising Undergraduate Curriculum in Nigeria Universities: Relevance of the Core Curriculum and Minimum Academic Standards (CCMAS). The presentation was made by Prof. Uju Clara Umo (University of Nigeria Nsukka, UNN).

Technical Session 4: Process Skills and Competency Gaps in Undergraduate Agricultural Extension Curriculum in Nigeria, Malawi, Kenya South Africa and Uganda. The presentation was delivered by Prof. Mable U. Dimelu (University of Nigeria Nsukka).

Technical Session 5: Developing the Next Generation of Workers in sub-Saharan Africa. The presentation was delivered by Prof. Murari Suvedi, (Michigan State University).

Questions / Comments on the Presentations:

- It is difficult to unite farmers in cooperatives because of trust issues, attitudes, and other socio-economic issues of smallholder farmers. These issues become more of the problem of these smallholder farmers due to their socio-economic characteristics than that of the extension worker.
- In recent times, most of the countries participating in the project testified that agricultural extension workers are no longer making impact as they use to. Previously agricultural extension workers were seen everywhere in their uniforms and children were emulating them. It was from them farmers saw very high breeds of chicken and maize. However, these practices have become rare as most agricultural extension workers are now desk extension agents. Agricultural extension workers are supposed to be lawyers for agriculturist. If it is the curriculum in agricultural extension that is the problem or that the profession has missed a certain level of agricultural extension workers because it seems everyone wants to be in a leadership position and dishing out instructions.
- If it will be possible to drill the low/middle level manpower in agricultural extension with the theories and practices in basic agriculture? What are those things required in basic agriculture to become very good agricultural extension specialist. The early agricultural extension workers had this basic knowledge even without visiting the farming communities. In the seventies, agricultural extension demonstration farms

we revisited, and they were some of the reasons that promoted people's interest in agriculture. These things are not seen today as every person is now a theorist.

- The public extension system in Malawi, Kenya and Uganda is driven by donor funded projects. These donor projects have established their own rules of the game, the timelines of the project, the expected impact, and mode of implementation. Therefore, the agricultural extension worker does not have opportunity to innovate and think outside the box. Also, these projects are sources of resources and therefore agricultural extension workers are leveraging on these resources to improve their lives and these are some of the reasons they are not as prominent as before. For the agricultural extension worker, it is about optimising the resources and opportunities they derive from these projects and will do everything possible within the project period to achieve their needs as well as that of the agency and hoping the donor organisation can extend the project period.
- There is need for public extension service providers to pay a bit of attention to what is going on in the private sector extension service because private sector takes extension very seriously, and standards are followed.
- How facilitation skills be improved in agricultural extension? For example, Makerere University Uganda, offers a degree in Bachelor of Agriculture and Rural Innovation (BARI) and the students return to campus only for two weeks to interact with the lecturers and after that, an examination is conducted. The programme is not well structured because most of the time, the students are in the field providing extension services to their clients. The challenge to making the BARI programme robust is associated with the cost. The students in other countries may afford a five-year degree whereas in Uganda, a BSc in Agriculture curriculum that are longer than 4 years have fewer students because their parents cannot afford to pay for longer period, so they opt for courses that are three years and shorter. Therefore, if the project is recommending extending the internship from 10 weeks in Makerere University Uganda to six months, who will fund it and how will it be institutionalised?
- Convincing farmers to take the students as part of internship is a challenge. For example, in South Africa farmers do not want to take students. However, if they find willing farmers to host student interns, the universities are ready to adopt the strategy.

- One unique attribute of extension service in India is that the government is very committed to supporting agriculture and agricultural extension service even in training programmes. In Africa, question is how the government can be convinced, and noted that there is a need to market agricultural extension to the policy makers and convince them that the sector is worth investing in. Even though university boards approve the six months internship, how the funds will be sourced because the students cannot afford to be out on the field for that duration and universities invariably cannot afford to sponsor the students.
- Universities as public institutions do not seem to play a key role in development at least in the African setting. They are training institutions isolated even from the farmer next door. It is important to look at what the university can do to promote development through agriculture and by so doing strengthen its own training in agricultural extension to ensure that an agriculture-oriented university like Egerton University in Kenya, all the students to be trained in the school will have a strong component of agricultural extension work. However, during the training the universities should expose the students to farming communities and with that link, when they graduate; they have an already existing relationship with the community.
- African universities admit students, train them, give them a degree, and let them off. Also, even when the school gives the students a very good programme, they are inadequately oriented to serve the communities. Therefore, there is a need to reorient the universities to serve the community.
- How technical skills in agricultural extension training can be balanced with the soft skills mentioned in the study. This is because in many institutions, a typical student who gains admission into agriculture will probably choose to be in animal science, horticulture, or soil science. By the time the students graduate, they are not knowledgeable in skills and competencies in agricultural extension. The emphasis of this study is on departments that train students in agricultural extension, whereas other departments that train students in other areas of agriculture were left out. It is important to consider integrating extension skills in technical agricultural training programs because these programs have higher enrolments. This means this study is ignoring many students who are in agriculture but study very little about agricultural extension.

Response from PIRA Team Members:

- Contract farming is prevalent in marketing, farm management and value chain development in sectors like poultry, vegetables, fruits, floriculture etc. The contractors come on days of harvest, carry the produce and supply to hotels, restaurants, farmers market, etc. The farmers do not need to carry their produce to the market as it is an enormous hassle. Teamwork, collaboration and partnership pays off and this is how privatization works.
- Some of the soft skills such as group formation, facilitation skills, and team building skills when taught to the students will enable them to manage the challenges they will face in the field. This is exactly what the research study and workshop addressed.
- One of the project's recommendations is that all agricultural majors (agronomy, economics, livestock, etc) must take at least one or two basic agricultural extension courses so that they will be exposed to essential skills required for a successful development worker whether they will be agricultural extension worker or rural development worker. All agricultural students should be able to acquire some of the essential extension soft skills, this way, agricultural extension faculties will have a lot of students to teach. If many universities implement this recommendation, then agricultural extension education department can be strengthened.
- The research team is on the verge of developing training modules. The training manual will serve as a resource material with numerous skills to teach students. The team also pointed out the need for new project to conduct "training of trainers" where assistant professors, senior lecturers and lecturers will be invited across the universities for a week. They will be exposed to these skills and in turn, they will teach their students. For instance, some agricultural extension professionals do not have an idea how to calculate cost benefit analysis and return on investment. The question is how will they teach farmers who are trying to be businessmen?
- In India, six month long paid internship has been institutionalized and funded under the title Rural Agricultural Work Experience Program (RAWEP) as part of the four years BSc (Agriculture). Under RAWEP, in the first semester of the fourth year, a group of students are sent to a village and attached to a farm family for six months starting from crop plantation to harvesting and even post-harvest management.

They come back to college to complete the final semester. The monthly allowance of the students is completely sponsored by the government as the programme is compulsory and a graduation requirement.

- The students under RAWEP are the helping hands to the farmers and the farmers gladly accept the students because 5-6 of them are allotted in a village to at least 5-10 farm families. It is a sort of professional attachment to the student and at the same time, farmers get a professional helping hand as the students are expected to perform all the farm operations.
- It took some time to convince the Indian government to fund the internship programme. One strategy to convince the policy makers is through letter writing campaign – all students, farmers, local leaders, development partners could write letters to the policy makers describing the value of such internship program.
- The reason why it is almost complicated for South Africa to imbibe the practical component of the competencies is the regulatory body's requirements. The NQF programme is a 60-credit unit course which means that in a particular year, they are expected to complete 120 credit units. The requirement from the council of higher education is that for a formative degree like that, there is a very little leeway to introduce work-integrated learning which constitutes the practical component. As a result, at the University of Free State, once students complete the bachelors then it is a requirement to the agricultural extension national body South African Forum for Advisory Services (SAFAAS) for them to be licensed not necessarily as internship they are required to submit a portfolio to assess the critical skills. It is therefore important to touch on what extent each country's regulatory bodies are flexible enough to look at curriculum changes this forum is proposing around students because the practical element is very important and a gap each country has identified.

2.2 Workshop Activities - Day Two

2.2.1. Technical Sessions – Day 2

The session was facilitated by Dr. Ifeoma Anugwa. The opening prayer was said by Professor Christopher A. Onyango while Prof. Kuyamba Joseph Dzanja the Dean, Faculty of Development Studies, LUANAR Malawi gave a welcome address.

Technical Session 6: Strengthening Agricultural Extension Training in Nigeria. The presentation was delivered by Dr. Ifeoma Anugwa (UNN)

Technical Session 7: Strengthening Agricultural Extension Training in Malawi. The presentation was delivered by Dr. Frank Tchuwa (LUANAR).

Technical Session 8: Strengthening Agricultural Extension Training in Uganda. The presentation was delivered by Dr. Richard Miiro and Prof. Margaret Mangheni (PIRA Team member from Makerere University) joined online.

Questions / Comments on the Presentations:

- There is a need to first address the question of the faculty where the department of agricultural extension education should be domiciled in the university. This is because it affects how the curriculum is designed by different universities. There is usually huge fights and cold war in many universities because of this issue.
- There are a lot of similarities in agricultural extension service across the countries. The issue of challenges triggered by the disruption of agricultural extension services during the humanitarian crisis was not captured in the study. There have been cases in some of the regions where farm families have been displaced. Therefore, it is important to capture how extension workers will be equipped in the area of rehabilitating the farms? Secondly, there has been a trend of equipping agricultural extension workers to deal mainly with small-scale farmers while in reality; large scale farmers are also vulnerable. The assumption is that these large-scale farmers can afford to source paid extension services. The large-scale farmers are the ones that can easily influence food and nutrition security in Africa. Regarding business to area, it is true that agricultural extension service providers have not been equipped specifically to farm business planning as a skill they require because they deal directly with farmers. In most of the curriculum that were presented, it was lacking as a core skill. Lastly, we are dealing with farmers who keep evolving and some of them are becoming very trendy and sometimes ahead of the agricultural extension service provider in terms of emerging varieties of crops, farming technologies, etc. Therefore, the burning question is how the universities are keeping in tandem with these changes so they can equip agricultural extension service providers to catch up with these farmers.
- The BARI programme in Uganda was developed to provide the identified process skills and competencies but they are not strong in technical skills aspect. From the feedback received so far, the challenge the BARI programme now faces is how to

balance the technical skill and practical skills. Any new programme in Makerere University, Uganda must show that it is 60% different from any existing programme. To achieve the 60%, they must include more of the practical skills and other core process skills at the expense of technical skills. As a department, they are already in the process of revising their UG curriculum.

- There is a contradiction in the Nigerian presentation where the presenter mentioned that the contemporary extension system is demand-driven and market-oriented but then one of the challenges the study pointed out is that the system is still top-down, and enterprise driven. A systematic approach should be employed because the bottlenecks in the system go beyond the curricula.
- Why there is insufficient funding to employ agricultural extension graduates into the extension system?
- If a general Bachelor's degree is better than specialised agricultural extension degree, it has become necessary to go back to the basics because what exists is a four- or five-years general agriculture degree and the student does not specialise in agricultural extension.
- In the Nigeria presentation, emphasis was on the need to provide teaching and reference materials or updated books on agricultural extension. Currently, a big problem exists where large numbers of students are unable to get top notch books instead, they are still using very old books which lecturers extract very old materials from. Considering a situation where the curriculum of agricultural extension in University of Nigeria was developed in 2007 shows that most likely what the students are being taught is very old. Therefore, what can be done to ensure that agricultural extension students have access to new international materials that are available so that they will not be kept in dark ages in this era of changing knowledge systems? To what extent the agricultural extension professionals are utilising the new extension learning kit generated by GFRAS? The modules are not enough to produce a robust extensionist. What can be done to ensure that agricultural extension professionals have updated materials that can help the system?
- The study touched a little bit on the surface but has not seen much what can be done as agricultural extension professionals to provide services to the youth. This is because the youth have quite a few challenges that are different from the older

people. Some of them include access to land, not willing to do drudgery work using old farm implements (hoe), good at ICT but how will they be guided to ensure that they access and synthesise the right information to carry out their agricultural production. It is important to touch on this and come up with strategies that you serve the clientele in totality.

Response from PIRA Team Members:

- In Nigeria, the indigenous knowledge of farmers integrated into their farming systems makes them productive despite the lack of support from agricultural extension service providers. However, with adequate agricultural extension support, the nation will record higher productivity and that is the reason it is crucial to push more agricultural extension workers into the field.
- The UG students' needs to be well trained so they can be efficient and carry out effective extension work to increase the productivity of the farmers.
- The reason why agricultural extension graduates are not employed into extension service is the issue of prioritisation and political issues, what the government feels is more important to them.
- One issue is the multiplicity of players in agricultural extension services which leads to lack of coordination and duplication of efforts in the system. Beyond the public extension system, there are donor agencies like the World Bank, IFAD which come with some funding for a duration and most times, they do not have staff thereby relying on the traditional public extension personnel to carry out their activities as ad-hoc staff. In situations where they have their staff, they might not have the requisite skill to carry out agricultural extension functions. These players exist in Nigeria and somehow help the farmer, but it does not address the entire issues farmers are facing.
- Agricultural extension in Nigeria is project driven, where private agricultural extension outfits, international organisations, NGO's provide extension services to farmers, and this make it look like the farmers are coping. However, beyond that, agricultural extension is not all about targeting the productivity of farmers, there are other areas of concern to the farmers such as food safety, sustainability, mitigation, risk and they pose real challenges to the farmers. The farmers in Nigeria are just managing to cope.

- Other agricultural related departments now appreciate the need for agricultural extension courses and skills. What these departments do is pick up some extra extension communication and functional skill courses and integrate them into their general degree because after graduation, some of the students might end up in extension service. In Makerere University, they recently carried out curriculum review in agricultural extension department and they made it a key issue to equip the students with more technical skill, including internship. Extension practices have been challenged around disaster management, and it is important to address how extension will respond and recover from all these increasing disasters.
- Where agricultural extension service is delivered through traditional approaches need to change due to the changes that are taking place in the society. There is a need to employ innovative extension approaches in the contemporary society. This will enable the agricultural extension system to be effective and efficient in its delivery of services. Also in the university system, there is need to think as the students are graduating, what extra skill are they acquiring apart from what is written in extension textbooks. Furthermore, there is a need to tackle the issues facing the agricultural extension service in Africa through a systemic approach so that extension workers can benefit right from when they graduate so they can deliver effectively.
- The curriculum of agricultural extension in Nigeria was reviewed last in 2007 at the national level. However, at the institutional level curriculum review is carried out every five years.
- To avail students on knowledge and competencies, training modules were developed by the research team on contemporary issues/themes.
- The issues pertaining to the youth was covered under the diversity and gender module. Issues such as steps to identify the needs of the youths, how to develop programmes for the youth, current challenges facing the youth and how to integrate them where all discussed in the module. Also, in keeping student up to date in the system, lecturers can refer the students to other training resources, for example, the GFRAS learning kits after teaching for additional reading.
- The research team developed 10 modules while one existing module will be adopted from GFRAS learning kits.

Technical Session 9: Strengthening Agricultural Extension Training in South Africa. The presentation was delivered by Dr. Kristin Davis (UP/IFPRI, South Africa).

Technical Session 10: Strengthening Agricultural Extension Training in Kenya. The presentation was delivered by Dr. Agnes Oywaya-Nkurumwa (Egerton University, Kenya).

Questions / Comments on the Presentations:

- The South African presentation was the only presentation that mentioned the agricultural extension staff to farmer ratio. This was not mentioned in other country presentations, and it will be important to include it.
- Internship programme was common throughout the presentations, and it has been highly recommended. However how institutions will train students to manage issues that arise from these internship programmes needs to be addressed.
- What role the government can play in training agricultural extension workers?

Response from PIRA Team Members:

- Students in the university embark on exchange programme where they are attached to farm families. The programme has its good aspects however, the students has also reported bad experiences too. The way forward is to prepare these students ahead of time, advise them to be resilient and prepare them psychologically that this will help them to learn.
- The recommended ratio for extension workers to farmer in different countries varies by organization and countries as different organisations have their own recommendations on what the ratios should be. For example, FAO recommended a ratio of one extension worker to 400 farmers. For countries the ratio is based on what they deem fit. The issue of extension worker-farmer ratio depends on the situation and the kind of extension delivery method existing in a place. In the current era, ICT is deployed in many extension service deliveries. For example, in Kenya, there is a Call Centre with numbers that farmers can use to reach agricultural extension workers to solve their problems. Social media, telephones, radios and televisions are now used to increase the number of extension's reach. The issue agricultural extension system should be focused on is the quality of message to be delivered to farmers and innovative methods that ICT can be employed so that more farmers can be reached.

- The issue of the recommended extension worker to farmer ratio should be addressed with caution because it might not be possible to generalise on what the ideal recommended ratio should be. Therefore, there is need to critically think through the issue. In situations where the farmers are in group (example commodity interest group) and demands for the services of agricultural extension that the extension worker to farmer's ratio will be small. Therefore, ratio depends on the type of programme or approach used.
- The extension worker to farmer ratio varies based on the type of programme and the type of farmers (commercial, small scale, rural or urban). However, this should not be the major concern of the fora rather the method utilised to reach out to these farmers and the necessary information required to serve them should be of greater importance.

2.2.2 Formulating an Action Plan on Strengthening Agricultural Extension Training in sub-Saharan Africa

The session was facilitated by Professor Agwu E. Agwu and the participants were expected to brainstorm on actions/strategies needed to strengthen agricultural extension training in Africa. The participants were divided into three action planning groups and tasked them to appoint a chair and an individual who would present a summary of the action plans proposed by the group. The group would write down the proposed action plans and submit to the workshop secretariat.

Actions / Strategies Proposed:

a. Policy Engagement

- Sensitize and educate the politicians about the importance of extension in the country's economy, to embrace extension and provide funding to extension.
- Provide leadership training to the ministry of finance, agriculture, and others on the importance of extension.
- Develop policy briefs targeting policymakers, regulatory bodies of higher institutions of learning and other decision-makers.
- Onboard the influencers with the report, so that they can support the cause, e.g., the former President of Ghana H.E. Kufo, on the way he supported food security in his country.
- Letter writing campaign to influence policy.

b. Societal Engagement

- Communicate the findings via ICT platforms, reach the youth, internet citizens.
- Communicate to influencers, e.g., ADB, FARA, AFAAS, FAO. World Bank, USAID etc.
- Communicate to the farmers so they join in the extension advocacy and lobbying effort.
- Communicate findings to extension practitioners or communities of practice.

c. University Engagement

- Involve high-level influencers, e.g., World Bank, USAID, representatives, and government officials to engage University leaders to buy into the curriculum changes needed.
- Retool lecturers to deliver extension teaching so as to make it attractive.
- Enhance networking, exposing the students to exemplary and impactful, including digitalizing.
- Build entrepreneurship skills into the extension programs, and including packaging AEAS as a service for pay, bundled services, where the fee is incorporated in produce marketed.
- Adopt communities, practice innovative extension methods and partner with the private sector, example of the case in Malawi.
- Periodic and regular curriculum review.
- Training programs that are demand-driven.
- Invite successful extension entrepreneurs as guest speakers to motivate the students.
- Use a participatory approach to engage all key stakeholders to deliberate on the effectiveness of extension services and discussing emerging issues that need University attention.
- Have strong network with the Private Sector, for funding, training, internship opportunities, research.
- Build capacity in extension entrepreneurship and diversification of income sources such as hiring out machinery to farmers, personal branding, visibility, communication, advocacy and lobbying.
- Share the findings with students at different levels, undergraduates, graduate students, also share with staff members and University leadership.

- Enhance networking, exposing the students to exemplary and impactful extension, including digitalized extension projects.
- Network at continental and global levels– inter-country collaboration such as through the AAP program.
- Encourage Universities to move away from working as silos and do their best to work closely with the end user groups.
- Work with professional networks, practitioner networks such as those being encouraged by AFAAS, where Universities can interact with the AEAS actors, agribusiness associations, banks, micro-finance, agro-tech companies, and practitioner networks and seek to address emerging issues.
- Organize short courses – post graduate training to retool.

2.3 Workshop Activities - Day Three

2.3.1 Technical Sessions – Day 3 (Presentations of the Training Modules)

Technical Session 11: Module 1 -Program Planning Skills and Competencies (By Prof. Sasidhar, IGNOU).

Technical Session 12: Module 2 - Program Implementation Skills and Competencies (By Dr. Charity Chanza, LUANAR).

Technical Session 13: Module 3 - Communication Skills and Competencies (By Prof. Agwu E. Agwu, UNN).

Technical Session 14: Module 4 - Information and Communication Technologies Skills and Competencies (By Ms. Ifeonu Chidimma, UNN).

Technical Session 15: Module 5 - Monitoring and Evaluation Skills and Competencies (By Prof. Murari Suvedi, MSU).

Technical Session 16: Module 6 - Personal and Professional Development Skills and Competencies (By Prof. M.U Dimelu, UNN).

Technical Session 17: Module 7 - Gender and Diversity Skills and Competencies (By Dr. Ifeoma Anugwa, UNN).

Technical Session 18: Module 8 - Agribusiness, Marketing and Value Chain Skills and Competencies (By Ms. Lindie Von Maltiz, University of Free State).

Technical Session 19: Module 9 - Extension Soft Skills and Competencies (By Dr. Agnes Oywaya, Egerton University).

Questions / Comments on the Presentations:

- The objectives of the module should come before learning outcomes which is the definite things the learners are to do in observable and behavioural terms.
- In place of 'analyse the stakeholders' we may use 'engage the stakeholders' in the process. On the area of financial management, beyond accountability, including judicious management of those resources and sharing few tips on how it should be implemented bearing in mind the interest of the donors and beneficiaries. It will be helpful to also include student self-assessment, implementers assessment, decision tool in the module.
- If knowledge management should be captured in the communication module because there is a lot of information on packaging, prioritising, storing and retrieving. It might be too voluminous to capture all aspects of knowledge management in the module but a snippet or introduction on it will be a great addition.
- How an extension professional can be effective and learn communication since the module mentioned that communication is an unavoidable element, especially times when communication is unplanned.
- If the inclusion of adoption and diffusion of innovations is necessary in the modules? If there is a way that the concepts can be captured under other modules because they are very broad concepts?
- The ministry of agriculture and some private extension organisations have codes/numbers that farmer's key into their mobile phones to solicit for extension information. Where will such facilities be categorised?
- If there are any examples with names and website link of companies using artificial intelligence (AI) in agricultural extension were provided in the modules.
- If there are pictures of the various ICT tools (drones) mentioned in the module included so that students can see what they look like. This is because in Egerton University, the communication course is taught in the first year. These students come from diverse socio-economic background and might not know or may have not seen some of these tools.
- Inclusion of ChatGPT in the module even though the module has listed artificial intelligence (AI) which is hardware-based tool whereas ChatGPT is a software system that puts information together and it is becoming increasingly used.

- If their ICT tools one extension professionals can use to record themselves to communicate through videos or short messaging. Examples of mobile Apps used in providing agricultural extension service to farmers should also be included in the module.
- The evaluation module is very good; however, the issue lies in the aspect of quantitative analysis. To what extent the evaluation module discussing the application of analytical tools like difference in difference analysis? This is because some extension experts may not have econometric knowledge, so how will they apply or use it?
- In earlier self-instructional materials, the term objectives were used, but of late, the word is replaced by learning outcomes. In cases where learning outcomes are stated, there will be no objectives. The objectives used in the modules are related to the contents. For example, when planning an extension programme, terms like program planning objectives, SMART objectives, how to write objectives are used.
- The issue of coaching and giving back should be included in the module because as much as professionals subject themselves to being mentored, there should be a place for mentoring people also, coaching them as well as giving back to the community.
- The aspect of management of the extension system is missing in the module and it is critical to capture it. This is because extension professionals are not static, sometimes they move up the ladder into management positions and sometimes they move sideways. Therefore, some of the competencies they need to have are management, leadership, supervisory skills, group dynamics, etc. and it is important to include them clearly in the module.
- The gender and diversity module mainly discussed women and youth programmes. Currently, men are agitating about and been marginalised in agricultural programmes. Therefore, it will be a good development to introduce a programme specifically for men in the module.
- If the issue of people living with HIV/AIDS and persons living with disabilities were captured in this module.
- Issues such as business development services, insurance, business planning, contract development/business negotiation, how private extension professionals can fix their

charges for the services rendered, examples of cooperatives that have been functional, and participatory risk assessment management should be included in the module.

- There should be an emphasis on issues of financial packages/products accessible to smallholder farmers (matching grants, micro-loans, and cooperatives), how to develop businesses for farmers to increase their financial status, and how extension professionals can negotiate.

Response from PIRA Team Members:

- The training modules were developed in part based on the process skills and competency gaps identified by the PIRA research project.
- The training modules might not cover every skill an extension worker requires to be competent as pointed out in above discussion. However, the PIRA team will consider all the suggestions and incorporate them while finalizing the modules.
- The modules will be a very useful resource for graduate students at the Master's and Ph.D. levels, though the intended targets were the undergraduate students while the intended beneficiaries are the instructors, lecturers and professors.

3.0 RECOMMENDATIONS

The following key recommendations for policy decisions were agreed.

A. In extension systems/EASs: The recommendation was to:

- make more investments in the public extension systems
- Encourage more players / partnerships in EASs
- Increase number of frontline extension staff to reduce the staff-to-farmer ratio
- i. Systematic in-service training programs are recommended and participatory agricultural EASs with focus on the 11 process skills and competency gaps.
- ii. To bridge the gender gap, planning gender-specific extension programs, and delivering EASs to meet the needs of women clients:
 - Encourage more women to enroll and specialize in agricultural extension at UG and PG levels.
 - Recruit more women extension professionals in the public, private, and non-governmental extension organizations for teaching, research, and field positions.

B. The universities in sub-Saharan Africa need to:

- Specify the skills or competencies in course content with learning outcomes to be achieved
 - Suggest pedagogy for facilitating process skills development
 - Support practical training and fieldwork, and
 - Focus on enhancing the curriculum transaction processes.
- i. Capacity building of the agricultural extension faculty on the 11 process job skills or competencies and 97 sub competencies for effective curriculum transaction is recommended.
- ii. Modernized agricultural extension curricula could be devised through:
- Integration of various social science courses and
 - Terminology of course contents of UG extension curricula transformed with a focus on modernized EASs.
- iii. To make the agricultural extension curriculum robust and practical, we recommend interventions such as:
- ICT-oriented UG extension curriculum and pedagogy
 - Exposing students to market opportunities and service providers to develop entrepreneurship
 - Offering training-of-trainer workshops for extension faculty members
 - Including the identified soft skills in the curriculum, and
 - Developing cutting-edge and practical teaching learning resources – extension textbooks, practical handbooks, training manuals, and Self Learning Materials.
- iv. For effective pre-service training:
- Align the UG agricultural extension curriculum with NQF as in South Africa - with precisely defined competency outcomes and job roles
 - Define the minimum Day-1 competencies with learning outcomes.
 - The 11 process competencies and 97 sub-competencies identified and assessed could be the starting point for defining learning outcomes, job roles, and NQF at pre-service and internships during UG programs.
- v. We recommend co-learning among agricultural extension departments within AAP partner universities. Successful examples on reforms in one university can be shared with other AAP partner universities through regional workshops and learning conferences.

- vi. For the in-service extension functionaries, we recommend systematic basic induction trainings, in-service trainings at various work environments, and opportunities to attend continuing education programs.
- vii. The competencies can be contextualized through the basic induction training and further refined through staff development or in-service training and continuing education opportunities.
- viii. We recommend staff and student exchange programs, farmers' field schools, experiential practical learning, facilitated peer-to-peer learning, and robust e-learning.
- ix. Other recommendations are:
 - Sufficient allocation of budget for extension practical learning
 - Recruiting qualified faculty members to teach extension courses
 - Training and motivating teachers to teach required process skills and competencies
 - Providing good classroom and demonstration facilities, and
 - Making available quality textbooks and/or manuals to address the barriers and improve agricultural extension training in sub-Saharan Africa.
- x. The recommendations for the public extension systems include:
 - Adopting and giving space to the pluralistic approach in EASs delivery,
 - Developing, monitoring, and reviewing the regulatory aspects
- xi. The recommendations for the universities include:
 - Improving synergy and collaborating more closely with all stakeholders
 - Revising the curriculum at least every five years, and
 - Ensuring adequate funding to extension departments to facilitate proper curriculum transaction.
 - Admitting students with interest in extension field jobs; there should be strategic and well-focused orientation for the less interested students admitted into agricultural extension department; organising careers day for students in agricultural extension; collaborating with farmers, rural communities, and commodity associations; monitoring current outreach programs and arranging for longer internships; inviting guest speakers from the field to enhance the knowledge of the students; and involving students in research projects

using/establishing mini farms for hands-on education will enhance extension education.

- To promote the scholarship of extension, universities are recommended to adopt a separate track for extension/outreach faculty similar to the teaching track.
- A resource manual need to be developed to provide extension faculty members with a guide to teaching their curriculum covering all process skills and competencies.
- Many universities in Africa have initiated internship or mentorship programmes. We strongly recommend making it compulsory in final year to all UG students by determining appropriate credit structure.
- Considering the study findings, similarities in agriculture systems, and a careful review of gaps in existing agricultural EASs delivery vis-à-vis UG agricultural extension curricula, we recommend adopting the following three UG courses of four semester credits each to be offered during the first three years of the curriculum in Nigeria, Malawi, South Africa, Uganda, and Kenya.
 1. Foundations of Agricultural Extension (3 Theory+1 Practical Credit).
 2. Managing Agricultural Extension Programs (2 Theory +2 Practical Credits).
 3. Agribusiness and Supply Chain Management (3 Theory +1 Practical Credits)

4.0 VALIDICTORY SESSION

Prof. Johnson Urama, Deputy Vice-Chancellor Academic, UNN stated that it has been a pleasure for him to have participated in the workshop and learned about the agricultural extension profession and the challenges they face. He thanked the participants for their participation, their enthusiasm, and commitment to see that agricultural extension in sub-Saharan Africa grows in leaps and bounds. He prayed that the idea of improving the UG agricultural extension curriculum will be actualised and consequently graduates who are competent will be produced to move the sector forward. Professor Nancy Mungai, Director, Research and Extension, Egerton University Kenya in her workshop closing remarks urged the team to keep working together and look for more ways to proffer solutions facing agricultural extension in Africa.

The workshop came to an end with a closing prayer by Dr. Agnes Oywaya.

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Annexure 1: Workshop Agenda



**Agricultural Extension Training in Africa: Process Skills and Competency Gaps
In Undergraduate Extension Curriculum
Research Dissemination Workshop Agenda (May 15-18, 2023)
Venue: Egerton University, Njoro, Kenya**

Time	Topic	Speaker/Presenter
Sunday, May14, 2023:Arrival at Egerton University, Kenya		
	Arrival	
Day 1: Monday, May 15, 2023		
8:00 – 9:00 a.m.	Registration with drinks/tea and snacks	
9:00 – 9:15 a.m.	Introduction of Participants	Dr. Agnes Oywaya-Nkurumwa
9:15 – 9:30 a.m.	Overview of the AAP PIRA Project in Africa	Prof.MurariSuvedi
9:30 – 9:45 a.m.	Welcome Remarks	Prof. Nancy Mungai, Director, Research & Extension, Egerton University
	Official opening of the Workshop	Prof. Isaac Kibwage, Vice- Chancellor, Egerton University
9:55 – 10.00a.m.	Goodwill Message from the Vice-Chancellor, University of Nigeria, Nsukka	Prof. Charles ArinzechukwuIgwe, Vice- Chancellor, UNN
10:00 – 10:50 a.m.	Group Photo and Coffee Break	All Participants
10:50 – 11:50 a.m.	Revitalization of Agricultural Extension and Advisory Services in Africa	Prof.AgwuEkweAgwu, UNN
11:50 – 12:50 noon	Strengthening Agricultural Extension Training in sub-Saharan Africa	Prof. P.V.K. Sasidhar, IGNOU
12:50 – 1:30 p.m.	Framework for Revising Undergraduate Curriculum in Nigeria Universities: Relevance of the Core Curriculum and Minimum Academic Standards (CCMAS)	Prof.Uju Clara Umo, UNN
1:30 - 2:40 p.m.	Lunch Break	
2:40 – 3:20 p.m.	Process Skills and Competency Gaps in Undergraduate Agricultural Extension Curriculum in Nigeria, Malawi, Kenya South Africa and Uganda	Prof. Mabel Dimelu, UNN
3:20 – 4:00 p.m.	Developing the Next Generation of Workers in sub-Saharan Africa	Prof.MurariSuvedi, MSU
4:00 – 4:50 p.m.	Interactive Session	With Tea/Coffee Break
4:50 – 5:10 p.m.	Wrap up	Dr. IfeomaAnugwa
Day 2: Tuesday, May 16, 2023		
7:30 – 9:00 a.m.	Breakfast	
9:00 – 9:10 a.m.	Welcome Remarks	Prof. Kuyamba Joseph Dzanja Dean, Faculty of Development Studies, LUANAR
9:10 – 9:40 a.m.	Strengthening Agricultural Extension Training in Nigeria	Dr. IfeomaAnugwa, UNN
9:40 – 10:10 a.m.	Strengthening Agricultural Extension Training in Malawi	Dr. Frank Tchuwa, LUANAR
10:10 – 10:40 a.m.	Strengthening Agricultural Extension Training in Uganda	Prof. MargaretMangheni, Makerere University
10:40 – 11:30 a.m.	Interactive session	
11:30 – 12:00 noon	Coffee Break	

12:00–12:30p.m.	Strengthening Agricultural Extension Training in South Africa	Dr. Kristin Davis, UP/IFPRI
12:30 – 1:00 p.m.	Strengthening Agricultural Extension Training in Kenya	Dr. AgnesOywaya-Nkurumwa, Egerton University
1:00 – 1:40 p.m.	Interactive Session	Professor MabelDimelu, UNN
1:40 – 2:40p.m.	Lunch Break	
2:40 – 3:00 p.m.	Formulating an Action Plan on Strengthening Agricultural Extension Training in sub-Saharan Africa	Prof.AgwuEkweAgwu, UNN
3:00 – 4:00 p.m.	Action Plan Working Groups – Brainstorming and Planning	All Participants
4:00 – 4:30 p.m.	Action Plan Working Groups – Presentation and Discussion	With Tea/Coffee Break
4:30 – 5:20 p.m.	Wrap up	Prof.MurariSuvedi, MSU
Day 3: Wednesday, May 17, 2023		
7:30 – 8: 30a.m.	Breakfast	
8:30 – 8:40a.m.	Introduction to the Training Modules	Prof.MurariSuvedi, MSU
8:40 – 9:00 a.m.	Program Planning Skills and Competencies	Prof. P.V.K. Sasidhar, IGNOU
9:00 - 9:20 a.m.	Program Implementation Skills and Competencies	Dr. CharityChanza, LAUNAR
9:20 – 9:40a.m.	Communication Skills and Competencies	Prof.AgwuEkweAgwu, UNN
9:40 – 10:00a.m.	Information and Communication Technologies Skills and Competencies	Ms. Chidimmafeonu, UNN
10:00 – 10:20a.m.	Monitoring and Evaluation Skills and Competencies	Prof.MurariSuvedi, MSU
10:20 – 10:50 a.m.	Coffee Break	
10:50 - 11:10a.m.	Personal and Professional Development Skills and Competencies	Prof. Mabel Dimelu, UNN
11:10 – 11:30a.m.	Gender and Diversity Skills and Competencies	Dr. Ifeoma Anugwa, UNN
11:30– 11:50 a.m.	Agribusiness, Marketing and Value Chain Skills and Competencies	Ms. Lindie Von Maltiz, Free State University, SA
11:50 – 12:10 p.m.	Extension Soft Skills and Competencies	Dr. AgnesOywaya, Egerton University
12.10 – 12:30p.m.	Nutrition Skills and Competencies	Prof.MurariSuvedi, MSU
12:30 – 1:30 p.m.	Lunch	
1:30 – 3:00 p.m.	Workshop Summary and Policy Recommendations - Extension Curriculum Group - Extension Research Group - Extension Teaching Capacity Group - Extension System Group	Prof.P.V.K. Sasidhar, IGNOU (with Tea/Coffee Break)
3:00 – 3:20p.m.	Closing Remarks Official Closing of the workshop	Prof. Johnson Urama, Deputy Vice-Chancellor Academic, UNN Prof. Nancy Mungai, Director, Research and Extension, Egerton University Kenya
4:00 – 6:00 p.m.	Tour of the University and Surrounding Environment	
7:00 – 8:30p.m.	Dinner	
Thursday, May 18, 2023: Departure from Kenya		



Annexure 2: Pictures from the Workshop

Plate 1: Group photograph of participants



Plate 2: L-R- Professor Agwu E. Agwu (Principal Investigator, University of Nigeria Nsukka), Professor Arizechukwu Charles Igwe (Vice Chancellor, University of Nigeria Nsukka), Professor Johnson Urama (Deputy Vice Chancellor Academics, University of Nigeria Nsukka)



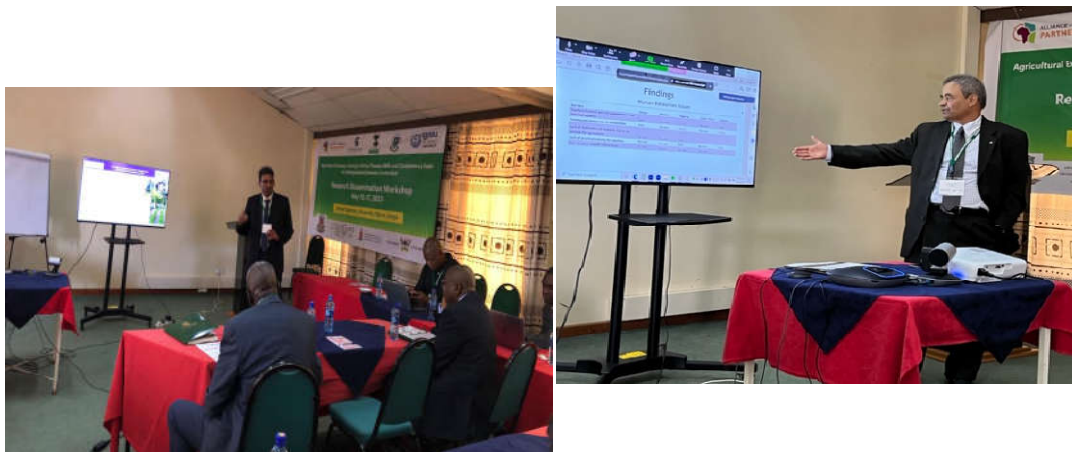
Plate 3: Nigeria contingents from L-R, Prof. Mabel Dimelu, Prof. Johnson Urama, Ms.Chidimma Ifeonu, Dr. Ifeoma Anugwa, Prof. Arizechukwu Charles, Prof. Uju Umoh, and Prof. Agwu E. Agwu



Plate 4: South African Contingents (Dr. LokiOlwethu, Mrs. Lindie Von-Maltiz and Dr. Luyanda Marhaya) flanked to the left and right by Profs. Murari Suvedi (MSU) and Agwu E. Agwu (UNN)



Picture 5: Cross section of participants listening to presentations.



Picture 6: Prof.Sasidhar&Prof. Murari Suvedi making a presentation



Picture 7: Participants on tour around the University environment and the city

Annexure 3 Attendance List

NAME	ORGANISATION	EMAIL ADDRESS
Lucy Mulugo	Makerere University Uganda	lmulugo@yahoo.com
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About This Document

The AAP-PIRA research study titled 'Strengthening Agricultural Extension Training in the MSU-AAP Consortium Partners in Africa' assessed process skills and competency gaps in undergraduate (UG) agricultural extension curricula with specific research questions: (a) Do extension programs effectively address the needs of current food and agricultural systems? (b) What are the critical job skills and core competencies required of extension workers to effectively plan, implement and evaluate extension work in today's changing context? (c) Does the UG curriculum in extension education include education and/or training on these job skills or core competencies? and (d) What are the barriers to effectively training extension workers with required core competencies and how can these barriers be removed? Overall, the findings revealed a significant gap between existing and required core competencies. To address the needs of demand-driven, pluralistic, decentralized and participatory agricultural extension advisory services in sub-Saharan Africa, the study identified and recommended 11 process skills and core competencies with 97 sub competencies for their inclusion in the UG agricultural extension curriculum.

Against this background and as catalysts, the AAP-PIRA team conducted a multi-stakeholder research dissemination workshop on 'Agricultural Extension Training in Africa: Process Skills and Competency Gaps in UG Extension Curriculum' during 15-18, May 2023 at Egerton University, Kenya. This publication is a result of this initiative bringing together the proceedings and recommendations of the workshop which contributes significantly to strengthen the UG agricultural extension curriculum in sub-Saharan Africa covering Nigeria, Malawi, South Africa, Uganda, and Kenya.

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