Developing and Refining Master's Programs in Agriculture and Food Value Chain Management: Insights from Multinational Consultative Meetings on Innovation, Entrepreneurship, and Industry Alignment

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For the consortium of

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2. University of Kara (UK)
3. Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI)
4. FUT Minna, Nigeria
5. University of Lomé (UL)
6. South Eastern Kenya University (SEKU)

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Executive Summary

This report presents the findings and discussions from multiple consultative meetings held by various institutions to develop and refine Master's programs in agriculture and food value chain management. These meetings, hosted by Jaramogi Oginga Odinga University of Science and Technology (JOOUST), the University of Life Sciences (IULS), the University of Kara (UK), the University of Lomé (UL), Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI), and South Eastern Kenya University (SEKU), focused on fostering entrepreneurship, innovation, and practical skills in holistic agriculture across different regions.

The primary objective of these meetings was to align the proposed Master's programs with industry needs and national agricultural goals, ensuring that graduates are equipped with relevant skills. Stakeholders from academia, industry, government, and the community participated in these discussions, providing crucial insights into curriculum content, practical internships, and skill gaps in the agri-food sector. The discussions also centered on stimulating collaboration between key players in the food value chain, and addressing food safety, quality control, and post-harvest handling.

Key recommendations emphasized the importance of hands-on experience, balancing theory with practical application, integrating advanced technologies, and including gender mainstreaming. The report highlights the major challenges and lessons learned, such as resource constraints, the need for stronger collaboration between academia and industry, and the inclusion of financial management and data analysis. Moving forward, the proposed actions focus on enhancing industry engagement and scaling innovations to ensure the continued growth and relevance of the agricultural sector.

1. Introduction

1.1 About CHAIN project

The CHAIN (Cooperation for Holistic Agriculture Innovation Nests) project is an initiative supported by the EU Erasmus+ Programme aimed at enhancing educational programs in agriculture and food value chain management across Sub-Saharan Africa. Led by a consortium of universities, including Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI), Jaramogi Oginga Odinga University of Science and Technology (JOOUST), and others, the project focuses on developing innovative Master's programs. These programs are designed to align with industry needs, national agricultural policies, and global food security challenges. The project's main goal is to equip graduates with practical skills in agricultural entrepreneurship, innovation, and food value chain management, ensuring that they are well-prepared to address complex issues in agribusiness and contribute to sustainable development.

1.2 Background Information

The focus group discussions (FGDs) organized by Jaramogi Oginga Odinga University of Science and Technology (JOOUST) and the University of Life Sciences (IULS) sought to explore the potential for entrepreneurship and innovation within Kenya's agri-food sector. Bringing together a diverse range of stakeholders—universities, research institutions, producers, farmers, agri-food companies, investors, and policymakers—the discussions aimed to identify barriers to innovation, available resources, and opportunities for growth. The ultimate goal was to develop practical strategies to foster entrepreneurial activities and drive innovation in holistic agriculture.

As part of the curriculum development process for a new Master's program in Conservation and Processing of Agricultural Products, the University of Kara and the University of Lomé, in collaboration with the Weihenstephan-Triesdorf University of Applied Sciences in Germany, held a stakeholder meeting. This initiative seeks to create a practical, industry-relevant curriculum that addresses challenges in agricultural product processing and value chains in Togo. The consultative meeting provided a platform for stakeholders from academia, industry, and the private sector to share feedback and suggestions for the curriculum, ensuring it aligns with industry needs and national priorities.

The AE-FUNAI team, as part of the CHAIN Project and supported by the EU Erasmus+ Programme, organized a similar stakeholder meeting focused on a Master of Science (MSc) in Food Value Chain Management. This meeting brought together government officials, industry leaders, and academics to review the draft curriculum and provide insights into how it could better prepare students to address the challenges in agribusiness and food value chains. The curriculum aims to equip graduates with the necessary skills to manage the complexities of modern food value chains.

Before developing the Master's program in Food Value Chain Management at the Federal University of Technology (FUT) Minna, consultations were held with key stakeholders, including farmers, industry representatives, and Ministry of Agriculture officials. These engagements were essential in ensuring the program is industry-driven and aligned with both national agricultural strategies and state priorities. Adopting a bottom-up approach, the consultations gathered feedback that reflected the needs of stakeholders, ensuring the program accurately addresses the realities of Nigeria's food value chain sector.

Similarly, the University of Kara and the University of Lomé, in collaboration with the Weihenstephan-Triesdorf University of Applied Sciences, held consultative meetings as part of their efforts to develop a Master's program in Conservation and Processing of Agricultural Products. This program seeks to fill the growing demand for professionals equipped to tackle challenges related to agricultural product conservation, quality assurance, and sustainable processing. Stakeholders from the agricultural sector provided critical input on curriculum content and practical training, offering recommendations to improve the program's relevance to industry needs.

Additionally, South Eastern Kenya University (SEKU) hosted a virtual stakeholders' engagement on August 22, 2024, as part of the ongoing development of the MSc. Food Value Chain Management program. The meeting brought together representatives from various sectors to review the curriculum and ensure it aligns with Kenya's agricultural transformation policies and the global food security agenda. Participants focused on ensuring the program equips graduates with the skills needed to address food safety, quality management, and commercialization challenges within the agribusiness sector.

2. Objectives of the Stakeholder Engagement

2.1 General Objectives

The general objectives of the stakeholder engagement across the different programs are:

i. **To develop and finalize Master's programs** that align with industry needs and national agricultural goals, particularly in the agri-food sector and food value chain management.
ii. **To gather stakeholder feedback** on the proposed curricula, ensuring relevance, practicality, and alignment with job market demands and government policies.
iii. **To evaluate opportunities for innovation** and entrepreneurship in agriculture, focusing on the potential for collaboration and business transformation.

2.2 Specific Objectives

i. **Identify Industry Needs and Gaps**:
   a. Understand the constraints, skill gaps, and challenges in the food value chain and agri-food sectors from the perspective of stakeholders, including farmers, industry leaders, and policymakers.
   b. Assess specific methods for stimulating entrepreneurial thinking and driving innovation.

ii. **Curriculum Development**:
   a. Present the draft curriculum for the Master's programs and gather inputs on its relevance, structure, and content.
   b. Identify areas for improvement in the curriculum to ensure it addresses both current and future trends in the industry.
   c. Ensure the program integrates theoretical knowledge with hands-on practical training, internships, and research opportunities.

iii. **Collaboration and Practical Training**:
   a. Explore collaboration opportunities between researchers, students, and entrepreneurs to foster innovation.
   b. Evaluate and discuss student placement and internship strategies to provide real-world experience and practical learning.
   c. Address concerns related to accreditation, ensuring the curriculum meets academic and regulatory standards.

iv. **Scaling and Transforming Innovations**:
   a. Assess the potential for scaling innovations and transforming businesses in holistic agriculture.
   b. Ensure that graduates are equipped with the skills and competencies required to either gain employment or become self-sufficient entrepreneurs.

v. **Align with National and International Policies**:
   a. Align the curriculum with national agricultural strategies and international market trends to ensure that training reflects both local and global realities.
   b. Incorporate emerging trends such as technology integration, food safety, financial management, and gender mainstreaming.

3. Methodology

3.1. Participating institutions

3.1.1. Jaramogi Oginga Odinga University of Science and Technology

Jaramogi Oginga Odinga University of Science and Technology located in Bondo, Kenya. It was established in 2009 and named after Jaramogi Oginga Odinga, a prominent Kenyan politician and

freedom fighter. The university is known for its focus on science, technology, innovation, and community development, with the goal of addressing the socio-economic needs of the region and the country as a whole.

JOOUST offers a range of undergraduate, graduate, and doctoral programs across various fields, including agriculture, environmental science, health sciences, engineering, and business studies. The university emphasizes research, with a strong commitment to advancing knowledge in areas such as sustainable agriculture, water resource management, and renewable energy.

In addition to academic excellence, JOOUST is involved in community outreach and development programs, aiming to improve the livelihoods of local communities through innovations in agriculture, health, and education. The university also fosters collaboration with industry, government, and international institutions to enhance its impact in research and development.

3.1.2. University of Kara

The University of Kara (Université de Kara**)** is a public university located in Kara, Togo. Established in 1999, it is the second-largest university in the country, serving as a key institution for higher education and research in the northern region of Togo. The university aims to provide quality education and promote research, innovation, and community development across various fields of study.

The University of Kara offers a wide range of undergraduate and postgraduate programs, including arts, sciences, social sciences, law, economics, and agriculture. It places a strong emphasis on addressing local and regional challenges, particularly in agriculture, environmental sustainability, and economic development.

The university is committed to contributing to Togo's socio-economic development through research, innovation, and collaboration with local industries, government bodies, and international partners. It also plays a pivotal role in promoting education access in the northern regions of Togo, fostering academic growth, and supporting national development initiatives.

3.1.3. Alex Ekwueme Federal University Ndufu-Alike

Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI**)** is a public university located in Ndufu-Alike, Ebonyi State, Nigeria. It was established in 2011 by the Federal Government of Nigeria as one of the nine new universities created to expand access to higher education in the country. The university was renamed in 2018 in honor of Dr. Alex Ekwueme, Nigeria's former Vice President and a notable advocate for education and national development.

AE-FUNAI offers a variety of undergraduate and postgraduate programs across disciplines such as science, technology, engineering, arts, social sciences, law, management, and agricultural sciences. The university is committed to academic excellence, innovative research, and community service, with a mission to produce well-rounded graduates equipped with the skills needed to contribute to Nigeria's socio-economic development.

The university is also focused on fostering entrepreneurship and innovation, promoting a blend of theoretical knowledge and practical skills to meet the needs of Nigeria's growing economy. Through collaborations with local and international institutions, AE-FUNAI aims to enhance its research capabilities and maintain a strong presence in Nigeria's higher education landscape.

3.1.4. FUT Minna, Nigeria

The Federal University of Technology, Minna (FUT Minna) is a public university located in Minna, Niger State, Nigeria. Established in 1983, FUT Minna is one of Nigeria's specialized universities dedicated to advancing technology and applied sciences. The university was created with the primary goal of fostering technological innovation and training professionals equipped to meet Nigeria's industrial and technological needs.

FUT Minna offers a range of undergraduate and postgraduate programs in fields such as engineering, technology, environmental sciences, information technology, and management sciences. The university is known for its strong emphasis on research and innovation, particularly in areas like agricultural technology, renewable energy, information and communication technology (ICT), and engineering.

The university actively promotes collaborations with industry, government, and international institutions to address real-world challenges and enhance its research capabilities. FUT Minna also plays a pivotal role in contributing to Nigeria's socio-economic development by producing graduates who are skilled in technological and scientific problem-solving. Through its commitment to academic excellence and technological advancement, FUT Minna is recognized as one of the leading technological universities in Nigeria.

3.1.5. University of Lomé

The University of Lomé (Université de Lomé**)** is the largest and oldest public university in Togo, located in the capital city, Lomé. Established in 1970, it was initially known as the University of Benin before being renamed to reflect its national importance. The university is a key institution for higher education in Togo, offering a wide range of academic programs and contributing significantly to the country's educational, economic, and social development.

The University of Lomé provides undergraduate, graduate, and doctoral programs across diverse fields such as sciences, arts, humanities, law, economics, social sciences, agriculture, and health

sciences. It is also a hub for research and innovation, focusing on areas like sustainable agriculture, environmental science, public health, and economic development.

As a major center of learning in Togo, the University of Lomé collaborates with local industries, government bodies, and international institutions to promote research, innovation, and capacity building. It is committed to addressing local and regional challenges, with an emphasis on fostering entrepreneurship, scientific research, and technological development.

3.1.6. South Eastern Kenya University

South Eastern Kenya University is a public university located in Kitui, Kenya. Established in 2008 as a constituent college of the University of Nairobi, it later gained full university status in 2013. SEKU serves as a vital institution for higher education in the southeastern region of Kenya, offering programs aimed at fostering academic excellence, research, and community development.

SEKU offers a wide array of undergraduate and postgraduate programs across disciplines such as agriculture, environmental sciences, engineering, business, social sciences, and education. The university places a strong emphasis on research and innovation, particularly in areas such as sustainable agriculture, environmental conservation, renewable energy, and water resource management.

The university is dedicated to addressing the unique challenges faced by the arid and semi-arid regions of Kenya, with a focus on promoting sustainable development and improving livelihoods through education and research. SEKU also collaborates with local industries, government agencies, and international organizations to enhance its academic and research capabilities, making it a key player in Kenya's higher education and development sectors.

3.2. Engagement Approach

The stakeholder engagement approach was designed to facilitate active participation and gather comprehensive feedback from diverse stakeholders. It included a combination of focus group discussions (FGDs), round table discussions, and interviews. Each engagement method allowed participants to share experiences, identify challenges, and propose solutions, particularly concerning the development of curriculum and fostering entrepreneurship and innovation in agriculture. Interactive presentations and plenary discussions ensured that all stakeholders had opportunities to contribute their insights and perspectives.

The engagement process was also informed by a preliminary needs assessment report, which helped guide the curriculum development discussions. This approach allowed for a bottom-up, collaborative process, ensuring that the curriculum aligns with the real-world needs of the food value chain industry.

3.2. Data Collection Tools

Several data collection tools were employed during the stakeholder engagement to ensure a thorough gathering of qualitative insights:

- **Focus Group Discussions (FGDs)**: Small group discussions were used to explore specific aspects of the curriculum, entrepreneurial challenges, and innovation opportunities. These sessions encouraged in-depth dialogue among participants from different sectors.
- **Questionnaires**: Perception questionnaires were distributed to stakeholders prior to and during the engagement. These questionnaires gathered insights on the relevance of the curriculum, industry challenges, and the skill gaps within the food value chain.
- **Interviews**: Semi-structured interviews were conducted with key stakeholders, including academic experts and industry representatives. These interviews focused on potential collaborations, curriculum improvement, and industry-academia partnerships.
- **Observations**: Participant observation allowed researchers to capture non-verbal feedback and group dynamics, providing additional insights into stakeholder interactions and the challenges faced in the agri-food sector.
- **Desktop Literature Review and Benchmarking**: The development team reviewed existing legislation, educational standards, and curricula from other African higher education institutions to ensure the proposed program met both national and international standards.

3.3. Participants and Stakeholders' Profiles

The engagement brought together a diverse group of stakeholders from multiple sectors, ensuring that a broad range of perspectives were considered:

- **Farmers (Small and Large Scale)**: Both smallholder and commercial farmers participated, providing direct insights into agricultural production, processing challenges, and the needs of the farming community.
- **Food Industry Processors and Distributors**: Representatives from food processing units and distribution companies shared their experiences and highlighted the importance of practical training and innovation in product handling and processing.
- **Government Officials**: Officials from the Ministry of Agriculture and other relevant government departments participated, offering perspectives on policy alignment, regulatory frameworks, and the broader goals of national agricultural strategies.
- **Academic Experts**: Academics from universities and research institutions contributed by addressing curriculum design, theoretical foundations, and potential for industry collaborations, such as internships and research projects.

- **Non-Governmental Organizations (NGOs) and Cooperatives**: NGOs and cooperative representatives provided feedback on the role of value chains in food security and rural development, emphasizing the need for practical skills training.
- **Financial Institutions and Banks**: Representatives from banks shared their views on financing mechanisms and business management education within the food value chain.

This broad stakeholder profile ensured that the curriculum development process was informed by a wide spectrum of expertise and needs, reflecting the diverse challenges and opportunities within the food value chain sector.

4. Participating Stakeholder Groups

4.1 JOOUST - Kenya

Group Name	Representative Name	Role/Position	E-mail	Phone
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Supplier	James Wanga		Wangajames2000@gmail.com	
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4.2. South Eastern Kenya University (SEKU)

note: participants' contacts to be availed.

Group Name	Representative Name	Role/Position	E-mail	Phone
CHAIN-Project	Dr. B. Muli	PI - Moderator		
Academia	Dr. Nzomo	Facilitator		
"	Dr. J. Matata	Facilitator		
"	Dr. J. Lochuch	Facilitator		
"	Dr. B. Mweu	Facilitator		
"	Dr. Eliud Muli	Facilitator		
"	Dr. C. Ndung'u	Facilitator		
Machakos Univ.	Dr. E. Matuku	Leader		
KEFRI	MS. E Kitheka	Manager		
WFP	MS. F. Mwende	Co-ordinator		
ICRISAT	Mr. I. Kamweru	Coordinator		
ASDE (Faith Based Organization)	Mr. J. Mutua	Coordinator		
UNWFP	Mr. R. Kising'u	Coordinator		
USDA	Dr. L. Migiro	L/Coordinator		
BANK	P. Nzuki	Financier		
Church - CARITAS	P. Saitoti	Facilitator		
NZAMKA-SACCO	Mr. V. Musembi	Coop Officer		
AGROVET	Mr. R. Nzioka	Supplier		

4.3 FUT MINNA University, NIGERIA

Participants' contacts to be availed.

Group Name	Representative Name	Role/Position	E-mail	Phone
CHAIN-Project	Prof. Likita TANKO	*Team Lead*		
Academia • Profs • Directors • Lecturers		Curriculum development Facilitation		
Min. Agriculture		Policy		
• Commissioner/PS		Policy		
• Directors		Director/Policy		
• Regulatory bodies		Enforce regulations		
• Extension service providers		Service provision		

Entrepreneurs		Industry		
Food processors		Food Processing		
Distributors		Distribution		
Retailers		Retailing commodities		
Consumer group		Utilization		
Farmer Large scale		Production		
Small scale		Production		

4.4 Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI) team of the CHAIN Project

The participants were broadly categorized as:

i. Academia (1)
ii. Lecturers (4)
iii. Farmers (5)
iv. Private farmers (4)
v. Government /Policy (3)

5. Key Discussion Points

5.1. **Summary of Discussions**

Participants engaged in in-depth discussions on key aspects of agricultural innovation, curriculum development, and practical training. Major themes included:

- **Barriers to Entrepreneurship and Innovation**: Several obstacles were identified, such as cultural resistance to new technologies, limited access to finance, high input costs, and inadequate infrastructure. These barriers hinder entrepreneurial growth in the agri-food sector.
- **Resources and Opportunities**: Opportunities to boost entrepreneurship include the use of digital platforms, access to modern agricultural technologies, fostering public-private partnerships, and establishing rural entrepreneurial hubs. These strategies can support innovation and growth.
- **Curriculum Content**: The discussions highlighted the need for the curriculum to focus on practical skills, such as product traceability, food safety, and quality management. Stakeholders also suggested the inclusion of courses on financial management, post-harvest technology, and the use of renewable energy in agricultural processing.

- **Practical Training and Internships**: There was debate over the structure of student internships, with participants discussing the merits of placements in multiple enterprises to gain diverse industry experience. Stakeholders emphasized the importance of hands-on learning through factory visits and internships to bridge the gap between theory and practice.
- **Accreditation and Program Motivation**: Stakeholders discussed the accreditation process and the importance of balancing theoretical learning with practical skills to prepare students for the job market.
- **Technology Integration**: Participants underscored the significance of integrating digital technologies and artificial intelligence into the agri-food sector to enhance innovation across the value chain.

5.2. Stakeholder Contribution

- **Farmers**: Farmers shared their experiences with production, processing, and marketing challenges, emphasizing the need for upskilling in technology adoption and supply chain management. They also stressed the need for government support and educational partnerships to advance agricultural practices.
- **Ministry of Agriculture Officials**: Representatives from the Ministry of Agriculture emphasized aligning the curriculum with national agricultural policies and goals. They highlighted specific workforce skills needed to advance the agricultural sector, advocating for training programs that equip graduates with these competencies.
- **Academia**: Academics contributed insights into the curriculum design process, stressing the importance of interdisciplinary approaches, practical training, and collaborative research projects with industry. They also recommended that university lecturers gain industry experience to stay current with market trends.
- **Industry Experts**: Industry representatives emphasized the need for hands-on training and practical skills in areas such as food safety, financial management, and post-harvest handling. They also advocated for greater involvement of industry professionals in the teaching process to ensure relevance to the job market.

5.3. Areas of Consensus and Divergence

5.3.1 Consensus:

- There was strong agreement on the need for practical-oriented courses focusing on food safety, post-harvest handling, quality management, and financial literacy. Participants also supported the inclusion of digital technologies in the curriculum to foster innovation.
- Stakeholders widely endorsed the importance of internships and industry placements to give students real-world experience and prepare them for the workforce.
- There was unanimous support for improving collaboration between academia, industry, and government to ensure the curriculum aligns with market needs and national policies.

5.3.2 Divergence: Participants differed on the structure of student internships. Some advocated for a single long-term placement, while others suggested that students intern in multiple enterprises to gain broader experience in different aspects of the agri-food value chain.

Opinions varied on the extent to which traditional processing techniques should be integrated into the curriculum. Some emphasized a focus on industrial and modern methods, while others highlighted the importance of retaining traditional practices.

There was debate over the level of involvement required from industry professionals in the teaching process, with some stakeholders suggesting that they play a larger role in training students, while others advocated for a balance between academic and industry input.

6. Key Outcomes and Findings

6.1 Summary of Outcomes:

The stakeholder engagement meetings aimed at developing and refining Master's programs in agriculture and food value chain management yielded several important outcomes. These meetings, held across various universities, brought together stakeholders from academia, industry, government, and the community. The discussions focused on aligning academic programs with industry needs, fostering entrepreneurship, and enhancing practical skills in the agri-food sector. Stakeholders provided critical input on curriculum content, the importance of practical training, and the integration of modern technologies such as digital tools and artificial intelligence (AI). Key barriers identified included financial constraints, infrastructural challenges, and a lack of collaboration between academia and industry. The insights gathered will inform the final curriculum design and ensure that the programs meet both academic standards and market demands.

6.2 Main Findings:

- **Barriers to Innovation**: Stakeholders identified several challenges hindering innovation in agriculture, including cultural resistance to new technologies, limited access to finance, and inadequate infrastructure, particularly in rural areas.
- **Opportunities for Growth**: Leveraging digital platforms, public-private partnerships, and entrepreneurial hubs in rural areas were highlighted as potential ways to stimulate innovation and growth in the agri-food sector.
- **Curriculum Development**: The need for practical, industry-oriented skills was emphasized, with suggestions for courses on food safety, post-harvest handling, financial management, and project management. The integration of renewable energy and recycling technologies in agricultural practices was also recommended.
- **Practical Training**: There was a consensus on the importance of hands-on experience, with stakeholders advocating for internships, factory visits, and real-world training to prepare students for the workforce. Some participants

recommended internships across multiple enterprises to provide students with a broader understanding of the industry.

- **Collaboration**: Strengthening partnerships between universities, industry, and government was seen as crucial for fostering innovation and ensuring the curriculum remains relevant to industry needs. Stakeholders called for greater involvement of industry experts in teaching and student mentorship.
- **Accreditation and Implementation**: Delays in the accreditation process were identified as a potential challenge, underscoring the need for streamlined processes and the involvement of expert consultants to ensure timely program approval.

7. Challenges and Lessons Learned

7.1. Challenges

- **Cultural Resistance**: A key barrier to innovation in agriculture is the deep-rooted cultural resistance to adopting new agricultural methods and technologies, which many stakeholders noted as a significant obstacle.
- **Financial Constraints**: Limited access to affordable financing remains a challenge for entrepreneurs and farmers, hindering the adoption of modern practices and scaling innovative agricultural solutions.
- **Infrastructural Barriers**: Poor infrastructure, especially in rural areas, makes it difficult to implement and scale innovative agricultural practices effectively, restricting market access and efficiency.
- **Collaborative Gaps**: Communication challenges and bureaucratic hurdles between researchers, entrepreneurs, and industry stakeholders often hinder collaborative efforts needed to drive agricultural innovation.
- **Accreditation Delays**: The process of gaining accreditation for new academic programs was highlighted as a potential bottleneck, which could delay the implementation and roll-out of important curricula.
- **Balancing Theory and Practice**: Achieving the right balance between theoretical learning and practical training was identified as a significant challenge, especially with limited resources and logistical constraints for student placements in enterprises.

7.2. Lessons Learned

- **Demand-Driven Curriculum**: The need for a curriculum that is demand-driven was reinforced, as involving industry stakeholders early in the curriculum design ensures that it will meet real-world needs and industry demands.
- **Collaboration is Essential**: Strong collaboration between academia, industry, and government is vital for creating educational programs that are relevant, dynamic, and beneficial to all parties. This collaboration also supports better alignment between educational institutions and industry needs.
- **Practical Skills Emphasis**: There is a clear need to prioritize practical skills in the curriculum through hands-on training, internships, and fieldwork. Exposure to real-world enterprises will ensure that students are well-prepared for employment or entrepreneurial ventures.

- **Accreditation Support**: Streamlined accreditation processes are critical for timely program implementation. Engaging expert consultants and working closely with regulatory bodies can help expedite this process and avoid delays.
- **Innovation and Technology Integration**: Continuous integration of modern technologies, such as AI and digital tools, into the curriculum is necessary to keep up with global trends and ensure the agricultural sector evolves accordingly.
- **Inclusivity**: Addressing gender equity and inclusivity in program design is essential to prepare students for managing diverse value chains and ensuring that programs are accessible to all demographic groups.

8. Recommendations and Next Steps

8.1. Recommendations

1. **Establish Entrepreneurial Hubs**: Set up hubs in rural areas to provide resources, training, and mentorship for agri-food startups, encouraging local innovation and business development.
2. **Promote Industry-Academia Partnerships**: Strengthen collaborations between universities, research institutions, and industry to drive innovation through joint research, projects, and knowledge transfer.
3. **Enhance Digital Literacy**: Provide training for farmers and entrepreneurs on digital platforms to improve market access, enhance agricultural education, and facilitate innovation dissemination.
4. **Provide Financial Support**: Facilitate access to microfinance, grants, and subsidies to help smallholders and entrepreneurs overcome financial constraints and adopt innovative practices.
5. **Strengthen Infrastructure**: Improve rural infrastructure, such as roads and digital connectivity, to support the scaling of innovations in agriculture and boost productivity.

8.2. General Recommendations

1. **Enhancing Practical Skills**: Ensure the program focuses on practical skills development through hands-on internships, industry placements, and fieldwork, providing students with diverse real-world experiences.
2. **Accreditation Support**: Collaborate with regulatory bodies to ensure the timely accreditation of the curriculum. Engaging expert consultants can expedite the accreditation process.
3. **Industry Involvement**: Strengthen partnerships with local enterprises to involve industry experts in the teaching and mentorship of students, exposing them to the latest agricultural technologies and practices.
4. **Curriculum Finalization**: Refine the curriculum based on stakeholder feedback, including courses on project management, renewable energy, recycling, packaging technologies, food safety, and financial management to ensure a comprehensive learning experience.

8.3. Next Steps

1. **Refine the Curriculum**: Incorporate stakeholder feedback to enhance the curriculum, adding practical components such as industry visits, internships, and hands-on learning.
2. **Pursue Accreditation**: Work closely with the accreditation commission to ensure the Master's program meets all regulatory requirements and is approved for implementation.
3. **Develop Industry Partnerships**: Establish formal partnerships with agricultural enterprises to provide practical training opportunities for students, ensuring they gain hands-on experience in various aspects of the food value chain.
4. **Monitor and Evaluate**: Implement continuous monitoring and evaluation mechanisms to assess the curriculum's effectiveness in meeting its objectives and adapting to industry needs.
5. **Promote the Program**: Raise awareness of the MSc. Food Value Chain Management program through various channels, highlighting its role in addressing food security challenges and preparing students for careers in agribusiness and food value chain management.

9. Conclusion

The focus group discussions (FGDs) provided valuable insights into the current landscape of entrepreneurship and innovation within Kenya's agri-food sector. Addressing key barriers such as cultural resistance, financial limitations, and infrastructure challenges, while capitalizing on opportunities like digital tools and public-private partnerships, can foster significant growth in holistic agriculture. Moving forward, collaboration among researchers, students, entrepreneurs, and policymakers will be essential in building a supportive ecosystem for scaling innovative agricultural practices.

The consultative meeting successfully gathered diverse input from key stakeholders regarding the proposed Master's program in "Conservation and Processing of Agricultural Products." Feedback highlighted the importance of incorporating practical skills into the curriculum to prepare students for employment or self-employment in the agricultural sector. To move forward, the program must address challenges such as placement logistics, enhancing industry collaboration, and meeting accreditation requirements. With these improvements, the program can play a crucial role in strengthening Togo's agricultural value chain.

Stakeholder discussions during the consultative meeting provided valuable insights to ensure that the proposed MSc program in Food Value Chain Management aligns with both academic standards and industry needs. Emphasis was placed on incorporating practical training, financial management, and food safety into the curriculum. The next steps involve revising the program based on stakeholder feedback, finalizing the curriculum, and moving toward implementation.

The consultation process yielded invaluable insights that will guide the development of the Master's Degree in Food Value Chain Management at FUT Minna. By engaging farmers, industry leaders, and government officials, the curriculum development team has ensured that the program meets both current and future industry needs while aligning with state and national agricultural policies. Continued collaboration between academia, industry, and government will be key to the program's success and the advancement of Nigeria's food value chain sector.

The consultative meeting contributed crucial insights toward the development of a practical and relevant curriculum for the Master's program in Conservation and Processing of Agricultural Products. Stakeholders from various sectors of the agricultural industry shaped the program's content, ensuring it meets market demands and prepares graduates for modern agricultural challenges. Emphasizing practical training, fostering industry partnerships, and enhancing teacher capacity will ensure the program remains dynamic and responsive to the evolving needs of the agricultural sector. By incorporating the feedback from this consultation, the universities are well-positioned to create a comprehensive program that equips students not only for employment but also for entrepreneurship within the agricultural value chain.

10. Annexes

10.1 Sample Interview Guide

INTERVIEW GUIDE*
for entrepreneurs

Interviewer name ……	Date ……..

Thank you for taking the time to speak with us today.
Our name is ……..and we are from ……..(University of …….)
We are a team participating in the research on "Cooperation for Holistic Agriculture Innovation Nests in Sub-Saharan Africa", necessary for our university to know the problems of the agri-food field.
We assure you that this is not a control. We'll take notes just so we don't miss anything important from the discussion. These notes and the discussion we will have are confidential (they are only for us and will not be available to any administrative institution).
We will talk about aspects of your business and the area in which you operate.
Please feel free to express your opinions. We are here to listen to you.

Question 1 Introductory *(5 minutes discussion to relax the atmosphere)*
How was 2023? What was the best thing that happened in your business recently?

Synthetic notes

Question 2 Environment and climate change *(discussions** will be oriented towards the description of some situations and actions taken)*
What were the main environmental challenges? Did you notice any environmental changes and what did you need to do? What could help you in this regard?

Synthetic notes

Question 3 Demographic situation *(discussions will be oriented towards opinions and actions)*
Is your business affected by the declining birthrate? Are changing concepts of family affecting your business?
Can be discussed: migration, birth, marriage, etc.

Synthetic notes

Question 4 Economic climate *(discussions will be action oriented)*
What were the difficulties you encountered economically?
The following can be discussed: the evolution of prices, malfunctions in supply, the evolution of consumption, etc.

Synthetic notes

Question 5 Social climate *(discussions will be action oriented)*
What were the difficulties you encountered socially?
The following can be discussed: labor migration, unemployment in general and especially among young people, reducing / improving access to education, etc.

Synthetic notes

Question 6 Traditions and manners *(discussions will be action-oriented)*

Is your business based on certain traditions or consumption habits? Have you had to take certain actions to change your consumption pattern?

Can be discussed: current consumption patterns in correlation with traditional ones, difficulties in adapting production to changes in demand, competition of traditional products vs. imported products, etc.

Synthetic notes

Question 7 Psychosocial environment (discussions will be opinion-oriented)

Have you noticed changes in the perception of well-being among employees and customers? Did some situations catch your attention? What are the main generational differences in well-being?

The following can be discussed: customer attitude, opinions regarding the competence of young people at the time of employment, opinions regarding the expectations of young people at the time of employment, the general atmosphere of employees in the company, etc.

Synthetic notes

Question 8 Cultural impact *(discussions will focus on opinions and actions taken)*

Do you think there have been important changes in local, regional, national culture? Have you taken any steps to capitalize on or mitigate these changes?
The following can be discussed: the impact of education on the standard of living, the relevance of cultural events for the subjects' business, etc.

Synthetic notes

Question 9 Legislative context *(discussions will be action-oriented)*
Have you had great difficulty in changing some laws? What was the impact of the legislative changes on the business? Does the company, its own employees, partners help you in adapting your activity to the legislative requirements?
Can be discussed: general perception of the legislation, actions determined by legislative changes, etc.
Subjects will be assured that you are not seeking information about any violations of the law and that their responses may not affect them in any way.

Synthetic notes

Question 10 Political climate *(discussions will be oriented towards opinions)*
How would you describe the political climate in a few words? Is this predictable enough? Are there any significant impact changes?
The following can be discussed: political support for entrepreneurs, representation of producers through professional associations or product associations, communication with the ministry representing the branch, etc.
Subjects will be assured that discussions are not about their political choices.

Synthetic notes

Question 11 Institutional climate (*discussions will be action-oriented)*

How would you describe your company's relationship with state institutions in a few words? Are there non-governmental institutions that you collaborate with?
The following can be discussed: the efficiency of administrative institutions, situations created by certain practices of public institutions, actions taken to compensate or reduce the effect of some public services, etc.

Synthetic notes

Question 12 Competencies for employment in agribusiness *(opinion discussions)*
What do you think are the top 3 skills needed for college graduates looking to work at a company like yours?
(Arguments for these are awaited)

Synthetic notes

Question 13 Competencies for agribusiness entrepreneurship *(discussions about subjects' views on what an entrepreneur in this field needs to know, be able to do)*
What do you think are the top 3 skills that have helped you the most in your business?
(Arguments or examples are requested for these)

Synthetic notes

Thank you for helping us understand some things about your business. This information is valuable and will be useful in the development of this field of activity.

Debrifing-ul echipei de intervievatori după interviu

a. Assessments regarding subjects' willingness to participate in discussions

b. Assessments regarding the general ambience of the interview

c. Assessments regarding mood (optimistic, pessimistic, balanced)

d. Assessments of subjects' confidence in education and research

e. Other appreciations depending on the overall impression

10.2 Sample Invitation Letter

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

DIVISION OF ACADEMIC, STUDENT AFFAIRS AND RESEARCH

ERASMUS CHAIN PROJECT

Tel. 057-2501804
Email: erasmuschain@jooust.ac.ke
Website: www.jooust.ac.ke

P.O. BOX 210 - 40601
BONDO

OUR REF: JOOUST/ECP/FGD/1

Prof. Darius Andika
0721533596
oandika@yahoo.co.uk **Date: 17th, May, 2024**

Dear Prof. Andika,

RE: INVITATION TO A FOCUS GROUP SESSION

We are pleased to invite you to participate in the focus group session which will take place at **Jaramogi Oginga Odinga University of Science and Technology in Bondo** on **31st May 2024** at **8:00 a.m**., lasting approximately 3 hours.

Focus Group Goal:

Explore strategies and possibilities for the following objectives:

1. Stimulate entrepreneurial thinking and innovation in holistic agriculture.
2. Identify needs, constraints, and opportunities in this field.
3. Create synergies among researchers, students, and entrepreneurs.

Your participation is essential to the success of this initiative, and your valuable contribution will help create relevant strategies to encourage innovation in holistic agriculture.

Please confirm your attendance by **22nd May 2024** by contacting us via **erasmuschain@jooust.ac.ke**.

PROF. CHRISTOPER GOR, PhD-AgEcon
PRINCIPAL INVESTIGATOR
JOOUST ERASMUS CHAIN PROJECT

10.3 Pictorials

PICTORIALS OF THE JOOUST STAKEHOLDER ENGAGEMENT

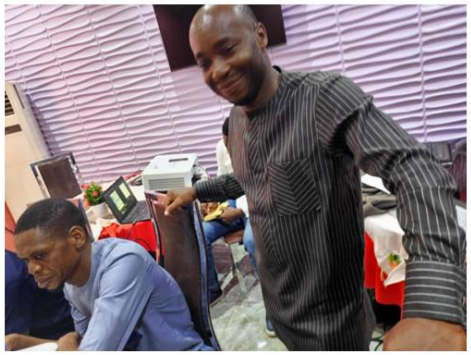
FUT Minna, Nigeria – Stakeholder Engagement Pictorials

S/No	**Picture**	**Activity**
1.		Group photograph of Project CHAIN Team members, FUT Minna, after consultative needs meeting with farmers/entrepreneurs in Dama Village, Bosso Local Government Area, Niger State in January, 2024
2.		Cross section of entrepreneurs/farmers during needs meeting with farmers in Dama Village, Bosso Local Government Area, Niger State in January, 2024
3.		Meeting with the Honourable Commissioner, Ministry of Agriculture, Permanent Secretary, Directors, other key officials of the Ministry and my team during the Stake holder needs meeting in January, 2024

ALEX EKWUEME FEDERAL UNIVERSITY












UNIVERSITY OF KARA (UK) / UNIVERSITY OF LOMÉ (UL)






10.4 Attendance Sheets

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
DIRECTORATE OF RESEARCH, INNOVATION AND EXTENSION

ATTENDANCE REGISTER

Meeting Title: Joint Stakeholders Meeting with LASI University, Romania
Date: May 31, 2024 **Venue:** EACCII **Time:** 8:00am

S/NO	Name	Designation	Email	Signature
1.	Prof. Dennis Ochuodho	Ag. DVC-ASAR	dochuodho@jooust.ac.ke	
2.				
3.	Prof. Chris O. Gor	Assoc. Prof. (Aqfn)	cogor@jooust.ac.ke	
4.	Prof Erick Okuto	Assoc. Prof.	erickokuto@gmail.com	
5.	Mr. GEOFFREY OMONDI	Msc student	geoffreyomondi10.go.go@gmail.com	
6.	Dr. Mary A. Orinda	Ag. Dean, SAFS	maryakinyi2010@gmail.com	
7.	JAMES WANGA	SUPPLIER	wangajames20@gmail.	
8.	Julius Okoth	Director	duopoent@gmail.com	
9.	PETER O. WAMBI	FSC.	opondopeter2030@gmail.com	
10.	REV. ERICK OCHIENG'	PHACY.	Oerick22@gmail.com	
11.	CHARLES OLWAMBA	PO	charles.olwamba@amref.org	
12.	JACK MAURICE	AFO	jackotieno734@gmail	
13.	Binaisha Godfrey	CCO Asst.	binagoddy@gmail.com	
14.	Prof. Julius Manyala	Dir RIE	manyalajo@yahoo.com	

S/NO	Name	Designation	Email	Signature
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21.	MARGARET N MUGA	BONDO-BEE FARMER	mnnyakune@gmail.com	
22.	Dr. Matilda Ouma	LECTURER	matildaouma@gmail.com	
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31.	Samuel Ohanga	JOOUST	sohanga@jooust.ac.ke	
32.				
33.				
34.				

2 | Page

24	ATIGLO-GBENOU Adjuwaa	M	Enseignant	UL	90750502	
25	DOSSOU Bayi Reine	F	Chef de département SATA	ESTBA-UL	92732050	
26	DJERI-ALASSANI	M	Transformateur	CASOU ESPOIR	90362246	
27	FANAH S. Nozo	M	Enseignant	UK	90227575	
28	OUADJA Batcha	M	Enseignant	UK	90067112	
29	ABOM Méwézénon	M	ingénieur	UK	70940955	
30	Pr BANITO Agnassim	M	Coordonnateur CHAIN-UL	UL	90033345	
31	ALI Allassani	M	Technicien ITRA	ITRA	91138676	
32	HAFAN Augustin	M	Entrepreneur	DJS DELICES SA	92226592	
33	AYIVI Togbloan Damienne	F	Entrepreneur	TOGO Soja	92804395	
34	ASSIH Kegbao Crédo	M	Entrepreneur	Agroconcepts	90994907	
35	OGNANKITAN Koffi Dodji	M	Entrepreneur	NSCPA Manioc	91150910	

10	KAKPO Kossi	M	Directeur	Agrifocus & Tiwa	96040106/91906044 agrifocus.togo@gmail.com	
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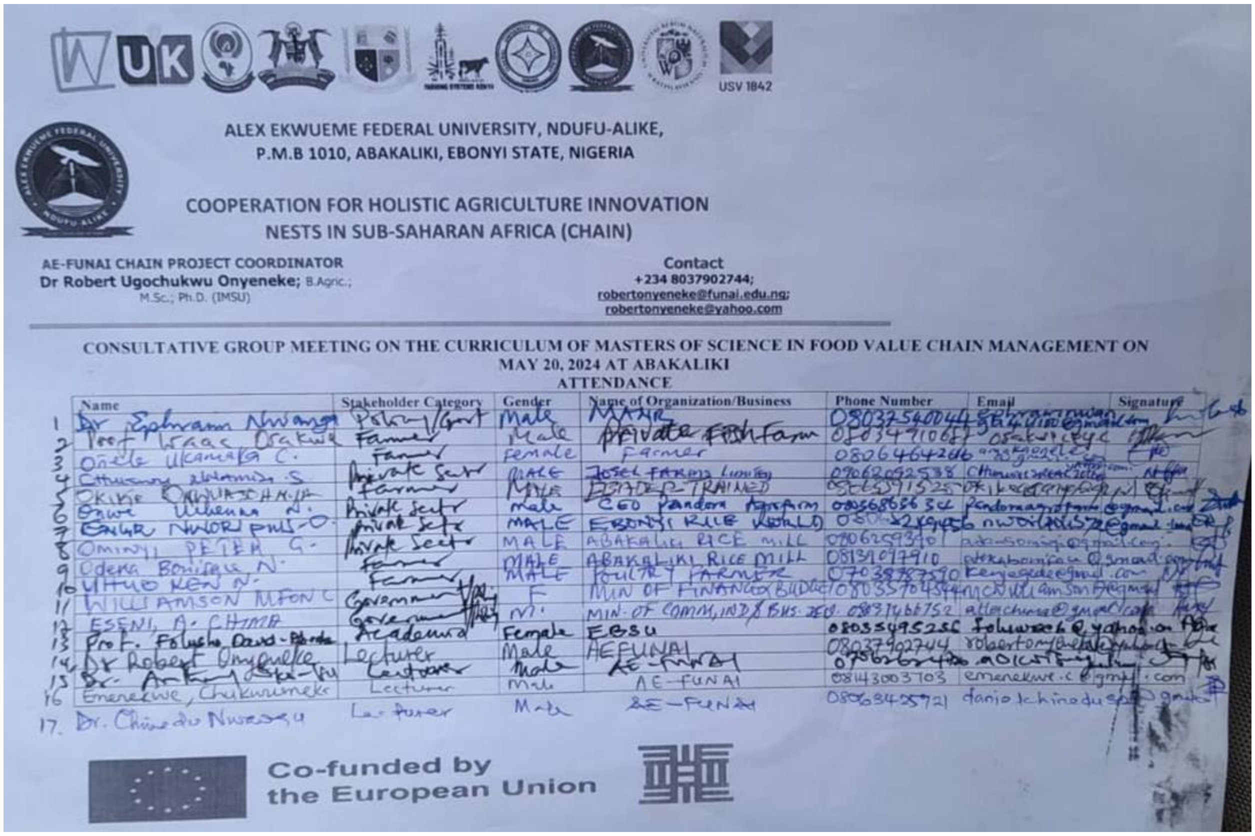
19	AGOSSOU Affo Bindé	M	Directeur	AGROCOMPLEX	90243972/99413157 agrocomplex.int@gmail.com	
20	LAWSON-LAMLEN Laté	M	Directeur	AFRIK EXCEL	90324047	
21	SOUHO Tiatou	M	Enseignant-chercheur	FaST/UK	90882306	
22	TCHABI Afi	M	Coordinateur CAARI/UK	ISMA/UK	99781381	
23	AKOHIN Delofon	M	Informaticien	Université de Lomé	90092898	

Workshop for the Exchange and Validation of the Master's Program Curriculum in Agricultural Products Conservation and Processing"

(University of Kara - University of Lomé)

List of attendance

N°	Full name	Sex	Function	Institution	Contact	Signature
1	DANDONOUGBO KOFFI	M	Chef Service QHSE NIOTO	NIOTO	90222018	
2	ADAN CETE MISSANOUA Assion Jean	M	Enseignant CT/UK	FaST/UK	91360499	
3	NADIO N. Abourwalim	M	Enseignant-chercheur	ISMA/UK	90891149	
4	BOKOBANA Essolakina Maguim	M	Directeur ISMA	ISMA/UK	91411069	
5	GNASSINGBE Sandou Assimaou	M	PCA	FENOMAT	90163171	
6	KORIKO Mounirou	M	DG	AgroSolutions et DEV SARL U	90 26 66 09 agrosolutions.dev@gmail.com	
7	AHARH Tcholo/S.c N. KAROUWE	M	DG	SMIA-C	93-18-78-75	
8	SEIDI Alirou	M	Consultant ABOU	ABOU-BABA	92203181	
9	OURO-AKONON Fousséni	M	Chargé de la Production	CFJ-TOGO/AEA	90898280 cfjtogo@cfjtogo.org	



ALEX EKWUEME FEDERAL UNIVERSITY, NDUFU-ALIKE,
P.M.B 1010, ABAKALIKI, EBONYI STATE, NIGERIA

COOPERATION FOR HOLISTIC AGRICULTURE INNOVATION NESTS IN SUB-SAHARAN AFRICA (CHAIN)

AE-FUNAI CHAIN PROJECT COORDINATOR
Dr Robert Ugochukwu Onyeneke; B.Agric.; M.Sc.; Ph.D. (IMSU)

Contact
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CONSULTATIVE GROUP MEETING ON THE CURRICULUM OF MASTERS OF SCIENCE IN FOOD VALUE CHAIN MANAGEMENT ON MAY 20, 2024 AT ABAKALIKI

ATTENDANCE

	Name	Stakeholder Category	Gender	Name of Organization/Business	Phone Number	Email	Signature
1	Dr Ephraim Nwanga	Policy/Govt	Male	MANR	08037540044	[illegible]	
2	Prof Isaac Osakwe	Farmer	Male	Private Fish Farm	[illegible]	[illegible]	
3	Onele Ukamaka C.	Farmer	Female	Farmer	[illegible]	[illegible]	
4	[illegible] S.	Private Sector	MALE	Josel Farms Limited	09062092538	[illegible]	
5	Okike [illegible]	Farmer	MALE	[illegible] TRAINED	[illegible]	[illegible]	
6	Ogwe Uchenna N.	Private Sector	Male	CEO Pandora Agrofarm	[illegible]	[illegible]	
7	Engr Nwori Paul O.	Private Sector	MALE	Ebonyi Rice World	[illegible]	[illegible]	
8	Ominyi Peter G.	Private Sector	MALE	Abakaliki Rice Mill	[illegible]	[illegible]	
9	Odenu Boniface N.	Farmer	MALE	Abakaliki Rice Mill	08139097910	[illegible]	
10	Uhuo Ken N.	Farmer	MALE	Poultry Farmer	[illegible]	[illegible]	
11	Williamson Mfon C	Government	F	Min of Finance & Budget	[illegible]	[illegible]	
12	Eseni, A. Chima	Government	M.	Min. of Comm, Ind & Bus. Dev.	[illegible]	[illegible]	
13	Prof. Folusho David-[illegible]	Academia	Female	EBSU	[illegible]	[illegible]	
14	Dr Robert Onyeneke	Lecturer	Male	AEFUNAI	08037902744	[illegible]	
15	Dr. [illegible]	Lecturer	Male	AE-FUNAI	[illegible]	[illegible]	
16	Emenekwe, Chukwuemeka	Lecturer	Male	AE-FUNAI	08143003703	emenekwe.c@gmail.com	
17	Dr. Chinedu Nwa[illegible]	Lecturer	Male	AE-FUNAI	[illegible]	[illegible]	

Co-funded by the European Union

Approved for Circulation By

Sign: Date: 8.10.2024

Prof. Christopher Obel Gor
CHAIN Project Coordinator
Jaramogi Oginga Odinga University of Science and Technology

REPORT

Consultative Meeting with Stakeholders on the curricula of Master in Food Value Chain

Title of the Master: Conservation and Processing of agricultural products

University of Kara (UK) / University of Lomé (UL)

Date: September 13th, 2024

Time: 7:30 AM

Facilitators: Dr. Goto Chantal, Dr Laba Bakouma, Dr Souho Tiatou

Attendance: 35 participants, including key stakeholders from various sectors

OUTLINE

I. Perception questionnaire

1.1. The questionnaire

1.2. The output

II. Stakeholder meeting

2.1. Commencement

2.2. Presenting the background and the curricula proposed

2.3 Stakeholder inputs

- Inputs on the curricula content
- Inputs on placement during practical semester
- Comments on the motivation text, accreditation process and others

III. Closing

IV. Annexes

I. PERCEPTION QUESTIONNAIRE

Prior to the meeting, a preliminary survey questionnaire was submitted to experts of some processing units such as units producing the local sorghum-based drink “Tchoukoutou”; units processing fruit and vegetables (pineapple, mango, papaya, etc.) into dried products, juices; and derivatives of cosmetic.

1.1. The questionnaire

The following three questions were asked to respondents:

1- Do you encounter (or are you aware of) any difficulties in preserving and/or processing agricultural products?

a- Yes

b- No

c- Other

If yes, what are the 3 main difficulties encountered (Please list according to order of importance)

a- Humidity (mold on products)/ Difficulty improving processes

b- Stabilization of finished products/Preservation methods

c- Marketing/Packaging problems

2- The university is in a *process of creating a Master program in Conservation and Processing of agricultural products. What do you think of this program?*

a- It is relevant (important) in the current context.

b- It is not relevant (important) in the current context. If not, what kind of value chain training would you like to see?

c- None of the above

3- *What skills do you think graduates from this Master should have to ensure that they are effective on the market? List 5 skills in order of importance*

a- Practical work/Certification/ Raw material storage

b- Internships/Entrepreneurship and innovation/Quality control of raw materials

c- Entrepreneurship and project management/Technological processes and innovations/Raw material calibration

d- Preservation techniques for local products / Supply chain of products

e- Product distribution skills/Food technology

1.2. The questionnaire output

All respondents (100%) are knowledgeable about problems/difficulties occurring during the conservation and processing of their products. Difficulties raised by respondents include (but not limited to):

- preparation and bottling
- pasteurization
- quality and quantity of raw material supplies
- working capital
- quality assurance of finished products

- high cost of energy (gas), which is the main component of natural preservation
- Moisture (occurring of mildew)
- Stabilization of finished products (Preservation methods)
- Packaging problems
- Marketing problems

Regarding the relevance of the Master program being created, 90% of the respondents found the Master program relevant and market-needed. They unanimously raised concern about the lack of practical skills in students graduating from universities and recommend for the new Master to put emphasis on practical-oriented learning. They also mentioned some skills/competences needed for a student to be effective after graduation. These include:

- conservation of raw agricultural products
- hygiene in the processing chain
- sustainable management of raw material production
- product certification
- financial and human resources management of a farming business
- quality management and food safety
- supply chain management, agricultural cooperatives and logistics
- Innovation and product development
- marketing and sales management
- Processes and technological innovations, raw material calibration
- Preservation techniques for local products
- Product distribution skills / Food technology

Following the questionnaire output, a stakeholder meeting was held to present the content of the proposed curricula.

Sample images of the survey questionnaire

II. STAKEHOLDERS MEETING

2.1. Commencement

The meeting was held in Sotouboua, about 300 Km far from the main town Lomé, in the central region of the country. This meeting brought together staff from the two public universities (UK and UL) and key actors of the private sector, particularly enterprises specialized in the processing of agricultural products, famers cooperatives, and exporters. The meeting started at 8 AM, by a welcome message of the chairman Dr Souho the staff of the two universities in charge of the CHAIN Project, followed by a brief introduction of the participants. He highlights the important role of the staff from the two universities in charge of the CHAIN Project in Togo to provide a room for insightful inputs and comments from stakeholders on the proposed curricula, while addressing challenges for its implementation.

2.2. Presenting the background and the curricula proposed

Prof. Tchabi welcomed everyone and briefly outlined the context of the meeting. He specified that this project is carried out in partnership with a German university, the Weihenstephan-Triesdorf University of Applied Sciences, holding a long-term experience in practical-oriented curricula. He stated that a request was made to this university to support Togolese universities in implementing more practice-oriented trainings. Thus, taking their curricula as starting point, and based on the output from the preliminary survey questionnaire, a draft curriculum of the Master's program entitled "*Conservation and Processing of Agricultural Products*" was developed. The presence of stakeholders is essential by their ability or experience to improve the draft curricula, and to ensure that graduates will be better prepared to meet the needs of business market after their training. He briefly explained to the attendee that the main innovation of the proposed training is the students start the training program with a long-term internship (4-6 months) in an enterprise, corresponding to first semester, named “Practical semester’ in the curricula.

Dr. Ouadja then took the floor to present the draft of the curricula to the participants. He highlighted all the proposed modules for the four semesters, with a brief description of each module.

A the end of the presentation, Professor Banito thanked Dr. Ouadja for his presentation and reminded everyone that the content of the program is still in draft form to prevent its premature dissemination on social media.

A coffee break was organized at 9h30 a.m. for a duration of 15 minutes.

2.3. Stakeholder inputs

Following coffee break, stakeholders were invited to provide their comments and inputs on the curricula. This important phase was organized into three steps:

- First, comments and inputs were given on the modules proposed
- Second, comments and inputs were received regarding the placement during the first semester
- Third, comments were provided on some aspects of the text motivating the creation of the Master program

2.3.1. *Inputs on curricula content*

The major inputs or comments addressed by stakeholders are the following:

- Mr. Tanko, Director of the enterprise “Tanko Timati” (specialized in the processing of tomato) raised a question regarding the orientation of the training: is it intended for technicians, business leaders, or researchers? He also mentioned the importance of courses on project management.
- Mr. Koriko, a leader of the enterprise “AGRO SOLUTION” (specialized in the processing soybean into oil and other products) expressed his satisfaction for the Master program and pointed out its innovative aspect. However, he highlighted the necessity to introduce in the curricula courses that will address product traceability, food packaging, industrial electricity, and renewable energy. He emphasized the importance for graduates to gain knowledge on hygiene practices, production economics and recycling of agricultural products-based waste.
- Mr. Dandonogbo, from the company NIOTO highlights the importance for the teachers/lecturers to gain some industrial experience, by updating their skills/knowledge from enterprises. He also proposed progressive approach to address processing of agricultural products over three semesters by providing insights, first into traditional (indigenous) techniques used by farmers or others to process foods, then moving to semi-industrial processing, and finally to industrial processing of agricultural products.
- Dr. Andanlete pointed out the need to consider local (indigenous) techniques of product processing during the training, and to focus on packaging, especially the materials used. He highlighted the need to clearly define the objectives of the placement during this master program, and to distinguish it from what has been done so far for internship of students.

Before answering to stakeholders, Prof. Banito**,** thanked them for the inputs, comments and questions on the modules proposed. He said, “I am happy with the exchanges, and that is why we organized this stakeholders meeting to let you have a glance to the proposed modules”. He stressed that the training should enable students to be employable or self-employed by the end of their studies. Interestingly, many of concerns raised by stakeholders regarding courses are already taken into account, as elements of “core modules”. Therefore, Dr Ouadja was asked to present the content of each core module (six in total). For some courses or competences proposed by stakeholders and that were seen relevant, it was proposed to address them as elements of the module “seminar” to provide ground knowledge to students.

2.3.2. *Inputs on placement during practical semester*

There was a very long and constructive debate regarding the placement of students in the first semester. Discussion was held around the following questions: should the placement be organized in one long stay in an enterprise or should it be split into two or three short stay? Should the student stay in only one enterprise or should he move to at least two or three different enterprises? Following are some suggestions by participants.

- Mr. Agossou to propose alternating internship and courses by two months. He also suggested workshops to strengthen the teachers' skills.

- Mr Gnassingbe to stress out the need for student to visit more than one enterprise during the placement for a large cover of experience, He argued that many of our enterprises are small scale ones, and often specialized in processing only one product. By interning in different enterprises, student has the chance to see and practice for different products processing.

These propositions were seen relevant. However, at first glance, this would demand more work and more cost. The participants have therefore charged the university teams to evaluate the feasibility of these propositions in the university context.

2.3.3. ***Comments on the motivation text, accreditation process and others***

- Question was raised about the entry profile. Can the graduate from chemistry attend the master? The answer was “No”, due to the fact that a graduate from chemistry does not have a background required for this Master program.
- Regarding the accreditation, Dr. Andanlete (The Head of the commission in charge of accreditation at UK) provided a pipeline to ease and speed up the accreditation process of the new Master being created. He mentioned for example the need to provide a document from an expert consultant demonstrating the relevance of the training program, with a clear argument on the profiles of the instructors, financial challenges, and specialization. Dr. Tchabi pleased him to kindly share the guideline document for the accreditation with the project teams.
- Other raised concerns include the health insurance issues on the placement, support to enterprises hosting students, seminars to raise students' awareness of consulting and selling their intellectual expertise, and involving experts from the enterprises in lecturing.

III. CLOSING

The session ended at 4.0 PM after a rich and constructive discussion. The contributions helped clarify several key aspects related to the orientation of the training, particularly the balance between theory and practice, strengthening the teachers' capacities, and adapting the courses to industrial and local realities. The proposed curricula emphasized the need to prepare students not only for employment but also for self-employment, stressing the importance of placement to acquire practical skills. The project teams have to judge the type of Master to be created (Vocational or basic training) depending on the context of their universities. Overall, the curricula got full adhesion of the stakeholders and inputs from the attendee regarding some skills will be taken into account as elements of the module “Seminar”. Finally, it was argued that full involvement of experts from enterprises in teaching is also required to strengthen the quality and relevance of this program.

IV. ANNEXES

4.1. LIST OF PARTICIPANTS

Workshop for the Exchange and Validation of the Master's Program Curriculum in Agricultural Products Conservation and Processing'

(University of Kara - University of Lomé)

List of attendance

N°	Full name	Sex	Function	Institution	Contact	Signature
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6	KORIKO Mounirou	M	DG	AgroSolutions et DEV SARL U	90 26 66 09 agrosolution.dev@gmail.com	
7	AHARH [illegible]/S.c M. KAROUWE	M	DG	SMIA-C	93-18-78-75	
8	SEIDI Alirou	M	Consultant ABOU-	ABOU-BABA	92203181	
9	OURO-AKONON Fousséni	M	Chargé de la Production	CFJ-TOGO/AEA	90898280 cfjtogo@cfjtogo.org	
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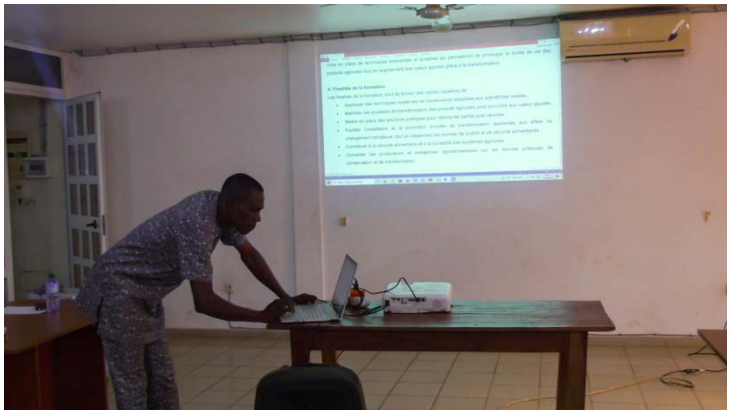
22	TCHABI Atti	M	Coordinateur CHAIR/UK	ISMA/UK	90781381	
23	AKOHIN Delofon	M	Informaticien	Université de Lomé	90092898	

24	ATIGLO-GBENOU Adjiwanou	M	Enseignant	UL	90750502	
25	DOSSOU Bayi Reine	F	Chef de division SATA	ESTBA-UL	92732050	
26	DJERI-HIASANI	M	Transformateur	CAJOU EXPOIR	90362246	
27	FANIAH S. Nagbe	M	Enseignant	UK	80227875	
28	OUADJA Batchon	M	Enseignant	UK	99967112	
29	ADOM Mèwèzenon	M	ingenieur	UK	90940955	
30	Pr BANITO Agnassim	M	Coordonnateur CIFAIN-UL	UL	90033345	
31	ALI Allassani	M	Technicien ITRA	ITRA	91138676	
32	HAFAN Augustin	M	Entrepreneur	DOS DELICES SA	82265852	
33	AYIVI Togblassa Jeanne	F	Entrepreneur	TOGO Soja	92804395	
34	ASSIH Kegbao Crédo	M	Entrepreneur	Agroconcept	90994907	
35	OGNANIKITAN Koffi Dodji	M	Entrepreneur	NSCPA Maniac	9115 0910	

4.2. SAMPLE IMAGES OF THE STAKEHOLDER MEETING



Report on Consultative Meeting with Stakeholders

Focus Group Discussions

JOOUST & IULS Teams

Date: 30th May 2024

JOOUST, MAIN CAMPUS

Compiled by
Mr. Samuel Ohanga – Project Manager

Approved by

Prof. Christopher Obel-Gor – Project Coordinator

Introduction

The focus group discussions (FGDs) organized by Jaramogi Oginga Odinga University of Science and Technology (JOOUST) and the University of Life Sciences (LASI) were aimed at analyzing the potential for entrepreneurship and innovation in holistic agri-food in Kenya. This report is structured around the six main objectives of the FGDs, summarizing the needs, constraints, methods, and recommendations discussed by the participants, which included representatives from universities, research institutions, producers, farmers, consumer representatives, agri-food supply chain companies, investors, international organizations, the Church, cultural institutions, government policy makers and NGOs.

Objective 1: Identifying the Needs, Constraints, and Specific Methods to Stimulate Entrepreneurial Thinking

Barriers to Entrepreneurial Thinking

Participants identified several barriers hindering entrepreneurial thinking in the agri-food sector. Cultural barriers, such as traditional beliefs and resistance to change, were significant. Economic barriers included lack of access to capital, high input costs, and market volatility. Educational barriers encompassed inadequate entrepreneurial training and limited awareness of business opportunities in agriculture. These factors collectively stifle the initiative and ability to start new businesses.

Resources and Opportunities

To support entrepreneurial thinking, participants suggested mobilizing resources such as financial services tailored to agribusinesses, access to modern agricultural technologies, and robust mentorship programs. Leveraging opportunities like public-private partnerships, community-based savings and credit schemes, and enhancing digital literacy to create a favorable environment for entrepreneurial initiatives.

Proposed Actions

Concrete steps proposed included:

- Establishing entrepreneurial hubs in rural areas.
- Integrating entrepreneurship courses in agricultural education curricula.
- Facilitating access to microfinance and grants for agri-food startups.
- Organizing workshops and seminars to raise awareness about entrepreneurial opportunities in agriculture.

Objective 2: Identifying the Needs, Constraints, and Specific Methods to Stimulate Innovation Potential

Barriers to Innovation

The main barriers to innovation identified were cultural resistance to new technologies, economic constraints like high costs of innovation, and technological barriers including limited access to advanced agricultural technologies and poor infrastructure. These obstacles hinder the adoption and development of new agricultural practices and technologies.

Resources and Opportunities

Participants noted that existing resources such as local agricultural knowledge, university research outputs, and community networks could support innovation. Unexplored opportunities include harnessing indigenous knowledge, utilizing digital platforms for information dissemination, and creating innovation clusters where different stakeholders can collaborate.

Recommended Actions

Actions recommended to improve innovation potential included:

- Promoting collaborative research and development projects.
- Establishing innovation incubators and accelerators.
- Providing subsidies and incentives for adopting new technologies.
- Enhancing infrastructure, particularly in rural areas, to support innovative practices.

Objective 3: Analyzing the Potential to Create Innovations in a Triadic Relationship Among Researchers, Students, and Entrepreneurs

Facilitating Collaboration

Effective collaboration between researchers, students, and entrepreneurs was seen as crucial. Facilitating factors included supportive institutional policies, availability of collaborative platforms, and regular interaction through workshops and seminars. Obstacles included bureaucratic hurdles, lack of communication channels, and competition for resources.

Successful Joint Projects

Successful joint projects often involve interdisciplinary research, field trials, and commercialization strategies. Specific areas with potential for synergy included sustainable farming practices, climate-smart agriculture, and value addition in agri-food products.

Strengthening Networks

To strengthen collaboration, participants proposed strategies such as:

- Creating formal networks and consortia.
- Establishing clear roles and responsibilities for each group.
- Providing funding for collaborative projects.
- Encouraging industry-academia partnerships through policy incentives.

Objective 4: Analyzing the Potential for Students and Entrepreneurs in Agriculture to Become Innovators in Holistic Agriculture

Skills and Gaps

Students and entrepreneurs possess skills such as technical knowledge, problem-solving abilities, and practical experience. However, gaps exist in areas like business management, market analysis, and access to cutting-edge technology. Addressing these gaps requires targeted training programs and exposure to real-world challenges.

Motivational Factors

Motivational factors to encourage innovation include recognition and rewards, opportunities for career advancement, and access to funding. Obstacles include limited market access, a high risk of failure, and inadequate support systems.

Support Initiatives

Proposed initiatives to support innovation among students and entrepreneurs included:

- Developing innovation competitions and hackathons.
- Offering scholarships and grants for innovative projects.
- Creating internship and apprenticeship programs in innovative agribusinesses.
- Enhancing collaboration between academic institutions, industry, and government agencies.

Objective 5: Analyzing the Potential for Transforming Businesses in Holistic Agriculture

Impact of Innovations

Innovations in holistic agriculture, such as organic farming techniques, integrated pest management, and precision agriculture, have significantly transformed local businesses. These changes have been positively perceived by the community and the market, leading to increased productivity, sustainability, and profitability.

Scaling and Expansion Opportunities

Opportunities for scaling innovative practices include expanding into new markets, leveraging digital marketing platforms, and forming cooperatives to enhance bargaining power. Sectors that could benefit most include organic produce, agro-processing, and eco-friendly packaging.

Essential Strategies

Essential strategies for transforming traditional agriculture businesses into innovative entities included:

- Promoting continuous learning and adaptation.
- Establishing market linkages and supply chain partnerships.
- Providing access to affordable financing options.
- Engaging different economic and institutional actors to support innovation adoption and scaling.

Objective 6: The Potential for Innovations to Transform into Growing Businesses

Contribution to Business Growth

Innovations in holistic agriculture have contributed to business growth by improving efficiency, reducing costs, and opening new market opportunities. Successful examples include the use of mobile technology for market information, solar-powered irrigation systems, and bio-fertilizers.

Essential Factors for Success

Turning innovations into successful commercial businesses requires addressing factors such as:

- Ensuring access to reliable financing and investment.
- Navigating regulatory frameworks.
- Building strong market networks and customer bases.

Proposed Strategies

Strategies to support the transformation of innovations into profitable businesses included:

- Establishing innovation hubs that provide business support services.
- Encouraging cross-sector collaborations to pool resources and expertise.
- Offering government incentives and subsidies for innovative enterprises.
- Facilitating access to international markets through trade fairs and export promotion programs.

Conclusion

The FGDs provided valuable insights into the challenges and opportunities for stimulating entrepreneurship and innovation in the agri-food sector in Kenya. By addressing cultural, economic, and technological barriers, leveraging existing resources, and implementing targeted strategies, the potential for creating and scaling innovations in holistic agriculture can be significantly enhanced. Collaborative efforts among researchers, students, entrepreneurs, and various stakeholders are essential to drive sustainable growth and transformation in the agri-food sector.

Pictorials


ADMINISTRATION BLOCK

Approved for Circulation:

Signed: Date: 28th June, 2024

Prof. Christopher Obel-Gor (PhD-AgEcon), Principal Investigator
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Appendix 1: Attendance List

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
DIRECTORATE OF RESEARCH, INNOVATION AND EXTENSION

ATTENDANCE REGISTER

Meeting Title: Joint Stakeholders Meeting with LASI University, Romania
Date: May 31, 2024 **Venue:** EACCII **Time:** 8:00am

S/NO	Name	Designation	Email	Signature
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29.	Joseph Abuk	Student MSC	josephagak@gmail.com	[signature]
30.	Modak Oumer	Student MSc	mordouer@yahoo.com	[signature]
31.	Samuel Ohanga	JOOUST	sohanga@jooust.ac.ke	[signature]
32.				
33.				
34.				

2 | Page

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

ERASMUS CHAIN PROJECT

REPORT ON THE ERASMUS NEEDS ASSESSMENT FIELDWORK

COMPILED BY
MR. SAMUEL OHANGA – PROJECT MANAGER

APPROVED BY

PROF. CHRISTOPHER OBEL-GOR – PROJECT COORDINATOR

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EXECUTIVE SUMMARY

The Erasmus CHAIN project conducted comprehensive needs assessment fieldwork between Thursday, 7th December, and Wednesday, 29th December 2023 in eight Kenyan counties, namely Siaya, Kisumu, Kericho, Homa Bay, Migori, Bungoma, and Busia. The project aimed to understand the challenges faced by farmers and stakeholders in the agricultural value chain, with a focus on training, postgraduate education, and curriculum innovation. The findings are synthesized below:

KEY FINDINGS:

1. Regional Specifics:

- **Unique Agricultural Characteristics:** Each county exhibited unique agricultural challenges. For instance, Kisumu faced issues related to inadequate infrastructure, whereas Kericho grappled with rocky terrain and poor network coverage.

2. Postgraduate Education:

- **Dissatisfaction with Training:** Stakeholders expressed dissatisfaction with the quality of training and caliber of graduates in agriculture-related disciplines across various institutions.

3. Curriculum Recommendations:

- **Practical Training:** Stakeholders recommended an increased emphasis on practical, hands-on training, including extended farm internships to bridge the gap between theoretical knowledge and real-world application.
- **Innovation and Technology:** Integration of innovative modules, including digital agriculture and precision farming, was suggested. Collaboration with industry professionals for insights and guest lectures was deemed essential.

4. Industry Collaboration:

- **Enhanced Partnerships:** Stronger collaboration between educational institutions and agricultural industries was recommended to align curricula with the evolving needs of the sector. Continuous follow-up activities during student attachments were emphasized.

5. Entrepreneurial Skills:

- **Business and Entrepreneurship:** Participants stressed the importance of incorporating entrepreneurship and business skills into the curriculum. Understanding and optimizing value chains were seen as critical for preparing students for diverse roles in the agricultural sector.

6. Common Challenges:

- **Language Barrier:** Across counties, enumerators encountered challenges related to a language barrier during data collection, affecting effective communication with farmers.
- **Weather Conditions:** Adverse weather conditions, particularly heavy rains, posed challenges during fieldwork, impacting the movement of enumerators.

Recommendations:

1. Curriculum Enhancement:

- **Practical Emphasis:** Educational institutions should prioritize practical training, including extended internships, to provide students with hands-on experience.
- **Innovation Integration:** Curricula should be updated to include innovative modules, focusing on technology, digital agriculture, and entrepreneurship.

2. Industry-Academia Collaboration:

- **Partnership Development:** Educational institutions should foster stronger partnerships with agricultural industries, facilitating guest lectures, workshops, and continuous collaboration.

3. Standardization and Certification:

- **Standardized Curriculum:** A standardized curriculum for agriculture-related courses is recommended to ensure consistency and quality across institutions.
- **Certification Programs:** Consideration of certification programs, such as through a professional agriculture body, to ensure graduates meet industry standards.

4. Youth Involvement:

- **Encouragement of Clubs:** Encouraging 4k clubs and farmers' clubs at the primary and secondary school levels can nurture a passion for agriculture among the youth.

CONCLUSION:

The Erasmus CHAIN project needs assessment fieldwork unveiled valuable insights into the challenges faced by farmers and stakeholders in the Kenyan agricultural sector. The findings underscore the need for a holistic approach to curriculum development, emphasizing practical skills, technological integration, and collaboration between academia and industry. Standardization of curricula and certifications, along with youth engagement initiatives, are crucial for fostering sustainable growth in the agricultural sector.

The project expresses gratitude to all participants, enumerators, and stakeholders for their contributions, and recommends that these findings guide future initiatives aimed at enhancing agricultural education and sustainable development in Kenya.

FIELDWORK REPORTS PER COUNTY

MIGORI COUNTY

1. Introduction:

The fieldwork in Migori County aimed to assess the needs and challenges faced by farmers, with a focus on the agricultural sector. The report details interactions with county officers, farmers, and the involvement of Jaramogi Oginga Odinga University in conducting a Needs Assessment Survey.

2. Key Findings:

- Financial Assistance Demands: Farmers expected financial assistance for providing information, emphasizing the need for capital support.
- Government Expectations: Farmers demanded the government fulfill promises on subsidies, free seeds, and machinery to enhance the food value chain.

3. Wards Visited:

The visited wards, including Rongo Sub County, South, and Central Kamagambo, were agriculturally active, featuring sugar cane, maize, beans, and dairy farming. The climate was conducive to food production. Gold mining activities in Nyatike Sub County were also observed.

4. Focus Group Discussion - Training and Caliber of Graduates:

- Training Dissatisfaction (80%): Concerns about outdated courses, lack of mechanization, theoretical focus, and negative perceptions of agriculture as a career.
- Caliber Dissatisfaction (70%): Graduates were perceived as lacking skills, financial vision, innovation, and awareness of global agricultural trends.

5. Recommendations for Curriculum Enhancement:

- Mechanization and Capital Allocation: Government support for mechanization and capital allocation.
- Practical Focus: Courses to be 70% farm and market-based.
- Exposure and Internships: Agricultural expos, symposiums, and increased time for industrial attachments.

6. Postgraduate Graduates and Industry Value:

- Limited Value Addition (60%): Graduates seeking academic titles, negative attitudes towards farm work, and lack of technical skills for agricultural extension services.
- Recommendations: Capacitate students for entrepreneurship, emphasize practical fieldwork, and establish partnerships with international institutions.

7. Supervisor Engagements:

Dr. Mary played a crucial role in organizing meetings with administrative elders, chiefs, sub-chiefs, and county politicians. Additionally, she facilitated focus group discussions with county officials and provided valuable insights into weather and climate patterns.

8. Conclusion:

The Migori County Field Work Report highlights the pressing needs and challenges in the agricultural sector. Recommendations are presented to enhance training, innovation, and entrepreneurship in the curriculum, ensuring graduates contribute effectively to the agricultural industry.

9. Acknowledgments:

We recognize the collaboration and assistance provided by Migori County officers, farmers, Jaramogi Oginga Odinga University, and Dr. Mary Orinda.

10.Photos:


MPESA


LTD.
KAMAGAMBO AGROVET
ENTRANCE
AGROVET
M-PESA
EQUITY
CO-OP
PESA
CHEMIS
CHEMIS
INTERNET
MASHINANI
ENJOY FAST SPEEDS
WITH 4G SMARTBOX
10GB
Was Ksh
Now Ksh
5,500
DIAL *400#

BUSIA COUNTY

Executive Summary:

The JOOUST Erasmus Chain Project conducted a comprehensive fieldwork and focus group discussion in Matayos and Nambale sub-counties of Busia County. The aim was to address global food security concerns in the face of climate change and to create sustainable solutions for resilient farming systems. The report highlights the authorization process, engagement with county officials, fieldwork challenges, and the findings from the focus group discussion.

1. Authorization and County Engagement:

Authorization for the survey was obtained from the Deputy County Commissioner, as the County Commissioner was on official duty. Productive discussions were held with Mrs. Florence, the Deputy County Agricultural Officer, who facilitated contact with sub-county officers in Matayos and Nambale.

2. Fieldwork Challenges and Key Issues:

- Participant Appreciation: Some participants requested monetary appreciation, posing a challenge.
- Survey Encouragement: Positive engagement from farmers with valuable information; each household maintained a visitor's book.
- Practical Curriculum Demand: Ward agricultural officers emphasized the need for a more practical curriculum in the agriculture sector.

3. Wards Visited:

- Matayos Sub County: Bukhayo West, Busibwabo, Mundika Nasira Township, Lunga, Lwanya, Nangoma, and Mundika.
- Nambale Sub County: Bukhayo Central, Bukhayo East, Bukhayo North Township, and Walatsi.

4. Supervisor Involvement:

Supervisor Prof. Ochuodho played a crucial role in facilitating meetings, providing guidance, and joining the team during visits to Nambale Sub County. Continuous communication ensured a productive survey.

5. Focus Group Discussion and Findings:

The Erasmus Chain Project focused group discussion addressed the training and caliber of graduates in Agriculture and related fields. Key findings include dissatisfaction with theoretical training, lack of practical exposure, and limited skills among graduates.

6. Recommendations for Curriculum Enhancement:

- Practical Emphasis: Allocate 70% of the curriculum to practical farm and market-based practices.
- Exposure Opportunities: Provide exposure through agricultural expos, symposiums, and industrial attachments.
- Innovation and Entrepreneurship: Develop course units for practical farm work, encourage innovation, and foster entrepreneurship.
- Global Partnerships: Establish collaborations with international institutions for knowledge exchange.

7. Conclusion:

The report concludes with a call for a more innovative and entrepreneurial curriculum to address the identified gaps in the training and caliber of graduates in Agriculture. Recommendations aim to foster practical skills, creativity, and global exposure for graduates in the agricultural sector.

8. Acknowledgments:

The success of the fieldwork and focus group discussion is attributed to the cooperation and support received from county officials, participants, and Supervisor Prof. Ochuodho.

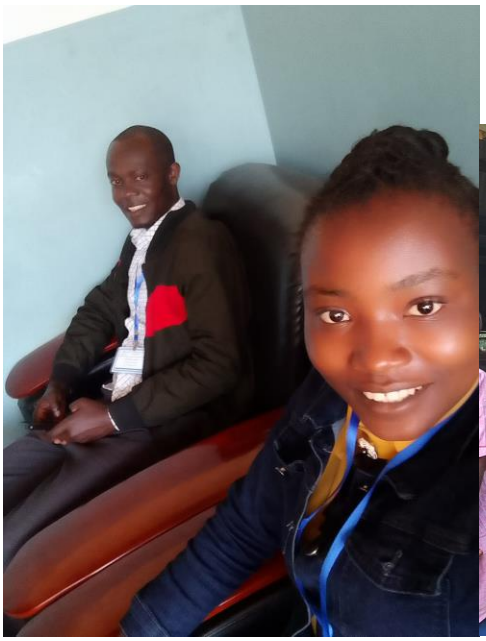
9. Appendices:

Include detailed data, charts, and graphs supporting the findings and recommendations presented in the report.

10. Report Authors:

- Petty Awino
- Jonah Otieno
- Research Assistants, Busia County

11. Photos:



Livestock officer Mr. Fredrick Otwane, to surprising innovation from a young Agri entrepreneur Graduate

the right and research assistant,
Madam Petty
during the fieldwork

Chicken Rearing for Egg Production

In the field together with our supervisor and livestock production officer Mr. Fredrick Notwane Nambale sub-county


Introductory meeting with Nambale sub county livestock production officer together with our supervisor Prof. Ochuodho


Focus Group Discussion

KISII COUNTY

DEDICATION

I express gratitude to the Almighty for good health and guidance in preparing this report. I dedicate this report to my parents, JOOUST staff, fellow ARs, and Supervisor Prof. Abeka for their unwavering support.

ACKNOWLEDGEMENT

I acknowledge the following individuals for their contributions:

- God, for keeping me healthy.
- Prof. Abeka, my supervisor, for support during the field period.
- The entire JOOUST crew for encouragement and support.
- ARs and the Jaramogi Oginga Odinga University of Science and Technology community.

ABSTRACT

This report documents the knowledge and skills acquired during fieldwork in Kisii County from December 8, 2023, to December 20, 2023. The objectives included acquiring and applying agricultural skills, networking, information sharing, and developing a cooperative attitude in project management.

CHAPTER ONE: INTRODUCTION

METHODOLOGY

Methods used during the attachment period:

- **Community Protocols:** Understanding community values, rights, and priorities.
- **Community Sensitization:** Emphasizing useful information on new or existing issues.
- **Community Entry Process:** Identifying and implementing programs, involving meetings with administrative and community leaders.
- **Community Partnerships:** Collaborating with organizations to address community priorities.
- **Counselling:** Client-counselor contract for encouragement and problem-solving.
- **Disaster Preparedness and Response:** Procedures and actions for potential calamities.

CHAPTER TWO: COMMUNITY PARTNERSHIPS

Community Partnerships

The process where organizations join forces with the community to accomplish tasks or solve problems. Emphasis on understanding community priorities is crucial.

Counselling

A client-counselor contract involving skills like SOLER (Sitting squarely, Open-ended position, Lean towards the client, Maintain eye contact, Be relaxed).

Disaster Preparedness and Response

Procedures laid down for readiness and actions taken during disasters to minimize casualties.

CHAPTER THREE: CHALLENGES

- **Language Barrier:** Difficulty in understanding Abagusii; resolved through introducing a translator.
- **Hostility:** Some individuals were unresponsive; addressed through improved engagement.
- **Weather:** Heavy rains affected activities and travel.
- **Technical Terms:** Some terms took time to understand, impacting knowledge acquisition.

CHAPTER FOUR: CONCLUSION AND RECOMMENDATION

CONCLUSION

Research is essential for skill-building in agriculture. Students should prioritize and invest efforts in research to understand community challenges and provide effective solutions.

RECOMMENDATIONS

1. Hire skilled agricultural officials within communities.
2. Promote agricultural education among the youth.
3. Invest more in agriculture to prevent complications and save resources.
4. Provide ARs with umbrellas for fieldwork.
5. Encourage networking in communities to improve the agricultural sector amid challenges.

CHAPTER FIVE: BIOGRAPHY AND REFERENCES

1. Field supervisors' reports.
2. Notebooks.

BUNGOMA COUNTY

INTRODUCTION

The Erasmus Chain Project fieldwork activities for Bungoma County commenced on 7th December 2023, with research assistants Ms. Wa'asumwa and Mr. Nyawina under the supervision of Prof. Matilda Ouma. The data collection involved visiting Bungoma Central and Bumula sub-counties, covering locations like Nalondo, Bwake, Luuya, Nangwe, Sirare, Lunao, and Bumula. The process was successful, and key observations and challenges were noted.

Key Observations:

1. **Material Appreciation Expectation:** Most respondents expected material appreciation for participating in the interviews, although the research was conducted solely for academic purposes.
2. **Diverse Soil Type:** The soil in the region supports various crops such as maize, sorghum, millet, cassava, sugarcane, rice, etc., allowing farmers to diversify their activities.

Challenges Experienced by Farmers:

1. Climate variability
2. Financial constraints
3. Market price fluctuations
4. Inadequate input supply
5. Changes in market demands

Throughout the data collection process, Prof. Matilda Ouma provided invaluable support.

Attached below are pictorials taken during the data collection process.

Report on Agricultural Education and Recommendations for Improvement

Introduction: Agricultural education plays a pivotal role in shaping the future of the industry by producing graduates equipped with the necessary skills and knowledge. However, there are concerns and challenges that need to be addressed to ensure the effectiveness of agricultural education programs.

Graduate Satisfaction and Practical Implementation: Farmers generally express satisfaction with the knowledge and skills possessed by agricultural graduates. However, a notable concern is the perceived disconnect between farmers and agricultural officers, emphasizing a need for better collaboration and understanding of mutual responsibilities. While graduates are valued for sharing new knowledge, practical implementation may sometimes be lacking. Financial constraints further hinder the prompt implementation of lessons learned, leading to a gap between theory and practical application. There are also concerns about the shift from practical field days to more theoretical teachings.

Recommendations for Postgraduate Curriculum: At the postgraduate level, there is a consensus on the need for diversification in crops taught, with a strong emphasis on practical aspects. The curriculum should address important elements such as understanding cropping calendars, market searching, nutrition, crop protection, and livestock breeding. Specific challenges, like those faced during tasseling in maize farming, should be addressed, and effective pest control solutions provided. Additionally, recommendations include solving market-related issues, promoting consistency in planting, and enhancing trust in common interest groups. Tailoring crop-specific demonstrations for farmers to prevent losses is also deemed essential.

Contribution of Postgraduate Graduates to the Industry: Limited interaction with recent postgraduate graduates has led to a perception that they may not contribute significantly to the agricultural sector. There is a recognized lack of active engagement and encouragement for youth to enter the agriculture sector, emphasizing the need for increased efforts in empowering farmers and promoting activities like kitchen gardens. Some stakeholders express concerns that current graduates may lack the passion to assist farmers compared to previous generations.

Innovative and Entrepreneurial Curriculum Recommendations: To make the curriculum more innovative and entrepreneurial, several recommendations have been proposed. Emphasizing the formation of common interest groups with commercialized ventures is one such suggestion. Graduates should be prepared for self-reliance, whether through employment or entrepreneurship. Teaching graduates how to form community-based organizations (CBOs) for income-generating ventures is seen as a crucial aspect of enhancing entrepreneurial skills within the agricultural sector.

CONCLUSION

In conclusion, addressing the concerns raised and implementing the recommended changes in agricultural education will contribute to producing graduates who are not only knowledgeable but also adept at practical implementation and entrepreneurial endeavors. Collaboration between academia and the agricultural industry is essential to bridge the gap and ensure that graduates play a significant role in the sustainable development of the agricultural sector.

RECOMMENDATIONS

1. Hire skilled agricultural officials within communities.
2. Promote agricultural education among the youth.
3. Invest more in agriculture to prevent complications and save resources.
4. Provide ARs with necessary resources for fieldwork.
5. Encourage networking in communities to improve the agricultural sector amid challenges.

PHOTOS:

Maize plantation in Luuya village. ***Maize plantation in Esirare village.***

Rice plantation in Lunao Village,

Bumula sub-county.

Focus Group Discussion

References:

1. Field supervisors' reports.
2. Notebooks.

KISUMU COUNTY

1. **Introductory Meeting with County Officers**

This report details the key aspects of the introductory meeting held with Kisumu County officers. The meeting aimed to establish collaboration, define roles, and secure support for the upcoming ERASMUS CHAIN project. Participants included ERASMUS CHAIN project team representatives Ruth Ochuodho and Vivian Atieno, alongside prominent county officers such as Mr. Joel (area chief) and Mr. Abuga (village head).

Agenda:

- **Introduction and Purpose:** Clarification of the collaborative nature and objectives of the research.
- **Research Initiative Overview:** Presentation of ERASMUS CHAIN project goals, methodology, and anticipated outcomes.
- **Engagement and Consultation:** Opportunities for county officers to express expectations, concerns, and insights.
- **Identification of Key Stakeholders:** Discussions on key stakeholders within the county administration.
- **Resource and Data Accessibility:** Clarification on resource and data availability for the research.

Key Outcomes:

- **Endorsement and Support:** County officers expressed endorsement and support for the research initiative.
- **Alignment of Objectives:** A shared alignment of objectives between ERASMUS CHAIN and county officers was established.
- **Collaborative Opportunities:** Identified opportunities for collaboration and synergy between the project team and county departments.
- **Commitment to Coordination:** Both parties committed to regular coordination meetings for ongoing communication.

Conclusion: The meeting successfully laid the groundwork for a collaborative framework, ensuring positive engagement and shared objectives.

2. **Key Issues During Fieldwork**

a. Limited Access to Information:

- Many residents in rural areas had limited access to information, hindering effective communication.
- Information gaps affected the depth and accuracy of data collection.

b. Language Barriers:

- Language differences created communication challenges between the research team and the local community.
- Limited translation services impacted effective engagement and information gathering.

c. Trust Building:

- Establishing trust within the community proved time-consuming, requiring additional effort to build rapport.

d. Logistical Constraints:

- Limited infrastructure posed challenges in team transportation, exacerbated by unpredictable weather conditions.
- Interruptions in data collection occurred due to community gatherings and local festivals.

e. Limited Infrastructure:

- Inadequate infrastructure, including unreliable electricity, posed challenges in real-time data processing.

Lessons Learned:

- The importance of community engagement and trust-building.
- Meticulous planning for logistical contingencies is crucial.
- Cultural competence in research methodologies is necessary.

Recommendations:

- Prioritize community engagement activities.
- Invest in language proficiency or employ local translators.
- Develop contingency plans for logistical challenges.
- Incorporate cultural sensitivity training for research teams.

- Utilize innovative data collection methods considering local dynamics.

Conclusion: Despite challenges, the fieldwork provided valuable insights, emphasizing the need for adaptability and careful planning.

3. **Information on Visited Wards During Assessment**

Nyando Sub County:

- **Geographic Location:** Eastern part of Kisumu County, including locations like Kadibo, Kawino, Kochieng, Kobura, Awasi, and others.
- **Demographic Overview:** Heavily populated, with a mix of age groups and predominantly Luo community.
- **Economic Activities:** Agriculture, with crops like rice, maize, and sugarcane being the main sources of income.
- **Infrastructure:** Limited roads, reliance on motorbikes, and poor sanitation in flooded areas.

Nyakach Sub County:

- **Geographic Location:** In Kisumu County, including locations like Upper Nyakach, Sigoti, Koguta, Bolo, and others.
- **Demographic Overview:** Heavily populated, with a mix of age groups and predominantly Luo community.
- **Economic Activities:** Mainly agriculture, with maize being the primary crop.
- **Infrastructure:** Good roads, reliance on public transport and motorbikes, and electricity in both business centers and villages.

4. **Insights from Focus Group Discussions**

Topic #1: Training and Caliber of Graduates in Agriculture

- **Training Satisfaction:** 80% expressed dissatisfaction with the nature and quality of agricultural training.
- **Caliber Concerns:** 70% were dissatisfied with the caliber of agricultural students, citing lack of practical skills and innovation.

Recommendations:

- Government support for mechanization.
- Regular agricultural science congresses for innovative ideas.
- A shift to 70% field-based coursework.
- Exposure to agricultural expos and symposiums.

- Increased time for agricultural internships.

Topic #2: Postgraduate Graduates Adding Value to Agriculture

- **Value Addition:** 60% felt postgraduate graduates add little value, citing academic pursuits over practical application.
- **Challenges:** Lack of practical skills, innovation, and a disconnect from governance and policies were highlighted.

Recommendations:

- Capacitation for turning ideas into ventures.
- More practical fieldwork in the curriculum.
- Universities owning agricultural firms for hands-on training.
- Global partnerships for knowledge exchange.

5. **Engagement with Supervisors During Fieldwork**

- **Supervisor:** Professor Gor.
- **Involvement:** Provided advice, organized focus group discussions, and ensured team safety.
- **Continuous Communication:** Kept in touch with the team's whereabouts and progress.

Attachments:

1. **Photos:**

Focus group discussion at KALRO

Enumerator Ruth engaging a farmer in the field

Enumerator Vivian collecting data in the field

HOMA BAY COUNTY

1. **Introductory Meeting with County Officials**

The data collection process commenced on December 7th, 2023, with an introductory meeting in the office of Mr. Ibrahim Buge, the Director of Agriculture for Homa Bay County. The objective was to familiarize ourselves with Mr. Buge, clarify the purpose of our visit, and seek approval for data collection in Dhiwa and Rachuonyo East sub-counties.

Meeting Highlights:

- Successful courtesy visit to Mr. Ibrahim Buge.
- Clarification of the research intention and approval obtained.
- Permission granted for data collection in Dhiwa and Rachuonyo East sub-counties.

2. **Data Collection in Various Locations**

During the data collection exercise, we visited multiple locations, including Kasipul East, Kojwach, Kabondo, Kakelo, Atela, Kojwach East, and Kokwanyo West. Farmers generally expected benefits from sharing information, although some expressed disappointment after completing the questionnaire.

Challenges Identified:

- Unique soil challenges in Kojwach's Kopana village.

- Dissatisfaction among banana farmers in Kabondo due to a lack of market.
- Farmer mentality challenges in Kokwanyo West regarding sandy soil.

Solutions and Success Model:

- Addressing soil challenges through expert assistance and testing.
- Exploring alternative crops suitable for specific soil types.
- Emphasizing proper training and market access for banana farmers.

3. **Sub-County Comparisons: Ndhiwa and Rachuonyo East**

- **Ndhiwa Sub-County:**
    - Striga weed affecting maize yields, lacking intervention.
    - Unsuitable soil and waterlogged conditions, proposing dyke construction.
- **Rachuonyo East Sub-County:**
    - Farmers in Kawere lacking knowledge on suitable crops for specific soil types.
    - Shortage of Agricultural Extension Officers and agricultural graduates.

Common Challenges:

- Lack of Agricultural Extension Officers.
- Shortage of agricultural graduates.
- Reluctance to access expensive services from existing organizations.

Recommendations:

- Address the shortage of Agricultural Extension Officers.
- Enhance accessibility of services to farmers.
- Encourage agricultural graduates' involvement in the community.

4. **Supervisor Support and Conclusion**

Throughout the data collection, Professor Okuto Erick provided valuable support, monitoring progress, resolving issues, and facilitating focus group discussions. Gratitude is extended for his guidance and expertise.

5. **Feedback from Focus Group Discussion**

The forum, held on December 14th, 2023, involved stakeholders from Dhiwa and Rachuonyo East sub-counties. Dissatisfaction with the quality and practical knowledge of agricultural graduates was expressed, with suggestions for curriculum updates, exposure to fieldwork, and awareness programs on crops, diseases, and soil types.

Recommendations from FGD:

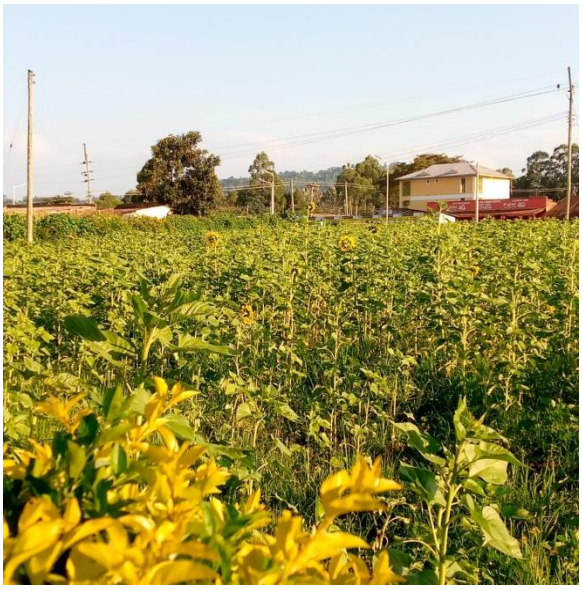
- Curriculum updates to include practical fieldwork units.
- Awareness programs on crops, diseases, and suitable soils.
- Emphasis on technological knowledge and climate impact on agriculture.

Attachments:

1. **Photos:**
    - Sunflower farming in Kakelo Dudi.
    - Tea farming in Kakelo Dudi.
    - Various photos from data collection.

Report Compiled by: Dorine Otieno and Roline Ongesa, Homa Bay County Enumerators.

FGD in Homa bay County



Sunflower farming in Kakelo Dudi

Tea farming in Kakelo Dudi

KERICHO COUNTY

1. County Overview:

- **Location:** Kericho County, Kenya
- **Area:** 2,111 km²
- **Population:** 901,777 (2019 census)
- **Geography:** Gentle slopes, ranging from 2500m to 1800m above sea level, surrounded by hills.
- **Climate:** Temperature between 10C to 29C, rainfall varies across regions.
- **Administrative Divisions:** Six sub-counties, 30 wards, 85 locations, and 209 sub-locations.

2. Wards Visited:

- **Londiani Ward:**
    - Tea plantations contribute significantly to the economy.
    - Covers Jagoror, Kipsirichet, Tuiyobei, Masita, and Saramek sub-locations.
- **Kipkelion Ward:**
    - Diverse sub-locations including Kalyet, Siret, Barsiele, Segetet, Tingóro, Macheisik, Tombo, Kipkelion town, Kipkelion North, Kapkwen, Matarmat, and Lesirwa.

3. Key Issues and Challenges:

- **Challenges Faced:**
    - Language barrier.
    - Adverse weather conditions (heavy rains).
    - Challenging terrain, especially rocky hills.
    - Poor network coverage in remote areas.
- **Supervisor Engagement:**
    - Regular communication with Professor Abeka via phone calls and WhatsApp group.
    - Network challenges addressed by saving data in drafts and sending it at the end of the day.
    - Guidance from Professor Abeka in selecting participants for the Focus Group Discussion (FGD).

4. Focus Group Discussion (FGD) Report:

- **Participants:**
    - Agriculture professionals, consultants, students, farmers, enumerators, and coordinators.
- **Discussion Topics and Recommendations:**
    - **Q1: Satisfaction with Training:**
        - Most participants expressed dissatisfaction with the training of agriculture graduates.
    - **Q2: Postgraduate Curriculum Recommendations:**
        - Practical hands-on training through extended farm internships.

        - Encouragement of innovation, integration of technology, and ICT skills.
        - Continuous supervision and mentorship during attachments.
    - **Q3: Value Addition by Postgraduate Graduates:**
        - Majority felt current postgraduate graduates are not adding sufficient value to the industry.
    - **Q4: Making Curriculum Innovative and Entrepreneurial:**
        - Industry collaborations, stronger partnerships, and guest lectures.
        - Entrepreneurship and business skills integration.
        - Inclusion of professional agriculture body training before entering the job market.
- **Additional Recommendations:**
    - Standardization of the curriculum for agriculture-related courses.
    - Encouragement of 4k clubs and farmers' clubs at the primary and secondary school levels.

5. Conclusion and Acknowledgments:

- **Conclusion:**
    - Participants provided valuable insights into improving the agriculture curriculum to better serve industry needs.
- **Acknowledgments:**
    - Gratitude to Professor Abeka for guidance and facilitation during the fieldwork and FGD.

6. Enumerators and Stakeholders Engagement:

- **Photos:**
    - Enumerators and stakeholders during the FGD.
    - Enumerators with maize farmers after an interview.
    - Managers of Masipun and Kimologit Coop Societies during interview sessions.

7. Report Prepared by:

- **Enumerators:**
    - Esther Akinyi Oruko
    - Noah Kemboi

Enumerators and Stakeholders engagement during a Focus Group Discussion

Enumerators and maize farmers posing for a picture after an interview

Manager Masipun Coop Society during an interview session

Manager of Kimologit Farmers Coop Society during an interview session

SIAYA COUNTY

Introduction

The Erasmus Food Value Chain project in Siaya County commenced on December 7th, 2023, with research assistants Ms. Sharon Kudha, Thaddius Odera and Tabitha Dorca under the guidance of Prof. Erick Okuto. The project focused on Bondo and Gem sub-counties within Siaya County, encountering both successes and challenges during the data collection process.

Positive Engagements:

- **Successful Visitation:** Various locations in Bondo and Gem sub-counties, including Bondo township, West Sakwa, North Sakwa, Usigu, Yala, Wagai, South Gem, Yala township, West Gem, and South West Gem, were visited, and respondents positively engaged with the presented questions.
- **Farmer Enthusiasm:** Despite financial constraints limiting their agricultural pursuits, farmers displayed passion and knowledge about agriculture. They expressed a desire for empowerment to enhance their farming practices.

Agricultural Successes:

- **Fertile Lands in Yala:** Yala stood out for its fertile land, leading to successful agriculture. Farmers in Yala showcased significant banana and maize plantations, forming the backbone of their livelihoods.
- **Eager Learning:** Farmers, particularly in Yala, were eager to learn about climate-smart agricultural practices, demonstrating a commitment to sustainable food security.

Challenges Faced by Farmers:

- **Financial Constraints:** Farmers across visited areas faced financial challenges hindering them from fully realizing their agricultural potential.
- **Climate Change Impact:** Climate change issues, including unpredictable weather patterns, posed a significant challenge to farming activities.
- **Market Price Fluctuations:** Farmers grappled with fluctuations in prices, impacting their income and stability.
- **Political Instability:** The farmers cited political instability within the country as a hindrance to their agricultural endeavors.
- **Government Policies:** Poorly formulated government policies were identified as an obstacle, prompting a call for university-led initiatives to address these challenges.

Acknowledgment and Conclusion:

- **Supervisory Support:** Prof. Erick Okuto's unwavering support contributed to the success of the project, and his guidance was instrumental.
- **Overall Positive Experience:** Despite challenges during data collection, enumerators found the Erasmus Food Value Chain project in Siaya County to be a valuable learning experience.
- **Aspirations for Future Collaboration:** The enumerators express a desire to continue working with the Jaramogi Odinga Oginga University Erasmus team in the future.

Recommendations:

- **Empowerment Initiatives:** Consider university-led empowerment programs to support farmers financially and address their agricultural passion.
- **Policy Formulation:** Collaborate with the University to develop farmer-centric policies addressing financial constraints, climate change, market fluctuations, and political instability.

The Siaya County Erasmus Food Value Chain project, though marked by challenges, provided essential insights. The recommendations aim to enhance agricultural practices and empower farmers for sustainable and resilient farming in the future. The enumerators look forward to continued collaboration with the university team for further impactful initiatives. Attached are photos capturing moments during the fieldwork.

LIST OF SUPERVISORS AND ENUMERATORS

ENUMERATORS

No	County	Enumerator
1	Siaya	Tabither Akoth
2		Sharon Kudha
3		Thaddius Odera
4	Homabay	Roline Ongesa
5		Dorine Otieno
6	Kisumu	Vivian Atieno
7		Ruth Ochuodho
8	Migori	Lamech Orinda
9		Lavender Akoth
10	Bungoma	Sharmwey Wasumwa
11		Charles Nyawina
12	Kisii	Ethna Nyangweso
13		Henry Omolo
14	Busia	Petty Otieno
15		Jonah Orinda
16	Kericho	Kemboi
17		Esther Oruko

SUPERVISORS

Supervisor	County
Prof. Christopher Gor	Kisumu
Prof. Denis Ochuodho	Busia
Prof. Erick Okuto	Siaya
Prof. Erick Okuto	Homa Bay
Dr. Mary Orinda	Migori
Prof. Silvance Abeka	Kericho
Prof. Silvance Abeka	Kisii
Dr. Matilda Ouma	Bungoma

Approved for Circulation:

Signed:  Date: 2nd January, 2024

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SOUTH EASTERN KENYA UNIVERSITY

STAKEHOLDERS ENGAGEMENT FOR THE PROPOSED MSc. FOOD VALUE CHAIN MANAGEMENT CURRICULUM HELD ON 22ND AUGUST 2024

STAKEHOLDERS ENGAGEMENT REPORT FOR THE PROPOSED MSc. FOOD VALUE CHAIN MANAGEMENT CURRICULUM HELD ON 22ND AUGUST 2024

Venue of the stakeholders' engagement: Virtual

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1. Background and Objectives

The South Eastern Kenya University (SEKU), School of Agriculture Environment Water and Natural Resources of South Eastern Kenya University (SEKU) conducted a stakeholders' engagement on 22nd August 2022 to determine whether the proposed MSc. Programme in Food Value Chain Management sufficiently addresses the needs of the market/employers. The MSc. program is intended to prepare proficient, highly skilled and innovative agribusiness and value chain experts capable of leading the commercialization of the country's agriculture in light of the dynamic nature of consumers' demand. A total of 19 participants drawn from 11 institutions were involved. Earlier, other institutions including banks, County Ministry of Agriculture, Faith Based Organizations, Non-governmental Organizations and Supply Chain Actors, International Institutions and Farmers' Cooperatives had been involved in a Focus Group Discussion to establish the needs of the market in terms of training in holistic Agriculture and food value chains.

2 Members present and institution represented

1. Dr. Benjamin Muli [SEKU]
2. Dr. Joseph Nzomoi [SEKU]
3. Dr. Joshua Matata [SEKU]
4. Ms. Joyce Lochuch [SEKU]
5. Mr. Benard Mweu [SEKU]
6. Prof. Elliud Muli [SEKU]
7. Prof. Thomas Akuja [SEKU]
8. Dr. Charles Ndung'u [SEKU]
9. Dr. Esther Matuku [Machakos University]
10. Ms. Emily Kitheka {Kenya Forestry Research Institute [KEFRI]}
11. Ms. Fidelia Mwende World Food Programme [WFP]
12. Mr. Isaac Kamweru {International Crops Research Institute for the Semi-Arid tropics [ICRISAT]}
13. Mr. John Mutua [Anglican Development Services-Eastern[ASDE]}
14. Mr. Richard Kising'u [UNWFP]
15. Dr. Lorna Migiro [United States Department of Agriculture, USDA]
16. Mr. Paul Nzuki [Bank]
17. Mr. Peter Saitoti CARITAS [Faith Based Organization]
18. Mr. Vincent Musembi [NZAMKA cooperative society]
19. Mr. Richard Mutinda Nzioka [Supply Chain Company [Makamithi Agrovet]

3. Brief about South Eastern Kenya University

The general information about SEKU was presented as follows:

1. South Eastern Kenya University "SEKU" is a public University established by a Charter granted in 2013
2. Main campus is located in Kwa Vonza, Kitui County, Kenya, about 170 Km from Nairobi
3. It lies on approximately 10,000 acres of land in a serene environment conducive for learning
4. SEKU has six (8) schools through which the mandate of the University is actualised:
    i. School of Agriculture, Environment, Water and Natural Resources
    ii. School of Business and Economics
    iii. School of Education
    iv. Humanities and Social Sciences
    v. School of Engineering and Technology
    vi. School of Health Sciences
    vii. School of Science and Computing
    viii. School of Law

3.1 Vision of South Eastern Kenya University

To be a globally competitive Centre of Excellence in Teaching, Research, Innovation and Service

3.2 Mission of South Eastern Kenya University

To provide quality education through teaching, research, extension, innovation and entrepreneurship with emphasis on food security, health, engineering and natural resource management.

3.3 Philosophy of the University

Transforming lives and improving the environment from arid to green through innovative teaching, research and community service.

3.4 Core Values

1. **Professionalism:** In all our actions and interactions, we shall maintain ethical behaviour, courtesy and professional etiquette
2. **Innovation:** Innovativeness shall be the hallmark of our business activities through fostering pro-activeness, creativity, and adaptability to change
3. **Integrity:** We shall be honest, transparent and accountable always
4. **Freedom of thought:** We shall promote and defend academic freedom

5. **Teamwork:** We shall maintain a sense of unity and of common interests and responsibilities
6. **Respect** for and conservation of the environment: We shall strive to respect and protect the natural and working environment

3.5 Core Mandate:

Teaching and learning, research and Innovation, outreach and community service.

4. Background of CHAIN Project

A brief background about CHAIN project was presented as follows:

4.1 Full name

Cooperation for Holistic Agriculture Innovation Nests in Sub-Saharan Africa [CHAIN]

4.2 Partners implementing CHAIN project

That CHAIN is a joint project comprising of: Three Universities in Europe, namely: University of Applied Sciences Weihenstephan-Triesdorf [HSWT], Ion Ionescu De La Brad" Iasi University of Life Sciences (IULS) and Wroclaw University Of Environmental And Life Sciences (UPWr); Six Universities in Africa, namely: Jaramogi Oginga Odinga University of Science and Technology (JOOUST) in Bondo, Kenya; South Eastern Kenya University (SEKU), Kitui, Kenya; University of Lome (UL), Togo; University of Kara (UK), Togo; Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI), Ikwo, Nigeria and Federal University of Technology (FUTMINNA), Minna, Nigeria; and an NGO (Farming Systems Kenya).

4.3 General objective of the CHAIN project

To modernize agricultural education in Togo, Nigeria and Kenya by fostering a more holistic and human-centered approach to agricultural education, training and innovation.

5. Need assessment report

A needs assessment report was presented to the stakeholders. Emphasis was laid on the following areas:

5.1 Background

The Goal of the Needs Assessment Survey was to determine whether the academic programme sufficiently addresses the needs of the market.

Participants were informed that in developing the curriculum,

1. A curriculum development committee was constituted to spearhead the process.
2. consideration was given to the requirements of
    (i) Commission for University Education (CUE)
    (ii) University Guidelines and Standards (2014),
    (iii) SEKU Academic Programme Development Policy, and
    (iv) SEKU ISO 9001-2015 Standards.

5.2 Methodology

Participants during the stakeholders' engagement were taken through the methodology used to carry out the needs assessment. Below is an outline of the methodology:

a. Application of multiple methods of data collection and analysis
b. Online survey: Use of semi-structured questionnaires and interviews
c. Benchmarking: Six HEI in Africa
d. Desktop literature review: relevant legislation, standards and guidelines
e. Engagement of relevant stakeholders

5.3 Findings

To have a glimpse of the general feeling of the respondents of the needs assessment survey, the findings of the needs assessment were presented to the stakeholders. The following key areas/findings of the needs assessment we emphasized:

1. Justification for MSc. Food Value Chain Management

   The Kenya government's policy concerning agricultural transformation, coupled with the world's complex and competitive business environment, necessitates the need for highly qualified and capable professionals in the fields of agribusiness and value chain management. A significant disparity exists between the capabilities demanded by the intricate and dynamic business processes within agribusiness organizations. The proposed programme is intended to enhance the quality of graduates to better handle current and emerging issues in food safety and quality through the value chain and at the regulatory level.

2. Recommendations on MSc. Food Value Chain Management

   i. Eighty one percent (81%) of the respondents were satisfied that the proposed units are adequate. The 21% of the respondents who were not satisfied with adequacy of the proposed units suggested the following:
   ii. Need to include a course in data analysis and food logistics
   iii. The proposed units assume that crops and livestock are the only food. It would be good to explore other food sources and include them in the value chain. These include insects, aquatic food among others.
   iv. The aspect of commercialization and innovation should be seen in the units as is in the introductory statement.

v. How will the graduate of this programme impact the community? There is need for development of content on this in one of the unit. All farmers need this information, but cannot enroll for MSc.
vi. There is need to infuse Food safety (along the food chain)
vii. Macro and micro Economics ,Statistics ,Econometrics
viii. Preferred name for the program to be Master of Science in Food Value Chain Management

6. Presentation of curriculum

6.1 The title of the proposed programme

The proposed programme title shall be Master of Science in Food Value Chain Management

6.2 Philosophy of the proposed Programme

The philosophy of the Master of Science in Food Value Chain Management is to develop skills and innovative solutions through research and commercialization of the agri-food sector

6.3 Goal of the Programme

The programme to develop skilled highly competent and creative professionals who can spearhead the nation's commercialization in response to ever-changing consumer demands

6.4 Expected learning output

By the end of the programme learners should be able to:

a) Evaluate advances of approaches and practices in food value chain management.
b) Apply acquired skills and knowledge in agri-preneurship and food processing
c) Design and carry out research on food value chains.
d) Design / or manage food value chain programs

6.5 Mode of delivery of the program

The mode of delivery shall be face to face and blended learning

6.6 Admission requirements

The following shall be eligible for admission for the degree Master of Science in Food Value Chain Management

(a) A holder of a Bachelor's degree in Agriculture or related Agricultural discipline with at least Second Class Honours (Upper Division) of South Eastern Kenya University, or equivalent qualification from an institution recognized by Senate
OR

(b) A holder of a Postgraduate Diploma in Agricultural Science of at least Credit or equivalent qualification from an institution recognized by Senate
OR
A holder of a Bachelor's degree in Agriculture or related Agricultural discipline with at least Second Class Honours (Lower Division) of South Eastern Kenya University, or equivalent qualification from an institution recognized by Senate with additional relevant 2 year work experience since graduation with a Bachelor's degree.
OR

(c) Any alternative qualifications recognized by the South Eastern Kenya University

6.7. Units of the MSc. Programme

There are 12 units distributed across the 2 years as follows:

Year 1 Semester 1

1. AFVC 600 Food value chain management
2. AFVC 601 Food processing technology
3. AFVC 602 Research methods in agribusiness and value chains
4. AFVC 603 Agripreneurship and product development
5. AFVC 604 Food quality management
6. AFVC 605 Gender and value chain management

Year 1 Semester 2

7. AFVC 606 Food economics
8. AFVC 607 Project planning and management
9. AFVC 608 Digital technologies for agri-food systems
10. AFVC 609 Sustainability of commodity and food value chains
11. AFVC 610 Crop, livestock and fish value chain management
12. AFVC 611 Seminars in agribusiness and value chain management

Year 2

13. AFVC 612 Thesis

A brief explanation of the purpose/main objective of each proposed unit was presented to the audience as detailed below:

1. AFVC 600: Food value chain management. Goal: To provide skills and knowledge required to manage food value chains.
2. AFVC 601: Food processing technology. Goal: o provide advanced knowledge and practical skills in food processing technologies)
3. AFVC 602: Research methods in agribusiness and value chains. Gaol: To familiarize students with concepts and principles of agribusiness and value chain research to enable them to conduct research in food value chain management)

4. AFVC 603: Agripreneurship and product development. Goal: To equip learners with skills and knowledge in product development and marketing)
5. AFVC 604: Food quality management. Goal: To provide learners with skills and techniques for safeguarding product quality along the value chain.
6. AFVC 605: Gender and value chain management. Goal: To equip learners with skills and knowledge on gender equity in food value chain management.
7. AFVC 606: Food economics. Goal: To expose learners to the theory and practice of fundamental issues impacting food security)
8. AFVC 607: Project planning and management. Goal: To equip learners with knowledge and skills to undertake Food Value Chain Project Planning Management, Monitoring, Evaluation and Learning)
9. AFVC 608: Digital technologies for agri-food systems. Goal: To equip students with cutting-edge knowledge and practical skills in applying digital technologies in the agri-food sector.
10. AFVC 609: Sustainability of commodity and food value chains. Goal: To equip learners with skills to apply principles of sustainable food production and agro-ecosystems management in food value chains)
11. AFVC 610: Crop, livestock and fish value chain management. Goal: To impart skills and knowledge required to manage key food value chains)
12. AFVC 611: Seminars in agribusiness and value chain management. Goal. To impart knowledge on contemporary issues in agribusiness and value chain management)
13. AFVC 612: Thesis. Goal: To equip learners with skills to develop research proposal and execute research.

7. Plenary Session

The Stakeholders' unanimously agreed that the MSc. Food Value Chain Management programme was adequate in form and content and was timely in response to food insecurity issues facing the country and Africa as a whole.

Some specific questions/comments are shown below:

S. No.	Question/comment	Reaction/response
1	There was a concern whether the programme will be offered only at the main campus or it can be offered to satellite campuses to take care of the employed cadre of students?	It will be offered in all campus except where practicals will be required, they will need to be carried out at main campus
2	There was concern whether departments	The answer was yes. IT was further noted that a

	dealing with Food Technology were involved in the development of of the programme	Food Scientist was present in the stakeholders' workshop.
3	A question was asked about the scope/extent to which the unit on Digital Technologies for Agri-Food Systems unit will cover	The course unit will cover all digital technologies along the food value chain starting from pre harvest to processing
4	It was also proposed that artificial intelligence need to be captured in the on Digital Technologies in Agrifood Systems.	Agreed with the proposal
5	AFVC 611: Seminar in Agribusiness and Value Chain Management**:** Proposed that aspects of communication and awareness to be included	Agreed with the proposal
6	It was proposed that AFVC 605: Gender and value chain management should include aspects of climate innovation, continental framework, Agricultural policies, post-harvest management	Agreed with the proposal
7	There was a concern whether Statistics/Econometrics was captured in the units to be offered	Stakeholders were informed that aspects of econometrics were captured in AFVC 606: Food Economics and aspects of statistics were captured in AFVC 602: Research methods in Agribusiness and food value chains
8	There was a question on how Seminar in Agribusiness and Value Chain Management will be graded?	Participants were informed that grading will be done through group discussions and presentations, continuous assessment and the pass mark to be 50%
9	Proposed incorporating proposal development in Y1 and further development in year 2	Research methods in agribusiness and value chains in Y1 captured proposal development
10	There was a concern whether aspects of Indigenous food value chain management and youth are captured in the curriculum.	Gender covers all aspects of age
11	It was also proposed that the title for	Agreed to check on the possibility of improving

	AFVC 605 to be Gender mainstreaming and value chain management	the unit title.
12	One stakeholder wanted to know whether there was another Masters in programme Agribusiness? To avoid duplication	There is no Masters programme in Agribusiness but there are other programmes namely: Agricultural Resource Management; and Agricultural Economics
13	Suggested that aspects of disability and inclusion needed to be included	Agreed with the proposals
14	Proposed that students can be encouraged to take an online course and get certificate on statistics and economics	Agreed with the proposal
	Complimented the Unit on Digital technology	
15	AFVC 610: Need to capture aspects of sanitary aspects	Agreed with the proposal
16	Whether aspects of pest management are captured	Agreed to check and captured if they are not there

CONSULTATION WITH FARMERS AND MINISTRY OFFICIALS BEFORE DRAFTING THE CURRICULUM FOR MASTER DEGREE IN FOOD VALUE CHAIN AT FUT MINNA, NIGERIA

There were consultations with the farmers and the Ministry of Agriculture officials before drafting the curriculum for the Master Degree in Food Value Chain Management. Organizing consultations and round table discussions with key stakeholders such as farmers, industry representatives, and the Ministry of Agriculture is crucial when designing a Master's degree program in Food Value Chain Management because it will help ensure that the program meet the needs of the industry, aligns with the State, national and regional agricultural goals, and equip graduates with relevant skills.

The needs assessment aim to create a comprehensive understanding of the needs and expectations from various stakeholders. The feedback gathered will be invaluable in designing a Master's degree program that is relevant, practical, and aligned with the demands of the food value chain industry.

The approach is bottom-up, not top down to ensure that it was demand driven. During the round table discussions, our team presented the rationale behind the establishment of the program. The questions that guided the needs assessment framework during the consultations include the following:

Stakeholder Mapping/Identification

The first step was Stakeholder Mapping/Identification. Our team identified the following stakeholders:

- ✓ Farmers (Small-scale, large-scale)
- ✓ Industry (Food processors, distributors, retailers, agribusiness companies)
- ✓ Government (Ministry of Agriculture, regulatory bodies, extension service providers)
- ✓ Academia (Existing programs, potential faculty, educational experts).

Objectives of the Consultations

- Identify skill gaps and industry needs.
- Understand current challenges and future trends in the food value chain.
- Gather insights on curriculum content, practical training, and research focus.
- Ensure alignment with national agricultural policies and strategies.

The Approach

The following approaches were adopted:

1) In-depth Focus Group Discussions (FGDs) (with farmers and Ministry officials)
2) Round Table Discussions (To reach consensus) (with farmers and Ministry officials)
3) Interviews (with the Academia).

Questions asked by Category

(a) Farmers

i. Current Practices and Challenges
- Identify the main challenges you face in production, processing, and marketing
- Describe how you currently manage supply chain and logistics issues

ii. Training Needs
- What specific skills do you think are lacking among your workforce or in the industry?
- What kind of training or educational support would benefit your operations?

iii. Adoption of new farming technologies
- How are you using technology in your farming practices?
- What new technologies do you think would benefit the agricultural sector?

iv. Area you require support and challenges faced
- What kind of support do you receive from the government or other institutions?
- How can educational institutions collaborate with you to improve agricultural practices?

(b) The Academia

- How to develop curriculum content that will address food value chain challenges
- Asked to indicate interest to offer internships, trainings, guest lectures, or collaborative projects

c) Ministry of Agriculture

1. Alignment of proposed program with policy of the Niger State Government on agriculture
- We discussed the current priorities and strategic goals of the Ministry regarding food value chains
- Alignment of the proposed program with national agricultural policies by lending support to the attainment of policy objectives

2. Skill Development and Capacity Building
- Identified the competencies and skills the Ministry believe are essential for advancing the agricultural sector and how educational programs can contribute to capacity building in rural and agricultural communities

3. Counterpart Support from the Ministry
- Is there support the Ministry provide to ensure the success of this program?
- Identified training needs that the Master's degree can complement

4. Workforce Requirements
- Competencies and skills the Ministry is looking for in graduates
- Areas where the Ministry feel that the current educational programs are lacking.

Please find below some pictures taken during the meetings:

S/No	Picture	Activity
1.		Group photograph of Project CHAIN Team members, FUT Minna, after consultative needs meeting with farmers/entrepreneurs in Dama Village, Bosso Local Government Area, Niger State in January, 2024
2.		Cross section of entrepreneurs/farmers during needs meeting with farmers in Dama Village, Bosso Local Government Area, Niger State in January, 2024
3.		Meeting with the Honourable Commissioner, Ministry of Agriculture, Permanent Secretary, Directors, other key officials of the Ministry and my team during the Stake holder needs meeting in January, 2024

Prof. Likita TANKO,
(Team Lead, CHAIN Project, FUT Minna, Nigeria).

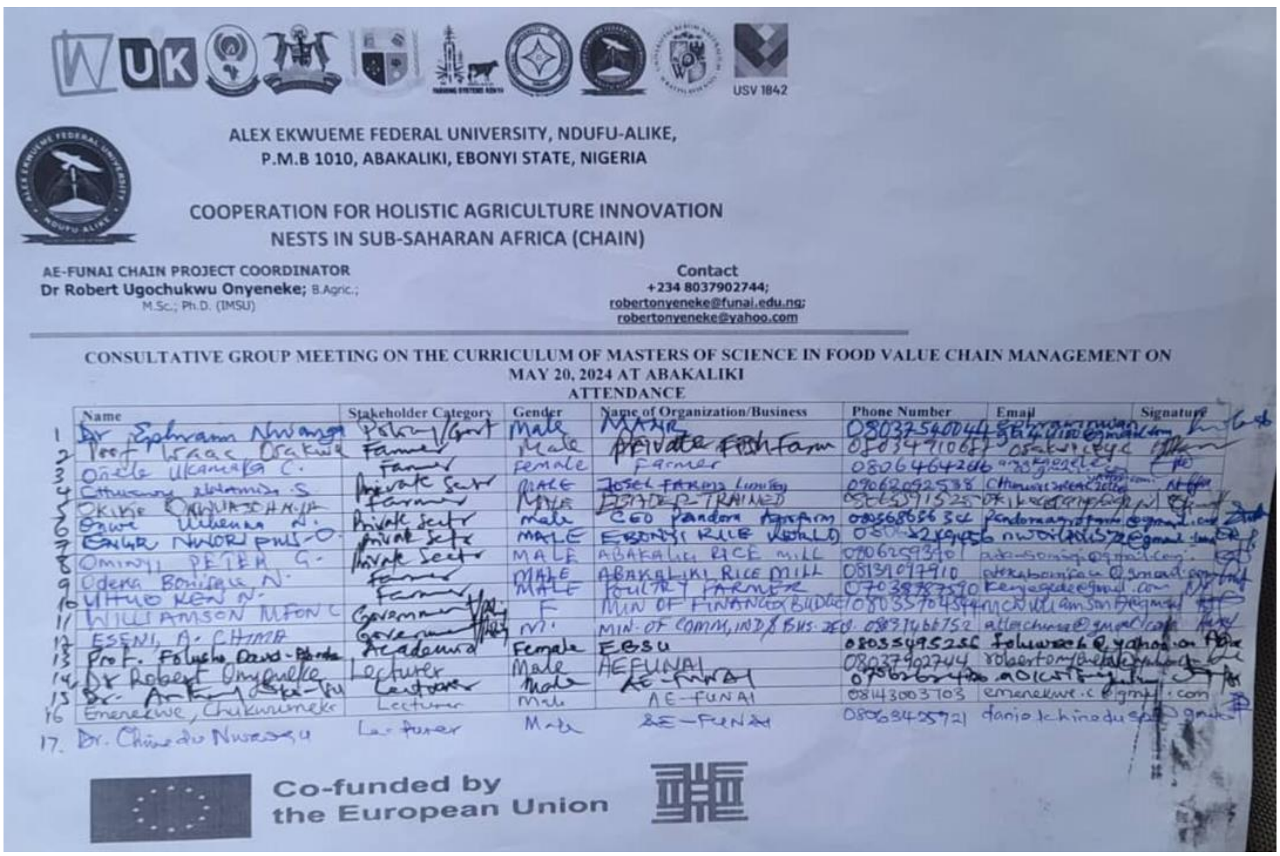
Meeting Minutes of the Consultative Group on the Curriculum of Master of Science in Food Value Chain Management organized by the Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI) team of the CHAIN Project

Date: May 20, 2024

Time: 10:30 AM

Facilitators: Dr. Robert Onyeneke, Dr. Anthony Oko-Isu, Mr. Chukwuemeka Emenekwe, Dr. Chinedu Nwaogu

Attendance: 17 participants, including key stakeholders from various sectors



ALEX EKWUEME FEDERAL UNIVERSITY, NDUFU-ALIKE,
P.M.B 1010, ABAKALIKI, EBONYI STATE, NIGERIA

COOPERATION FOR HOLISTIC AGRICULTURE INNOVATION NESTS IN SUB-SAHARAN AFRICA (CHAIN)

AE-FUNAI CHAIN PROJECT COORDINATOR
Dr Robert Ugochukwu Onyeneke; B.Agric.; M.Sc.; Ph.D. (IMSU)

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CONSULTATIVE GROUP MEETING ON THE CURRICULUM OF MASTERS OF SCIENCE IN FOOD VALUE CHAIN MANAGEMENT ON MAY 20, 2024 AT ABAKALIKI
ATTENDANCE

	Name	Stakeholder Category	Gender	Name of Organization/Business	Phone Number	Email	Signature
1	Dr Ephraim Nwanga	Policy/Govt	Male	MAHR	08037540044	[illegible]	
2	Prof Isaac Osakwe	Farmer	Male	Private Fish Farm	08034910687	[illegible]	
3	Onele Ukamaka C.	Farmer	Female	Farmer	08064642616	[illegible]	
4	[illegible] S.	Private Sector	MALE	Josel Farms Limited	09062092538	[illegible]	
5	Okike Onwuachakwu	Farmer	MALE	ESTADEP-TRAINED	08065591525	[illegible]	
6	Ogwe Uchenna N.	Private Sector	Male	CEO Pandora Agrofarm	[illegible]	pandoraagrofarm@gmail.com	
7	[illegible] Nwori Paul O.	Private Sector	MALE	EBONYI RICE WORLD	[illegible]	[illegible]@gmail.com	
8	Ominyi Peter G.	Private Sector	MALE	ABAKALIKI RICE MILL	09062593901	[illegible]	
9	Odeka Boniface N.	Farmer	MALE	ABAKALIKI RICE MILL	08139097910	odekaboniface@gmail.com	
10	Uhuo Ken N.	Farmer	MALE	POULTRY FARMER	07038787590	[illegible]@gmail.com	
11	WILLIAMSON MFON C	Government	F	MIN OF FINANCE & BUDGET	[illegible]	[illegible]@gmail.com	
12	ESENI, A. CHIMA	Government	M	MIN OF COMM, IND & BUS. DEV.	[illegible]	[illegible]@gmail.com	
13	Prof. Folusho David-[illegible]	Academia	Female	EBSU	08035495256	[illegible]@yahoo.com	
14	Dr Robert Onyeneke	Lecturer	Male	AEFUNAI	08037902744	[illegible]	
15	Dr. Anthony Oko-Isu	Lecturer	Male	AE-FUNAI	[illegible]	[illegible]	
16	Emenekwe, Chukwuemeka	Lecturer	Male	AE-FUNAI	08143003703	emenekwe.c@gmail.com	
17	Dr. Chinedu Nwaogu	Lecturer	Male	AE-FUNAI	08063425721	[illegible]@gmail	

Co-funded by the European Union

Agenda:

1. Commencement
2. Presentation on the background and rationale of the new MSc program
3. Discussion on stakeholder perceptions
4. Closing

Minutes

1. Commencement

- The meeting commenced at 10:30 AM with a brief introduction from attendees. The attendees included Permanent Secretaries from the state ministries of commerce, agriculture and finance/budget as well as industry representatives such as crop and livestock farmers, rice processors, agro-input dealers, academics and related stakeholders. In addition to the invited stakeholders, representatives of the AE-FUNAI CHAIN team were also in attendance.

2. Presentation

- At 10:40 AM, Dr. Robert Onyeneke presented the consultative meeting's purpose, sponsored by the EU Erasmus+ Programme. He outlined the aim to establish a Master's degree program in Agribusiness with a concentration in Food Value Chain Management, detailing CHAIN's objectives and the partners involved. Dr. Robert provided an overview of the curriculum, highlighting its alignment with business and practical activities.

3. Stakeholder Inputs

At 10:55 AM, Dr. Oko-Isu invited stakeholders to provide their observations on the curriculum.

- The Permanent Secretary of the Ministry of Agriculture, represented by the Director of Veterinary Services, expressed profound appreciation for the transformative impact the Programme was poised to bring to the food value chain system. He lauded the innovative strides being made and stated the need of addressing key concerns such as food safety and quality in the formulation of food policies and their inclusion in the FVC Masters curriculum. Furthermore, he highlighted the potential for enhancing food quality by incorporating advanced breeding techniques, suggesting the crossbreeding of local livestock with superior genetic stocks to yield offspring better suited to our environmental conditions. This strategic approach, he argued, could yield significant improvements in both productivity and resilience within the local food production economy.

- Prof. Folusho David-Abraham, a farmer and a professor of Food Science and Technology echoed these sentiments, affirming the critical importance of stringent food standards and quality control mechanisms within the food value chain. Stressing that these measures remained non-

negotiable, she reinforced the necessity of maintaining rigorous oversight to safeguard both consumer health and industry integrity.

In addressing these observations, Dr. Oko-Isu emphasized the interdisciplinary nature of the Food Value Chain Management Masters Programme, highlighting its broad scope encompassing various disciplines within the agricultural sector, including but not limited to food science and technology (FST) and related fields. However, he clarified that the primary focus and academic foundation of the programme reside within the domain of Agribusiness and Management.

Dr. Oko-Isu stressed that while the programme acknowledges the importance of Food Science and Technology (FST) and its relevance to the food value chain, its core emphasis lies in equipping students with comprehensive knowledge and skills in agribusiness principles, strategies, and management practices. Therefore, while foundational understanding of FST concepts may be incorporated, in-depth studies specific to this discipline were not prioritized within the programme's curriculum.

- Prof. Isaac Osakwe, esteemed academician and seasoned crop/livestock farmer, commended the presentation, inquired about industry visits, and stressed the importance of case studies and practical industry engagement. He emphasized the critical importance of facilitating direct engagement between students and industry practitioners through specialized factory visits. He articulated that such interactions serve to bridge the divide between theoretical knowledge and practical application, thereby enriching the educational experience and preparing students for the complexities of real-world challenges.

Highlighting the invaluable insights gained from firsthand involvement in industrial settings, Prof. Osakwe emphasized the transformative potential of experiential learning in narrowing the gap between academia and industry. In expressing his commitment to fostering experiential learning, Prof. Osakwe made a striking declaration of readiness to invest financially in seeking guidance from experts in specialized fields, exemplified by his willingness to pay for assistance from any antelope farmer willing to give him firsthand knowledge on its domestication. His rationale lay in the recognition of the disparity between theoretical solutions found in academic literature and the nuanced realities encountered in practical endeavors. Through direct

engagement with practitioners, he argued, students could gain access to invaluable insights and practical wisdom that transcend the confines of scholarly discourse.

Moreover, Prof. Osakwe advocated for the incorporation of case studies within the CHAIN Masters programme curriculum, citing their potential to inspire innovation and replication of successful strategies. By examining real-life scenarios and dissecting the factors contributing to their success or failure, students can develop a deeper understanding of the complexities inherent in the food value chain and cultivate a repertoire of practical solutions grounded in empirical evidence.

In response to the insightful proposals put forward by Prof. Isaac Osakwe, Drs. Onyeneke and Oko-Isu commended the innovative thinking while also addressing the practical constraints that could hinder their full implementation. They acknowledged the impending resource verification scheduled for June 2024 by the Nigeria Universities Commission (NUC), the regulatory body overseeing all universities in the country. Drs. Onyeneke and Oko-Isu outlined that AEFUNAI CHAIN project embedded within the structure of the Masters programme itself, a value chain incubation. They highlighted the inclusion of a dedicated course titled "Agribusiness and Value Chain Incubation," designed to provide students with practical industry experiences within the confines of academic requirements. This course, carefully crafted to emulate real-world scenarios and industry dynamics, aims to impart invaluable insights and hands-on skills essential for navigating the complexities of the food value chain.

Mrs Amaka Onele, a crop farmer, highlighted the need for post-harvest handling technology in the curriculum. This suggestion resonated with the attendees, acknowledging its significance in addressing the pervasive challenge of postharvest losses within the food value chain. However, despite its merit, the feasibility of incorporating a standalone course on postharvest handling was deemed impractical due to constraints imposed by the maximum credit unit allocation for students in the postgraduate programme. In response to this constraint, it was noted that aspects of postharvest management, including handling, storage, and mitigation of losses, are already embedded within existing courses of the Masters in FVC (particularly ABM 812: Crop, Livestock and Fish Value Chain Management) presented for critique. Furthermore, the attendees emphasized the interconnectedness of various disciplines within the food value chain and the

importance of maintaining a balance between depth and breadth in course offerings. While standalone courses on specific topics may offer in-depth exploration, they also risk crowding out other essential subjects.

Permanent Secretary Ministry of Economic Planning and Budget: The Permanent Secretary of the Ministry of Finance and Budget astutely pointed out a significant oversight in the presented curriculum: the absence of courses focused on finance and budgeting. Recognizing the crucial role that financial management plays in the success of agricultural ventures, the AEFUNAI CHAIN project team acknowledged the concern and initiated an attempt to rectify it. In response to the need for incorporating financial principles into the curriculum, the AEFUNAI CHAIN facilitated an open dialogue to solicit input on the most appropriate integration points. It was agreed that a Finance-related course from other areas of specialization in Agribusiness and Management be integrated in the Food Value Chain Management. The selected course was "ABM 821: Financial Management, Strategy, and Institutions".

The representative of the Permanent Secretary, Ministry of Commerce stated that the coming of the course in Food Value Chain Management was gladdening as they have long expected such while highlighting the beauty in interdisciplinary nature of the courses in the Masters programme in Food Value Chain Management. He expected that such a course would foster the achievement of SDGs 2 and 12.

The Rice Mill Industry representative praised the curriculum but advocated for practical farming courses and enforcement mechanisms for food safety. He lamented over the disharmony between industry and classwork. In his speech, students should be admitted on the basis of their knowledge and experience in agricultural activities, that is, students who are complete novices to agriculture should not be admitted. According to him, the teachers of the Masters programme in FVC should be specifically drawn from the industry and not necessarily university lecturers, thus, the curriculum should emphasize experience over mere knowledge.

In his response, Dr. Oko-Isu stated that the programme is designed to allow experts from the industry participate in training the students. This would involve taking the students to sites and fields, for example, students would be taken to swamps to see how rice is planted and other

cultural activities involved in the production. There would also be visits to livestock farms like the Josel Songhai model farm in Abakaliki, Sapele and Owerri, stating that they already have a memorandum of understanding with AE-FUNAI.

In his remarks, the technical manager of Josel farms promised to expedite actions in putting the farm back in shape so as to accommodate students on industrial trainings, special visits and other research purposes.

A poultry farmer in attendance stressed on the need for considering poultry risk management topic in Food Value Chain Management. He also made enquiries on the entry requirements for the FVC Masters programme. In response, Dr Oko-Isu noted that while admission into the Master degree in FVC is flexible enough, it is given on the basis of merit. However, there are compulsory subjects such as English, Mathematics, Economics, Biology/Agriculture and any other relevant subject.

4. Closing and Completion of Stakeholders' Perception Questionnaire on M.Sc. in Food Value Chain Management

- The meeting concluded with stakeholders completing the evaluation questionnaire and expressing satisfaction with the discussions and the proposed curriculum.

Perception Questionnaire on M.Sc. in Food Value Chain Management

Respondent Background Information (*N* = 13 respondents)

1. Policymakers/Government Officials:

- Total Respondents: 6

- **Insight:** The majority representation from policymakers indicates a strong interest and support from government officials, which is crucial for policy backing and successful implementation of the proposed Master's program. Their involvement suggests that the program aligns well with government priorities and educational policies.

2. Farmers:

- Total Respondents: 3

- **Insight:** The farmer respondents provide direct insights from the agricultural sector, highlighting the practical needs and challenges faced in the field. Their feedback underscores the importance of practical, hands-on training and education that directly benefits their operations and productivity.

3. Business/Private Sector:

- Total Respondents: 4

- **Insight:** Input from the business/private sector reflects the industry's demand for skilled professionals in food value chain management. This group's participation indicates the program's potential to enhance industry standards and competitiveness through improved education and training.

Broad Insights from the Average Scores

The overall cut-off rating applied to the responses is 2.5. The average scores for each question are all above the cut-off score of 2.5, indicating a general agreement or strong agreement among respondents across all questions (see *Table 1*).

Table 1. Average scores for each evaluation question

Respondent	Average Score
Q1	3.8
Q2	3.5
Q3	3.6
Q4	3.6
Q5	3.3
Q6	3.5
Q7	3.2
Q8	3.2

Q9	3.2
Q10	3.0
Q11	3.4
Q12	3.4
Q13	3.4

Discussion of Questionnaire Results (see *Fehler! Verweisquelle konnte nicht gefunden werden.***)**

Q1: Current training in agribusiness and food value chain management needs more improvement to meet the present needs of the society.

- **Insight:** The overwhelming majority of participants (10 strongly agree, 3 agree) believe that current training levels in agribusiness and food value chain management need significant improvement to meet societal needs. This suggests a strong recognition of the existing gaps in the current training frameworks.

Q2: The training that current agricultural students receive is not enough to manage all levels of food value chain management (including business start-ups, educational and research activities).

- **Insight:** Most participants (8 strongly agree, 4 agree) feel that the current training is insufficient for managing comprehensive food value chain management processes. Only one participant disagrees, indicating a broad consensus on the need for enhanced training that includes practical and research components.

Q3: In the future, the Agribusiness and Food Value Chain Management training needs to be improved to meet the needs of the society.

- **Insight:** There is strong agreement (8 strongly agree, 5 agree) on the necessity to advance education and training levels in this field to future-proof it against societal demands. This consensus highlights the urgency of implementing progressive educational reforms.

Q4: The level of education and training of Food Value Chain Management Profession should be advanced to include a Master of Science degree in Food Value Chain Management.

- Insight: Similar to Q3, this question also received strong support (8 strongly agree, 5 agree) for advancing educational levels to include a specialized graduate degree. This indicates a perceived need for higher qualifications in the field to ensure comprehensive expertise.

Q5: A master's degree in Agribusiness and in Food Value Chain Management would improve the levels of knowledge of Food Value Chain Managers, programme coordinators, farmers, transition and innovation managers, policymakers, food quality inspectors, researchers, food value chain consultants, and capacity builders.

- **Insight:** While there is strong agreement (5 strongly agree, 7 agree), one participant disagrees, suggesting that most stakeholders see value in a master's degree for knowledge advancement across various roles, although there is a slight divergence in opinion.

Q6: A master's degree in Agribusiness and in Food Value Chain Management would enhance the practical skills of Agribusiness and Food Value Chain Managers.

- **Insight:** All participants agree (6 strongly agree, 7 agree) that a master's degree would enhance technical and research skills. This unanimous agreement underscores the importance of advanced degrees in fostering technical proficiency.

Q7: A master's degree in Agribusiness and in Food Value Chain Management would increase the capacity of Food Value Chain Managers, programme coordinators, farmers, transition and innovation managers, policymakers, food quality inspectors, researchers, food value chain consultants, and capacity builders.

- **Insight:** Although there is significant agreement (4 strongly agree, 7 agree), two participants disagree, indicating some reservations about the degree's impact on capacity across various roles. Further exploration into the specific concerns might be necessary.

Q8: The proposed curriculum of a master's degree in Agribusiness and in Food Value Chain Management captures the current and future training needs of Food Value Chain Managers, programme coordinators, farmers, transition and innovation managers, policymakers, food quality inspectors, researchers, food value chain consultants, and capacity builders.

- **Insight:** Strong support (4 strongly agree, 8 agree) with one dissenting view suggests that the proposed curriculum is largely seen as addressing both current and future training needs, though slight modifications might be needed to achieve universal approval.

Q9: There is a need in my organization for Food Value Chain Managers, programme coordinators, farmers, transition and innovation managers, policymakers, food quality inspectors, researchers, food value chain consultants, and capacity builders with the knowledge, training, and skills acquired by those who complete a Master degree in Agribusiness and in Food Value Chain Management program.

- **Insight:** High agreement (3 strongly agree, 9 agree) with one disagreement highlights a recognized demand for the specialized skills imparted by this master's program, confirming the practical relevance of the degree.

Q10: I will apply for admission to the Master Degree program in Agribusiness and in Food Value Chain Management as soon as it is launched.

- Insight: While there is strong interest (3 strongly agree, 7 agree), three participants are unsure or unwilling to apply, indicating that while the program is attractive to many, some barriers to enrollment may exist that need addressing.

Q11: I will encourage others to apply for admission to the Master Degree program in Agribusiness and in Food Value Chain Management as soon as it is launched.

- **Insight:** Strong support (5 strongly agree, 8 agree) indicates a willingness among participants to advocate for the program, suggesting potential for high community and peer endorsement.

Q12: Do you believe that the Master Degree in Agribusiness and in Food Value Chain Management will improve your career opportunities?

- **Insight:** High agreement (6 strongly agree, 6 agree) with one disagreement indicates a strong belief in the program's career advancement potential, though some skepticism remains.

Q13: Would you recommend the proposed Master Degree program to others?

- **Insight:** Strong endorsement (5 strongly agree, 8 agree) with no dissenters highlights a broad consensus that the program is worth recommending to potential candidates, indicating its perceived value and relevance.

These results collectively demonstrate a strong endorsement for advancing educational offerings in food value chain management, with broad recognition of the benefits and some areas for further engagement and clarification.

Picture Gallery