

2023 ANNUAL SCIENTIFIC CONFERENCE PROCEEDINGS

THEME: Community Action, Partnerships and Innovations to Address Climate Change and National Development



UGANDA NATIONAL ACADEMY OF SCIENCES (UNAS)

2023 Annual Scientific Conference Proceedings

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2023 ANNUAL SCIENTIFIC CONFERENCE

October 26-27, 2023 Sheraton Hotel Kampala Kampala, Uganda

THEME: Community Action, Partnerships, and Innovations to Address Climate Change and National Development





Sciences For Prosperity

Uganda National Academy of Sciences

A4 Lincoln House

Makerere University

PO Box 23911

Kampala Uganda

Tel: +256-414-53 30 44

E-mail: unas@unas.org.ug

Website: www.unas.org.ug

Unas twitter: @unasuganda

Support for this work was partly provided by the Fellows and Members of UNAS through their annual membership subscriptions.

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Suggested Citation: UNAS. (2023). 2023 Annual Scientific Conference Proceedings, Kampala, Uganda: The Uganda National Academy of Sciences.

Table of Contents

Uganda National Academy of Sciences	iv
Acknowledgments	V
Preface	vi
Section 1: Conference Proceedings	1
Welcome Remarks	1
Key Note Address:	2
Community Action and Knowledge Integration to Address	
Interactive Plenary Session -Television Style Interview	3
Climate Change	4
Plenary Discussion	8
Launch of the UNAS Report on Community Action for Climate C Adaptation in Uganda	_
Considerations for Redesigning Partnerships for Development	14
Human Rights and Legal Practices in the Context of Climate Change.	14
Financing Development Programs and Climate Change Adaptation	16
Media Framing in the Context of Climate Change and Energy Justice	18
Section 2: Inducted Fellows	19
Annex 1: Speaker Biographies	33
Annex 3: List of Participants	35

UGANDA NATIONAL ACADEMY OF SCIENCES

The Uganda National Academy of Sciences (UNAS) is an autonomous and honorific service organization comprising diverse scientists from the physical, biological, social, and behavioral sciences. These scientists work together in an interdisciplinary and trans-disciplinary manner to achieve their primary goal of improving the livelihoods, welfare, and prosperity of the people of Uganda through the development and enhanced application of integrated knowledge in the sciences and humanities. The success of the Academy lies in the strength and expertise of its membership and its ability to mobilize scientific experts to advise government policymakers and other stakeholders on matters of national importance.

The membership includes Founding Members, Fellows of the Academy, Foreign Fellows, and Honorary Fellows.

The organizational structure of UNAS consists of the General Assembly, Council, Standing Committees, and the Secretariat.

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ACKNOWLEDGMENTS

The Uganda National Academy of Sciences (UNAS) sincerely appreciates the individual presenters, organizations and experts who gave valuable time to provide information through participation in the 2023 Annual Scientific Conference (ASC).

The Academy wishes to thank the UNAS Standing Committee on Publications and Conferences, chaired by Prof. Philippa Musoke, for overseeing the ASC event and ensuring that the proceedings met the minimum requirements of UNAS publications.

The Academy also wishes to acknowledge the UNAS staff for organizing the conference and ensuring the production of this conference report. Special thanks go to Ms. Esther Nakkazi for capturing section 1 of the proceedings of this conference.

The sponsors, the Fellows, and Members of the Academy, who partly provided financial support for this activity are gratefully acknowledged.

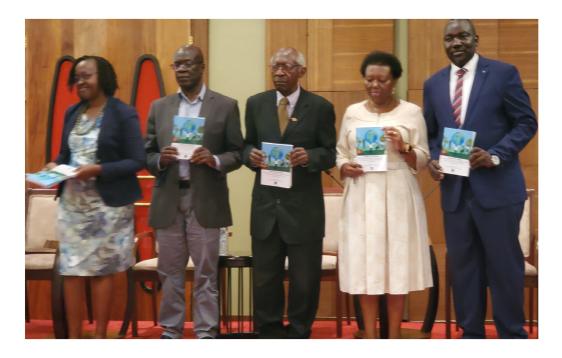
PREFACE

The Uganda National Academy of Sciences is committed to providing an autonomous forum through which scientists can exchange ideas, knowledge, and experiences to generate, promote, share, and use scientific knowledge and give evidence-based advice to the Government and society. Providing an autonomous forum is done annually through various mechanisms, such as the Annual Scientific Conference. UNAS has held Annual Scientific Conferences since 2001 on themes ranging from "Sciences for Sustainable Development," "Science Education for Development," "Biotechnology for Development," "Impact of Climate Change to National Development," "Human Resource for National Development," "Urbanization for Development," "National Resilience and Recovery: Pandemics, Emergencies, Crises, and Opportunities," Uganda's Health: Transcending Sectors, Looking to the Future", "Trust in the Sciences: Policies and Practices for Meaningful Livelihoods," among others.

The 23rd ASC was successfully held at the Sheraton Hotel, Kampala, October 26-27, 2023. The theme for the conference was "Community Action, Partnerships and Innovations to Address Climate Change and National Development." Three subthemes were presented at the conference: "Community Action and Knowledge Integration to Address Climate Change," "Human Rights and Legal Practices in the Context of Climate Change," and "Financing Development Programs and Climate Change Adaptation." The conference also featured a television-style interview to get stakeholder perspectives on the conference theme. The ASC was attended by over 80 participants, including government officials, academicians, researchers, actors from the private sector and civil society, and development partners.

This report comprises two sections: Section 1 summarizes the presentations made by experts at the conference. It also highlights the Launch of the Consensus study report of the Academy titled, Community action for Climate change adaptation in Uganda. The views presented in Section 1 are those of the individual experts and not necessarily those of the Uganda National Academy of Sciences. Section 2 presents the profiles of distinguished Fellows who were inducted into the Academy Fellowship in 2023.

SECTION 1: CONFERENCE PROCEEDINGS



OPENING

Welcome Remarks

Dr. Mary Goretti Nakabugo, the Uganda National Academy of Sciences Vice President, welcomed all the guests. She thanked Prof. Phillipa Musoke for choosing climate change as the theme for this year's conference in light of the upcoming COP28. She highlighted four issues in her talk:

1. The impact of climate change on food and water security in developing countries. Dr. Nakabugo noted that millions of people in developing countries face acute food insecurity and reduced water availability as a result of climate change, leading to malnutrition and mental health issues. To emphasize the dire impact of climate change on communities, she referred to Vanessa Nakate, a climate change activist, who observed that communities are adapting to climate change. However, their abilities are overstretched, and some boats are sinking or on fire.

- 2. Climate finance is still a big challenge in developing countries. Dr. Nakabugo expressed frustration with the slow pace of climate change action and the lack of funding for adaptation initiatives, particularly in developing countries. She further highlighted the challenges of accessing climate finance, including the preference for intermediaries and the high costs of consultants. To address the issue of climate finance, Dr. Nakabugo emphasized the need for more bottom-up, community-driven initiatives in climate change adaptation rather than top-down decision-making.
- 3. Community involvement in disaster resilience initiatives. Dr. Nakabugo noted that community involvement in decision-making should be meaningful and inclusive, with equal platforms for all voices. In addition, program design should be long-term (10 years or more) to take in new realities and learn from events like COVID-19.
- 4. Addressing structural inequalities in climate adaptation, Dr. Nakabugo emphasized that each of us, especially the most vulnerable, is feeling the effects of climate change. These effects should motivate us all to address the structural imbalances in the allocation of resources to address climate change. Dr. Nakabugo noted that the theme of community action for addressing climate change resonated with COP28. She hoped UNAS conference would inspire an outcome that it would be presented at COP28.

Key Note Address: Community Action and Knowledge Integration to Address Climate Change

Susan Nandudu, Executive Director, African Centre for Trade and Development, Kampala, Uganda

Ms. Nandudu highlighted the urgent and escalating challenges communities face due to climate change, focusing on the impacts on food security, water availability, and overall well-being. She talked about real-life experiences of individuals, particularly young mothers, grappling with the consequences of environmental shifts, emphasizing the need for immediate action. She further outlined the inadequacies of current approaches, especially regarding funding, and called for a paradigm shift towards more inclusive, community-led, and sustainable adaptation initiatives.

Ms. Nandudu's talk addressed the following issues:

- 1. The human impact and realities of climate change. Millions of people face acute food insecurity and reduced water availability. Young mothers in rural communities face the unimaginable stress of managing essential tasks during water scarcity.
- 2. Climate change intensification. According to the Intergovernmental Panel on Climate Change (IPCC), climate change impacts are becoming more intense and frequent, affecting food and water resources in the country. Malnutrition and health deficits, particularly among young people, are escalating due to compounding climate-related issues.
- 3. Inadequacy of current approaches. Existing policies and implementation fall short of effectively addressing climate change impacts. Climate finance, though available, is insufficient, with only a small percentage allocated to adaptation efforts. Accessing climate finance, especially for countries like Uganda, hinders effective implementation.
- 4. Call for community involvement. Current decision-making processes lack adequate community involvement, resulting in top-down approaches that may not be sustainable. Emphasis should be on addressing structural inequalities, especially for women, youth, displaced people, and indigenous communities.
- 5. There is a need for long-term initiatives. Short-term project designs are insufficient; initiatives spanning ten years or longer are needed to accommodate evolving realities. Local community capabilities and knowledge need investment for sustained implementation.
- 6. Transparent and collaborative action. Advocacy for transparency and accountability in climate initiatives is crucial. Collaborative planning involving various stakeholders is needed to build trust and ensure effective adaptation.

Ms. Nandudu advocated for a holistic transformation in climate change adaptation, emphasizing the urgency of empowering communities, addressing inequalities, and fostering transparent, collaborative, and sustainable practices.

Interactive Plenary Session - Television Style Interview

Moderator: Mr. Peter Kibazo, Head of Communications and Marketing, Uganda Management Institute, Kampala, Uganda

Climate Change impact on communities in Uganda

QN: What is climate change for a lady who must deliver lunch to her children? Does this talk make sense to them? Do we expect any deliverables from them? It seems we don't take research to the community. We are co-creating it. How much does the community participate in climate change research?

Dr. Joseph Katswera, District National Resources Officer, Kasese District Local Government, with 27 years of experience in conservation, emphasized the dynamic nature of communities in social, economic, and political contexts. In climate action programs targeting local communities, focus is placed on engaging vulnerable groups most affected by climate change such as women, older people, and the youth. The approach involves co-creating interventions with local communities, ensuring their active participation in planning and identifying needs and challenges.

Community engagement is integral to disaster risk planning in Kasese, a district prone to floods and mudslides. Local communities are involved in identifying hazards, understanding their impact on development, and addressing climate change as a broader development challenge.

Efforts include promoting fragile ecosystem restoration and reducing biomass demand by adopting fuel-efficient cookstoves. Additionally, the initiatives encourage the use of solar for lighting, resulting in significant increases in the adoption of both cookstoves and solar energy at the community level.

For instance, since 2012, the community-led initiatives in the Kasese district have achieved significant progress in addressing climate change. At the community level, the adoption of fuel-efficient cookstoves has increased from less than 1% to 46.6%. Similarly, the use of solar for lighting has risen from less than 3% to 26.7%. These figures reflect the positive trajectory of community-led action in mitigating climate change, particularly benefiting the most vulnerable communities.

QN: How do we aggregate what Dr. Katswera is talking about into national impact beyond the community?

Ms. Susan Nandudu, Executive Director, African Centre for Trade and Development

The Uganda National Climate Change Act was enacted in 2021. Successful aggregation of climate change efforts depends on the Government's intentional implementation, shifting away from the current project-based approaches to involve every district. Although the country operates on a decentralized planning system, the effectiveness of district-level planning in addressing climate change solutions remains a critical question. The new law mandates reporting on climate actions, with aggregated information overseen by the Ministry of Finance, Planning and Economic Development and the Ministry of Water and Environment. If that aggregation comes through, parliamentary committees can know the planned activities for the next budget. That way, they can monitor implementation, identify gaps, and devise means of scaling up climate interventions. For now, we are still working in silos, but hopefully we can pick up the speed. The law was enacted in 2021, but its implementation is still limited. Districts that are already advancing in terms of community action should be incentivized to do more.

Bridging the gap between policy and climate change adaptation

QN: It is crucial to bridge the gap between policy discussions and actionable adaptation measures at the community level. The late John Sebana Kizito, then mayor of Kampala city, was invited to launch a road. The day before the launch, he drove around the Rubaga/Wakaligga road and suggested planting trees on that stretch. When he had his evening drive later, he didn't see the trees and canceled the launch. He advised the people who invited him to plant those trees before launching the road. The planting of trees was not part of policy but individual passion. Although goats ate half of the trees, the ones that survived are used by boda boda riders and chapati makers as shades for businesses. He did this for the Nsambya/Ggaba road too. This is individual action. What are you doing as a national company so the community can see and feel you?

Mr. Christopher Rokoni, Process Engineer, Uganda National Oil Company (UNOC)

He highlighted the Environmental, Social, and Governance (ESG) strategy, which guides the implementation of several initiatives of the National Oil Company. The

strategy focuses on six areas, one of them being climate change. Under climate change, UNOC has undertaken various initiatives, including the Tree and Forest Initiative, which addresses different scopes of emissions, considering emissions from operations, the use of power from multiple sources, and emissions from the products sold.

A crucial aspect of the climate change strategy is quantifying emissions because taking action requires knowing the extent of emissions. For instance, the national refinery, upon estimation, is expected to produce about 1 million metric tons of carbon dioxide per year. To manage this, UNOC is creating carbon sinks. Following the emission estimation, UNOC embarked on a credible calculation, aiming to plant forty (40) million trees to achieve a net-zero impact. UNOC has collaborated with stakeholders such as the National Forestry Authority (NFA), Uganda Wildlife Authority (UWA), and the Church of Uganda, which generously provided 1500 acres of land. With its vast reach, the church became a crucial ally in encouraging approximately 22 million Ugandans to participate in tree planting across different areas during Sunday sermons.

It is essential to recognize that the climate change issue concerns everyone, not just those directly involved in fuel extraction or car usage. As it affects us all, planting trees becomes a collective responsibility. In summary, the UNOC ESG strategy drives the Forest Tree Initiative, aiming to plant 40 million trees to offset carbon emissions. This effort involves communities and various stakeholders, each contributing for diverse reasons and interests.

Climate change and energy sustainability

QN: What is the evidence that all this will work?

Mr. Christopher Rokoni, Process Engineer, Uganda National Oil Company First, I am a scientist, and scientists work with evidence-based research. Before implementing projects, a framework is developed involving various stakeholders. UNOC gathers knowledge from stakeholders, including Pentecostals, Muslims, and other religious denominations. The ongoing studies aim to inform the implementation of the tree project, considering factors such as tree types, planting methods, and management conditions. Financial resources are crucial for mass

tree production, transportation, and planting. UNOC has engaged in stakeholder consultations for almost two years, and a small project has already resulted in planting 2500 trees in Kigumba.

QN: How can communities strike a balance between climate change adaptation, the need for replacements, and sustainable usage, particularly in areas outside Kampala where individuals heavily rely on raw fuel like firewood, considering factors such as affordability, availability, and practicality for everyday activities like cooking and providing for a family?

Mr. Francis Kibirige, the National Coordinator of Afrobarometer in Uganda Our extensive research network spans 40 African countries since 1999, conducting fresh surveys approximately every two years. All our work, including data, is freely accessible online. Among the 18 themes we cover, climate change is a significant focus. While acknowledging the gradual shift from biomass for cooking, especially in places like Kasese, I emphasize that many individuals do so for economic reasons rather than climate change awareness. I recount the impact of replacing traditional forest reserves with commercial Eucalyptus trees, causing challenges in sourcing wood for cooking and construction. Our research indicates that 56% of Ugandans are aware of climate change, with 2/3 or more associating it with increased flooding and drought. Positive sentiments toward climate change initiatives have declined since 2017, emphasizing the need for effective policies despite the perceived small impact.

QN: How can we address the challenge of excessive plastic use in our community, where polythene bags are seen as a status symbol, and shopping often involves single-use plastic bags?

Mr. Kristofer Hoyt, Managing Consultant, Guidehouse Consulting, Denver, Colorado.

The challenge of excessive plastic use is rooted in everyday choices, tradition, and the global economy. People's daily decisions are influenced by both convenience and environmental considerations. Traditions and learned behaviors play a role in shaping these choices. In addition, the passing down of practices is influenced

by factors like busy lifestyles and changing values. The issue is not isolated; it's a global problem, evident in phenomena like the North Pacific plastic patch. The throwaway lifestyle associated with plastics is linked to the accessibility and affordability of petroleum-based products. Considering the broader context of how oil permeates various aspects of our lives, from clothing to transportation, reveals a complex cultural and economic interplay. The challenge involves individual choices and broader systemic issues, such as the global marketing and disposal of products.

Plenary Discussion

Dr. Sam Okware, Executive Director of the Uganda National Health Research Association, emphasized the critical role of health in our existence. He pointed out that the health sector is particularly vulnerable to climate change, especially with the emergence of new viruses. Dr. Okware highlighted the importance of community engagement in addressing outbreaks and underscored the community's central role in health initiatives. He emphasized the interconnectedness of animal and human health.

Dr. Everline Komutunga, a Senior Agrometeorologist at the National Agricultural Research Organization (NARO), shared insights on a successful community project in Sembabule. Following a needs assessment, water scarcity was identified as a significant issue. Collaborating with the local Government, they secured equipment and constructed a 400 cubic meter dam filled by water runoff. This initiative now benefits 105 households, significantly alleviating water scarcity. The community, viewing it as their own, has implemented a small fee for those bringing animals to the dam and established a management committee for its sustainable operation.

Mr. Steven Lwanga, a retired senior citizen, raised a crucial question: Is there a distinction between restoring forests and planting new ones, like eucalyptus trees, which are cut down within three years due to climate change? He expressed concern about the degradation of the Mabira forest and emphasized the urgency of addressing this environmental challenge.

Mr. Allan Acheng, from the Science Planning Department at the National

Planning Authority (NPA), highlighted the nation's commitment to implement the third national development plan (NDP3), a pivotal step in realizing Vision 2040 and uplifting Ugandans from a peasant to a modern, prosperous society. He noted that, unlike the silo-based approaches of NDP1&2, NDP3 adopted a comprehensive, programs-based methodology, ensuring concurrent efforts by Ministries, Departments, and Agencies (MDAs). Climate change is now integrated into the Environment, National Resources Climate, and Land Use Management Program, alongside related programs in agro-industrialization, sustainable energy, and innovation under different ministries.

Specifically addressing community impact, he underscored the significance of regional and local programs and the Community Mobilization and Mindset Program. This holistic program-based approach fosters collaboration among MDAs, civil society, and donors. Recognizing the critical role of climate change, he invited active participation in the upcoming national consultations, emphasizing its direct influence on the country's budgeting. He encouraged citizens to express their expectations, stressing that the public's input will shape the actions undertaken by the Government in NDP3.

A Makerere University Professor shared insights on funding for research. For a considerable time, Makerere faced funding challenges for research, but the recent grant under the Research and Innovations Fund (RIF) marks a positive beginning. However, the current annual programming might not suffice for transformative research aligned with NDP3 and Vision 2040. To truly impact communities, a more flexible timeframe is essential for achieving meaningful results. The College of Agriculture and Environmental Sciences at Makerere University envisions a shift from traditional research approaches to collaborative community engagement. The plan is to work closely with communities, initially focusing on critical areas identified in collaboration with local governments. For instance, in Kasese, addressing climate change issues like floods and soil degradation involves successful interventions such as bamboo planting to stabilize river systems.

He informed members that their goal is to enhance collaboration between communities, projects funded by institutions like the World Bank, and knowledge institutions while leveraging the expertise of students, the University's vital resource, to actively engage with communities over an extended period, potentially five years, to make substantial contributions to problem-solving.

While recognizing the criticism that academia's research often remains shelved, he called for a paradigm shift. For instance, the proposal for NDP3 to establish a knowledge economy should go beyond rhetoric, allocate resources to academia, and foster collaboration with ministries and local governments. The aim is to address issues more effectively by providing a clear framework and funding instruments that encourage practical solutions and meaningful community engagement.

Dr. Robooni Tumuhimbise, Director of Research National Agricultural Research Laboratories in Kawanda, emphasized the significance of community engagement in the banana research program. The program has successfully crafted nature-based solutions to tackle climate change. Specifically, it has yielded drought-tolerant banana varieties and effective packaging strategies. This approach not only promotes resilient banana varieties but also ensures the retention of soil moisture. The research laboratory is actively contributing to climate change adaptation through such initiatives.

Dr. David Okello Kalule, FUNAS and Principal Research Officer and Plant Breeder Geneticist, National Semi-Arid Resources Research Institute, Serere, Uganda, highlighted the growth in groundnut cultivation from 2006 to 2023, with an increase in land acreage exceeding 4.6% of arable land in the country. Despite this, over 80% of the produced groundnuts are consumed domestically. The focus is now on translating these achievements into scalable solutions for broader community impact.

Mr. Dan Kitazze, representing the Buganda Kingdom, discussed the importance of harnessing commitment for sustainable adaptation and climate change mitigation. He emphasized the cultural bond within the Buganda Kingdom that connects Baganda people's culture with nature. This cultural connection is a significant strength for the Kingdom, inspiring voluntary community action driven by cultural and spiritual well-being.

Mr. Kitazze highlighted a specific initiative called 'Ekibira Kya Kabaka' (The King's Forest), strategically named to evoke the Kingdom's image, branded

by the king, making it magnetic for the community to engage actively. This initiative has become a success story, showcasing a tangible outcome of the ongoing conversation. 'Ekibira Kya Kabaka' involves planting a substantial area of indigenous trees, particularly those valued and demanded by the community. Currently, 354 acres have been designated for this purpose in each county, serving as points of excellence and encouraging community members to take up the project and extend it further.

Launch of The UNAS Report on Community Action for Climate Change Adaptation in Uganda

Dr. Everline Komutunga, Senior Agrometeorologist at the National Agricultural Research Organization (NARO), informed members that what fascinated her during the compilation of this report was the diverse team in the committee. There was a wealth of expertise spanning across institutions, including performing artists. This diversity allowed them to tap into knowledge from all corners of the climate change continuum.

Additionally, during the participatory role-playing sessions (PRS), where individuals were assigned roles such as farmers, youth, and ministers, it became evident that climate change profoundly impacts everyone in society—women, people with disabilities, youth, and individuals engaged in various activities.

The report comprehensively encompasses these aspects, making it a rich source of knowledge. One aspect that resonated with her was the rarity of finding literature that consolidates information on everything, especially regarding climate change. However, this report is a comprehensive resource that spans various topics, ensuring inclusivity for all readers. "As I mentioned, it starts with you, ensuring no one feels left out. Everything you need is right there," she said.

Mr. Steven Opio, a Senior Climate Change Officer at the Ministry of Water and Environment, emphasized the far-reaching impact of climate change on communities and critical ecosystems. He stressed the importance of a holistic approach to address the causes and effects of climate change at the grassroots level. Mr. Opio highlighted the significance of the consensus study report, "Approaches to Realizing Community Action for Climate Change Adaptation

in Uganda," mainly due to its community-based nature aligning with the Government's emphasis on community-based programming and planning. In his plea to UNAS, Mr. Opio requested a popular version of the technical and extensive report tailored for lower local government levels, sub-counties, and parishes where complex technical terms might challenge understanding. He urged citizens, organizations, the private sector, and civil society organizations (CSOs) to embrace the science of climate change collectively. He further emphasized the need to work together to keep global temperatures below 1.5 degrees Celsius. As a commitment from the Ministry of Water, Mr. Opio pledged to have copies of the book available on every shelf and documentation center within the ministry. He also intends to distribute copies of the book to district natural resources offices across the over 150 districts in Uganda, contingent upon the availability of sufficient copies from UNAS. Mr. Opio encouraged stakeholders to disseminate and implement the strategies outlined in the book at both community and ministry levels. He stressed that collective and aggressive efforts are necessary to address the challenges of climate change across various sectors. From the Government's perspective, Mr. Opio urged everyone to take a lead role in treating the report and its actions seriously.

Professor Nelson Sewankambo expressed his excitement about the consensus study on climate change, reflecting on a pivotal moment in 2009 when he organized a groundbreaking climate change conference in Munyonyo. The conference, sponsored by a generous grant from Canada, was attended by 500 people from Uganda and East Africa, about 70 of whom were school students brought in deliberately to appreciate climate change issues. Professor Andre Haynes of Planetary Health also graced the conference.

He recounted how he clearly instructed the Speke Resort Munyonyo Hotel to avoid plastic bottles during the event, sending a powerful message about environmental protection. Additionally, the conference adopted a vegetarian diet for the week, emphasizing the link between animal agriculture and carbon emissions. The event was a success and had a subsequent impact, including sponsoring individuals for climate change-related research and studies and fostering partnerships with Canadian universities. The professor urged the audience to consider the transformative potential of such initiatives, emphasizing the need to carry forward the momentum for sustainable change. The impact of this landmark conference

continued through subsequent years, with ongoing support for climate change research and initiatives. Professor Sewankambo highlighted the importance of walking the talk and encouraged continued efforts to address climate change.

Dr. Donald Kugonza from Makerere University inquired about the previous consensus reports presented at the past conferences. 'I'm curious about the individual role in facilitating the adoption or ownership of this document,' he said. Considering the comprehensive nature of the reports, he wondered how individuals plan to contribute beyond the involvement of institutions like UNAS. Regarding tree conservation, Dr. Kugonza appreciated the preservation of forests by prohibiting tree cutting. Drawing from his background as an animal scientist, he highlighted the cultural perspectives, like 'Ebikka,' that dictate not consuming certain animals, be it sheep, cows, or grasshoppers. In modernity, the ability to consume anything and everything is becoming prevalent. He suggested preserving cultural norms contributing to conservation and climate management while conserving trees.

Dr. Florence Mutonyi D'ujanga, Associate Professor in the Department of Physics, College of Natural Sciences, Makerere University, appreciated the emphasis on community engagement, as the real impact often originates from the communities themselves. She noted that while they discuss and teach these concepts at the university level, there is a tendency for this knowledge to remain confined to academic settings. Her primary concern then was figuring out how to bridge this gap and ensure that the valuable information they possess reaches the individuals needing it the most.

Dr. D'ujanga cited an incident when she was on a bus, and a lady casually threw a bottle out of the window. She couldn't help but intervene, urging her not to do so. Interestingly, the lady had a different perspective, emphasizing that people outside the bus should also benefit from those bottles. In their eyes, picking up a discarded bottle meant a resource they could use at home. This encounter highlighted the importance of sensitizing individuals about the broader implications of their actions. Given that it is crucial to find effective ways to disseminate information and create awareness beyond the confines of academic institutions, Dr. D'ujanga noted that she is eager to hear more about the strategies and plans for reaching the grassroots level.

Mr. Christian Acemah, the Executive Secretary of the Uganda National Academy of Sciences, thanked participants for the positive responses and informed members that the UNAS team is actively working on various formats for the report. He noted that the UNAS secretariat will rely on the members' assistance to disseminate the information through their regional, local, and continental networks. Mr. Acemah emphasized two crucial aspects regarding the approach to communities. Firstly, the conceptualization of the community is rooted in recognizing its members as individuals with agency, wisdom, and intrinsic values. UNAS views the community as not a passive recipient but a source of knowledge and perspective. 'Our goal is to engage with the community, remembering our roots and fostering a more collaborative approach rather than imposing top-down solutions,' he said. Secondly, Mr. Acemah informed members that when UNAS and its partners discuss community engagement and dissemination strategies, we must understand that each of us in this room is an integral part of the community. As such, the question of how we carry forward the messages from today's discussions and the report is crucial. We are not delivering wisdom to a separate entity; we are part of the collective effort.

Considerations for Redesigning Partnerships for Development

Human Rights and Legal Practices in the Context of Climate Change

Ruth Ssekindi, Director of Monitoring, and Inspections at Uganda Human Rights Commission

Ms. Ssekindi appreciated the opportunity to discuss the critical intersection of human rights and climate change, drawing upon two decades of experience as a human rights lawyer. She delved into the multifaceted impacts of climate change, highlighting that its repercussions extend beyond environmental concerns and touch every aspect of our lives, affecting our lands, crops, water levels, and health. From unprecedented diseases to natural disasters like floods and bushfires, the manifestations of climate change are pervasive.

Ms. Ssekindi noted that while the world discusses climate change, it's imperative to acknowledge its profound implications on human rights. The right to health, access to water, housing, land ownership, and the ability to conduct businesses are all directly impacted. Astonishingly, major contributors to climate change, such as the United States, Europe, and China, profit substantially, while the continent most affected is Africa, contributing only a fraction to greenhouse gas emissions.

Ms. Ssekindi emphasized the challenges in accessing justice, especially when some leaders dismiss human rights and climate change as hoaxes. She noted that legal action becomes complex due to the gradual nature of climate change impacts. 'How do we prove that diseases, reduced yields, or environmental damages directly result from specific actions?' she asked.

Ms. Ssekindi shared a poignant case she handled involving stone quarries. Communities near quarries faced perilous situations during stone blasting. Roofs collapsed, lives were lost, and in some cases, animals experienced miscarriages. Access to justice for the affected, especially the poor, was elusive. How does one prove that environmental changes led to reduced yields or disrupted livelihoods? She noted that climate change's gradual nature further complicates litigation. It takes years for the full extent of impacts to materialize, making it challenging to pinpoint when legal action should be taken and who should be held accountable. She urged participants to reflect on climate change and noted that they should understand that it results from human actions, with significant culprits being human beings. 'Our environment is deteriorating, and we must scrutinize the major contributors, governments, and businesses alike.'

Ms. Ssekindi highlighted that climate change directly threatens various internationally protected rights, such as health, life, food, water, shelter, property, and livelihoods. The adverse effects are already evident, with increased diseases, disrupted food production, and population displacement. She went on to emphasize the role of the human rights framework in addressing climate change and the Government's obligation to respect, protect, and fulfill these rights. Ms. Ssekindi noted that governments must regulate private entities, especially businesses that contribute significantly to emissions. These companies must be held to account within the global system.

The conversation then shifted to climate justice—an approach that considers the climate crisis from the social justice perspective. Climate justice emphasizes protecting and empowering vulnerable groups and holding states accountable for protecting the people and environment. Businesses, as significant contributors, also bear a responsibility. It's a delicate balance that requires global solidarity and coordination to effectively address climate change's challenges. Ms. Ssekindi informed members that there have been attempts to litigate climate change through human rights perspectives. A notable case involved a petition to the Inter-American Commission on Human Rights, alleging that the US government failed to regulate greenhouse gas emissions, resulting in violations of various human rights. While the case was dismissed, it highlighted the potential of using human rights standards to address climate change issues. In response to climate change, Ms. Ssekindi noted that we must focus on adaptation, considering economic, technical, and political aspects. Strategies should involve creating new job sectors aligned with climate change mitigation and adaptation. Governments, businesses, and individuals all play a role in addressing climate change and must be held accountable for their actions. She noted that litigation, backed by human rights standards, can be a powerful tool in holding entities accountable. "As we navigate this complex landscape, it's essential to build a future that mitigates climate change and upholds the rights of all individuals, especially the most vulnerable among us."

Financing Development Programs and Climate Change Adaptation

Mr. Denis Mugagga - Head - Climate Finance Unit, Ministry of Finance, Planning, and Economic Development

Mr. Mugagga delved into Uganda's ambitious climate change adaptation goals, highlighting the significant financing challenges. Globally, the United Nations Framework Convention on Climate Change (UNFCCC) targets \$100 billion annually, but the actual need is \$4.3 trillion for the 2% target. Uganda, committed to raising \$28.1 billion under the East Africa Finance Access and Mobilization Strategy 2030, faces a substantial financing gap. To meet these goals, Uganda aims to raise \$17.7 billion for adaptation and \$10.3 billion for mitigation by 2030. Securing 15% from domestic revenue and 85% from international sources

is a considerable challenge. He acknowledged a 50% deficit based on annual investments of around \$7 trillion in climate action-related programs.

He shared that the major challenges to accessing climate finance are a lack of relevant climate finance mechanisms and tools necessary for effective mobilization, limited institutional capacity for management of climate finance and tracking of support, limited incentives to leverage private sector finance, limited capacity in proposal development, and lack of a pipeline of bankable concepts. He highlighted that over time, the Government has recognized the need for strategic partnerships and peer-to-peer learning among countries at all levels to improve access, uptake, and utilization of climate finance. It has also recognized the unique role of the private sector in bridging the existing climate finance gap, the urgency to deepen climate finance institutionalization, and the need for climate finance vehicles, among others.

Mr. Muggaga shared that climate finance is moving towards a more pragmatic approach. Uganda currently has a fully operational Climate Finance Unit (CFU) in the Ministry of Finance, Planning, and Economic Development that fast-tracks climate finance access and mobilization using a new programmatic approach at the country level, in line with Uganda's national climate action plans and priorities. In addition, a national climate finance strategy that will provide a road map to closing the finance gaps is in the pipeline. Uganda was identified as part of a task force for climate finance access, together with other countries, to leverage cross-learning and regional cooperation. Regarding climate finance at local levels, Uganda is exploring the use of performance-based climate resilience grants under the LOCAL program, which is designed to deliver climate finance to local actors and drive a power shift to enable them to plan, manage, and allocate funds according to their priorities.

Furthermore, Uganda is exploring innovative climate financing through carbon markets, debt for nature/climate swaps, and green bonds. Examples of carbon market project activities include switching from fossil fuels to renewable energy and enhancing or conserving carbon stocks in ecosystems such as forests. Effective implementation of carbon markets will, however, require the strengthening of the integrity of voluntary carbon credit markets, incentivizing carbon credit suppliers

to produce credits (especially when prices are low relative to production costs), promoting project activities with co-benefits, strengthened regulations and capacity development for a sustainable carbon credit industry, and ensuring that this a whole Government approach.

Mr. Muggaga noted that although Uganda has established policies, including the National Climate Change Act 2021 and the Green Growth Development Strategy 2027, accessing climate finance still presents challenges. External financing mechanisms like the Green Climate Fund (GCF) often involve lengthy approval processes. In addition, institutional capacity gaps and coordination issues impede implementation. Uganda has set up a dedicated CFU within the Ministry of Finance to address these challenges. The Government has also set up a National Climate Finance Strategy, emphasizing tools, institutions, coordination, and measurement frameworks. Regional collaborations, such as the East Africa Climate Finance Directors' Meeting, aim to enhance access to climate financing.

He concluded by emphasizing the opportunities presented by carbon markets across sectors, from agriculture to energy, providing avenues for private sector involvement. A green taxonomy for various sectors guides private sector investments, and the capital market's involvement in trading credits is being explored. He noted that Uganda seeks to diversify climate financing sources, enhance climate governance, and establish a robust reporting mechanism through the National State of Climate Finance Report. The goal, therefore, is to position Uganda to tap into diverse climate financing opportunities, including those from extractive industries like oil and gas.

Media Framing in the Context of Climate Change and Energy Justice

Kristofer Hoyt, Managing Consultant, Guidehouse Consulting, Denver, Colorado

Mr. Hoyt shared insights into media framing, particularly in the context of climate change and energy justice. He emphasized the interconnectedness of climate change, extending beyond the environmental crisis to economic and social dimensions. Energy injustice is highlighted, with over 10% of the global population lacking access to electricity and renewable energy constituting only about 12% of the global supply. The urgency to transition to more sustainable

energy sources is underscored, especially considering the ambitious targets for the coming decade.

Mr. Hoyt delved into the "policy crisis" concept, emphasizing the multifaceted nature of climate change that requires holistic solutions. He introduced meaning-making in the context of energy justice, emphasizing procedural and recognition justice and distributive justice. As discussed by Mr. Hoyt, framing involves understanding how issues are discussed and recognizing the patterns of meaning across space and time. He stressed that frames are used and created by individuals and institutions, shaping perceptions of climate change and renewable energy. The discussion moved toward social power and discourse analysis, acknowledging the importance of understanding power relationships in defining entities. Critical discourse analysis helps uncover what is being said and what is left unsaid, providing insights into power dynamics. Applying these concepts to energy, Mr. Hoyt explored various frames related to energy use, sources, access, benefits, costs, and barriers. He encouraged the audience to consider the diverse perspectives and interpretations associated with terms like "climate change" and "renewable energy. In conclusion, Mr. Hoyt prompted the audience to recognize the complexity of these issues and the importance of understanding the patterns of meaning-making in shaping public discourse on climate change and energy.

SECTION 2: INDUCTED FELLOWS

This section presents profiles of distinguished scientists inducted into the Academy Fellowship on October 27, 2023, and remarks from distinguished Fellows who have diligently served the Academy.

The Vice President, Dr. Mary Goretti Nakabugo, welcomed Fellows and inductees to the day's induction ceremony and AGM functions. She thanked the members for attending the Annual Scientific Conference on October 26, 2023. She further thanked the day's presenters, especially the keynote speaker, who highlighted, among other issues, the effects of climate change on most vulnerable societies and how it is our responsibility to address the crisis. - 'It is our responsibility to make the systems work for everyone'.

Remarks from the Past Presidents and Past Council Members

- Prof. Paul Edward Mugambi, the founding president and member of the Academy, highlighted that the Academy started in October 2001 to celebrate Excellence. The Academy was founded as an independent platform that offers advice to the government on several issues.
- ii. It is a platform for all scientists ranging from, among others, natural sciences, biological sciences, physical, health and medical sciences, social sciences, agricultural sciences, veterinary sciences, information, communication and technology, and physical sciences.
- iii. UNAS at the time was elected to mentor other Academies, including the Tanzania Academy of Sciences and Ethiopian Academy of Science, and eventually, with other Academies around Africa, they founded Network of Africa Science Academies (NASAC)-a consortium of merit-based science academies in Africa that aspire to make the "voice of science" be heard by policy and decision-makers within Africa.
- iv. The Academy was meant to ensure credibility and legitimacy with the government in the country and interact with it on issues of importance. The Fellows would voice their ideas through policy briefs or engage with the government at different levels.
- v. The Fellowship was established for Academy Fellows to serve society and ensure that all work done are based on credible evidence, "Senate of Ideas."
- vi. Prof. Nelson Sewankambo served in various capacities as a Fellow of the Academy. He served as the President of the Academy from 2014 to 2019. He also served as a Chair of the Uganda National Immunization Advisory Group (UNITAG), which supported the Ministry of Health in making decisions regarding vaccines and Immunization. The UNITAG is an independent body that provides the Ministry of Health with advice on vaccines and immunization. New Fellows were encouraged to take up positions and support the Academy's work.
- vii. Prof Patrick Rubaihayo, who served as a former vice president of the

Academy, noted that the Academy should be used by the government to receive advice, noting that some donors require countries to have academies before they can access funding. He stressed two key issues in the country that require the input of the Academy to offer independent advice to the government: first, the government's establishing an authority to handle Aflatoxins and the issue of siniya in Rice. The Fellows in Agriculture can offer independent advice to the government through a Policy brief.

- viii. Prof. David Justin Bakibinga noted the following on the role of the Academy's Council and Secretariat.
 - a. He was inducted in 2005 as a Fellow of the Academy. He served as Secretary-General on the Academy's Council 2016 to 2022 and is still a Finance and Administration Committee member.
 - b. The Fellows to be inducted are nominated by a distinguished Fellow of the Academy and seconded by another Academy's Fellow. After a rigorous process, the nominees are inducted into the Academy in an induction Ceremony that happen at the Annual Scientific Conference once a year at the end of October. The newly inducted Fellows are given a constitution to help them understand how the Academy operates. They are also expected to be part of the Academy's committees and actively engage in societal issues.
 - c. A UNAS Fellow can be a member of the other academies around the World. UNAS needs to be visible in several activities and maintain competition with other Academies on the African Continent, such as the African Academy of Sciences.
 - d. UNAS has a Governing Council of 11(Eleven) members, of which there 4 (four) are the officers of the Academy, including, President, Vice President, Treasurer, and Secretary General. The Council monitors the Academy's operations through the Secretariat.
 - e. The Academy has a Secretariat headed by the Executive Secretary.
 The Secretariat has staff who handle the Academy's daily activities.
 The staff members currently include the Principal Research
 Officer, Senior Strategic Initiatives and Development Officer,

- Senior Administrative Officer, Senior Communications Officer, Senior Finance Officer, Research Officer, Research Assistant, and Research and Administrative Assistant.
- f. Lastly, the Academy has embarked on a mission to secure a permanent UNAS home. He called upon all Fellows and well-wishers to support the mission.

The Induction Ceremony

- 1. Dr. Florence Mutonyi reechoed that to become a Fellow, one must be nominated and seconded by other Fellows of the Academy. The fellows and committee members rigorously vet the nominees. Critical aspects considered include the nominees 'numbers of publications.
- 2. Prof. Grace Ndeezi further highlighted the responsibilities of a Fellow, noting that they are numerous and documented in the constitution of the Academy. However, the key responsibilities include:
 - i. UNAS Fellow shall endeavor to uphold the spirit of the Academy and the constitution of UNAS and strive to contribute to achieving the Academy's vision, mission, and objectives.
 - ii. The Fellows are expected to remain academically active and meaningfully pursue academic excellence in their respective areas of expertise.
 - iii. The Fellows should be available to participate actively in the Academy's convening, and consensus activities whenever called upon voluntarily, whether such participation is paid or otherwise.
 - iv. The Fellow should ensure a high standard of conduct based on national and international best practices.
 - v. A Fellow should foster good relationships among members and Fellows of the Academy, the scientific community, and the general public.
 - vi. One can lose their membership as a Fellow if convicted by a competent court or other legally competent authority of crime, or the serious other offense or is declared bankrupt or to be of unsound Mind.
 - vii. Dr. Mutonyi D'Ujanga conducted the induction process, which was both physical and hybrid. Two inductees were online and the rest were present for the ceremony.
 - viii. The inductees were from six categories: Health and Medical Sciences, Social Sciences, Agricultural Sciences, Veterinary Sciences, Information and Communication Technology, and Physical Sciences. They were handed over certificates of induction.

PROFILES OF THE INDUCTED FELLOWS



PROF. TOBIAS F. RINKE DE WIT, HEALTH AND MEDICAL

SCIENCES, (PhD). Prof. Rinke is a molecular biologist, public health specialist, and Director of Research of the PharmAccess Group and Joep Lange Institute (JLI). Tobias stimulates multi-disciplinary implementationand evaluation research along the agenda of PharmAccess. Research is mainly in (diagnosing) infectious diseases in Africa, healthcare quality improvement, and innovative

healthcare financing supported by mobile health technologies. Tobias holds an Academic Chair at the University of

Amsterdam. He leads the Department of Global Health and Amsterdam Institute for Global Health and Development (AIGHD), a team of scientists, PhD and Master students. At AIGHD, he coordinates a large-scale HIV test & treatment program in Tanzania. As Principal Investigator at the Department of Global Health of the Amsterdam University Medical Centre, Tobias develops the so-called 'connected diagnostics' technology for improved quality and financing of healthcare delivery in Africa. Tobias serves as Chair of the WHO Global HIV Drug Resistance Network advocacy workgroup. Another focus of his work is on COVID-19 in Africa, mainly digital mobile rapid diagnostics and the effect of African immune activation status on COVID-19 symptomatology. He published over 225 articles in peer-reviewed journals and served on the Boards of MondialDx and HealthInc Amsterdam.



PROF. DAMALIE NAKANJAKO - HEALTH AND MEDICAL

SCIENCES – MEDICINE. Prof. Nakanjako is a Professor of Medicine, Principal of the College of Health Sciences, and immediate past Dean of the School of Medicine at Makerere University, Kampala (MAK), Uganda. She holds a Bachelor's 'degree in Medicine and Surgery (MAK,1999), a Master of Medicine degree in Internal Medicine (MAK, 2005), and a doctorate in

Biomedical Sciences (University of Antwerp, Belgium, 2010). She has over 22

years of experience in Infectious Diseases care, research, and training. She has led several research, training, and mentorship programs, including Makerere University-UVRI Infection and Immunity program, to build Africa's capacity for scientific leadership in Infection and Immunity research. She currently leads the Cluster of Excellence in Translational Research in Infection,

Immunity and Inflammation of the African Research Universities Alliance (ARUA) and The Guild of European Research-Intensive Universities collaboration in support of the proposed African Union (AU) and European Union (EU) Innovation agenda.mDamalie has established a translational immunology group at Makerere and has mentored over 57 upcoming scientists at postgraduate, doctoral, and post-doctorate levels, to build the next generation of scientists in Africa and worldwide. She is the winner of the 4th Fourth Annual Merle A. Sande HealthLeadership Award 2013 in recognition of her contributions towards leadership and health care in Africa and The World Academy of Sciences (TWAS) – Abdool Karim 2022 Award in Biological Sciences; that was designed to honor women scientists in Low-Income African Countries for their achievements in Biological Sciences. Her research has focused on improving the lives of people living with HIV, including simple interventions like cotrimoxazole prophylaxis and safe water in rural communities to reduce diarrhoea and hospitalization, routine HIV testing policies, integrating routine TB screen in HIV care programs as well as epidemiological and translational studies to understand immune recovery and the quest for an HIV cure within long-term HIV treatment cohorts.



DR. SAM OKWARE IKWARAS - HEALTH AND MEDICAL SCIENCES - PUBLIC HEALTH, EPIDEMIOLOGY/BIOSTATISTICS - CONTROL OF INFECTIOUS DISEASES AND EMERGING AND REEMERGING INFECTIONS.

Dr. Okware is a medical doctor and public health specialist. He studied at Makerere and the United States. He obtained his PhD in emerging infections at the University of Bergen. He is the Director General of the Uganda National Health Research Organization. He is

also a professor of public health and epidemiology for postgraduate university students. He is well known forhis pioneering work and research on HIV/AIDS and emerging

infections. When *Disease Slim* emerged in Rakai in the 1980s, the disease wiped out countless patients, devastating families and communities. Slim was a death sentence, and despair was everywhere. Dr Sam Okware led the pioneering work in HIV/AIDS research and prevention. That early work discovered the heterosexual transmission of HIV. That evidence led to establishing the establishment of the first national AIDS Control Program in Uganda and the region. Dr Okwarewas the manager and head of this program. The Africa region adopted the national ABC strategy and became the international standard for HIV prevention and control and care. This initiativeled to drastic first ever drastic declines in HIV infection in Uganda. Today, HIV is no longer

a death sentence but a chronic and manageable disability. Dr Okware held several critical positions in the Ministry of Health regarding disease control. He coordinated emergency preparedness and response and developed national systems for outbreak management. During the Gulu major Ebola outbreak in which several healthcare workers died, Dr Okware led efforts that successfully contained the highly fatal disease. Dr Okware has considerable international experience in HIV and emerging infections work. As a consultant, he supported several countries in developing their AIDS control programs, particularly in Africa, the Americas, and Asia. He was a founding member of the International AIDs Society and the International Conference of AIDS and Sexually Transmitted Diseases in Africa. He was a member of the WHO Expert Committee on Research and Development. He serves as Commissioner of the East African Health Research Organisation. Recently, he was appointed to the Board of Governors of the EDCTP (EU Developing Countries Clinical Trials Program) international research Organisation. Okware has published over 200 peer-reviewed articles on public health, AIDS, and emerging infections. He is the current Editor of several reference books on Advances in Ebola and HIV/AIDS Control. Five such books have been published over the last four years. He contributed and is the Editor of a new reference book on New HIV Treatment and Development, due for publication in December of this year. He has received several awards for his outstanding contribution to the fight against HIV/AIDS and Ebola, including Parliament and the international echelons. He has a passion for research on HIV/AIDS and remerging infections.



DR. SUZANNE KIWANUKA-HEALTH AND MEDICAL SCIENCES – PUBLIC HEALTH SYSTEMS AND POLICY. Dr. Kiwanuka is a Prolific health systems researcher who has participated in grants cumulatively totaling over \$5M as lead or colead. These have included the Future Health Systems Research and Maternal and Newborn Implementation for Equitable Systems (MANIFEST), all focusing on strengthening demand and supply systems for better maternal and newborn health outcomes. Dr Kiwanuka

has led research assessing and collating country lessons on COVID-19 response across 4 African Countries and is currently analyzing priority settings for health systems in emergencies across African countries. She is also part of a team that generates and supports evidence-based policy and practice for family planning in Uganda – recently concluded work on building a community of practice and capacity for embedded research across 10 African countries under the Knowledge Translation Network for Africa.



PROF. ANNETTEE OLIVIA NAKIMULI - HEALTH ANDMEDICAL SCIENCES - MEDICAL /OBSTETRICS AND

GYNAECOLOGY. Prof. Nakimuli is the Dean of the School of Medicine and Associate Professor of Obstetrics and Gynaecology at Makerere University. Annettee trained as a medical doctor and later as an Obstetrician and Gynaecologist at Makerere University. She has a PhD in Medicine, and her doctoral training was undertaken at Makerere and Cambridge Universities.

Annettee has had a stellar career growth since

joining Makerere University as an Assistant Lecturer sixteen years ago. She has previously been Head of the Department of Obstetrics and Gynaecology. She has won many large research grantsand has published over 70 papers in peerreviewed journals. Her research group investigates pregnancy complications common in African women, such as pre-eclampsia, fetal growth restriction, preterm birth, and infections. Her studies aim at developing tools to improve the prediction, management, and prevention of pregnancy complications. Noteworthy, she conducted the first genetic study of pre-eclampsia in Africa. She is a Gates-funded Calestous

Juma Science Leadership Fellow, an International Fellow at Wellcome Sanger Institute in the UK, and a FLAIR Fellow (Future Leaders-African Independent Research) of the Royal Society. Annettee serves on several national and international committees on maternal health, including the National Safe Motherhood Expert Committee, where she chairs the pre-eclampsia subcommittee. She is the President of the East Central and Southern Africa College of Obstetrics and Gynaecology, which brings together obstetricians/gynaecologists in the 14 member countries. Annettee is an internationally renowned maternal health researcher committed tobuilding maternal research capacity in Africa and has the merit to be a Fellow of the Academy.



PROF. SHUAIB LWASA – SOCIAL SCIENCES – URBAN

SUSTAINABILITY. Prof. Lwasa is a principal researcher on adaptation, governance, and transformation at the Global Center on Adaptation. Shuaib has over 22 years of experience in university teaching and research as a Professor of Urban Sustainability at Makerere University, Uganda. He has worked extensively on interdisciplinary research projects focused on African cities but also in South Asia. His publications include

urban mitigation and adaptation to climate change, urban environmental management, spatial planning, disaster risk reduction, and urban sustainability.

Shuaib is a Coordinating Lead Author of the IPCC WG III Chapter 8, "Urban Systems and Human Settlements," and Lead Author for the IPCC Special Land and Climate Change report. He is the past Chair of the interdisciplinary research program on Integrated Research on Disaster Risk.



DR. JOSEPH RUJUMBA – SOCIAL SCIENCES - SOCIAL PAEDIATRICS, CHILD AND ADOLESCENT HEALTH.

Dr. Rujumba is a Senior Lecturer, Social Scientist, and qualitative researcher at the Department of Paediatrics and Child Health with over 20 years of research and teaching experience in the health sector focusing on the social determinants of child, adolescent, and maternal health. Joseph holds a Bachelor's Degree in Social Work

and Social Administration, a Master of Social Sector Planning and Management from Makerere University, and a

Ph.D. in International Health from the University of Bergen, Norway. His PhD thesis was on the Social Context of Prevention of mother-to-child transmission of HIV in Uganda. His current work addresses HIV care and prevention, HPV and childhood vaccination, health systems research, careseeking practices, malaria prevention and treatment, Sickle Cell prevention and care, male partner involvement in health, and violence against children and women. Joseph has authored over 40 peer-reviewed journal articles on child, adolescent, maternal, and community health. His work has contributed to understanding the challenges in pediatric HIV prevention andcare, care for children and adolescents with Sickle Cell Disease, institutionalizing health programs, and community-based healthcare programming for children and women in Uganda. Joseph is a co-founder and head of psycho-social services at the Mulago National Referral Hospital Adolescent Clinic.



DR. PAUL MUGABI - AGRICULTURAL SCIENCES - WOOD PRODUCTS SCIENCE, FOREST UTILIZATION

AND BIOMASS ENERGY. Dr. Mugabi conducted groundbreaking research on woody species and their products and published ten articles in journals as first author and nine as co-author; one book chapter; and one patent. His research on wooden utility poles guided the determination of the moisture content of utility poles before applying preservative treatment at the Theoretical

Ground Line rather than the mid-point. Furthermore, he developed a novel, non-destructive method of measuring internal defects in poles after seasoning,

patented and adopted by the wood industry in South Africa and Uganda. The procedure has also been incorporated into the national guidelines and standards on pole processing in Uganda and South Africa. This innovative research significantly reduced the premature failure of wooden utility poles in service, restored confidence in the poles, and limited the use of alternative products, such as expensive concrete poles on the grid in Uganda. His studies on lesserused species and the eucalypt clones guided utilization and widened Uganda's timber resource base, reducing pressure on the few well-known species. Dr Mugabi's scientific research has also introduced wood and agricultural residues as alternative clean energy sources in Uganda through biomass gasification and densification technologies. Dr. Mugabi is the current chairperson for the EASC/ TC 022, a technical committee for the East African Community for developing Standards for wood, timber, and their products in the region. He has supervised and examined several MSc and PhD theses for Makerere University, Stellenbosch University, and Sokoine University. He has reviewed research grant proposals and several journal manuscripts.



DR. PETER EBANYAT - AGRICULTURAL SCIENCES - SOIL

SCIENCE (SYSTEMS AGRONOMY). Dr. Ebanyat is a Senior Lecturer in the Department of Agricultural Production at Makerere University and holds a PhD in Production Ecology and Resource Conservation from Wageningen University, The Netherlands, an MSc (Soil Science) and a BSc (Agriculture) both from Makerere University. He is a systems agronomist with research

experience spanning over 20 years of improving productivity and resource efficiencies in small-holder farming systems. He has been the Principal Investigator and co-investigator of several interdisciplinary collaborative research projects, some of whose findings have informed the development of frameworks for tailoring production options and scaling of best-fit possibilities for improving the productivity of small-holder systems. Peter has supervised over 20 graduate students and numerous undergraduate students. He has published over 50 peer-reviewed journal articles and five book chapters and is a reviewer for many scientific journals. He is interested in understanding the interactive effects of agricultural intensification and climate change and the impacts of reactive nitrogen on the environment.



DR. THOMAS LAPAKA ODONG AGRICULTURAL SCIENCES - BIOMETRY,
GENETICS AND RESEARCH

METHODS AND BIOINFORMATICS. Dr. Odong holds a PhD in Statistical Genetics from Wageningen University and is currently a Senior Lecturer at Makerere University. His specialization areas are Biometry, Research Methods, Genetics, and Bioinformatics. Dr Odong has made a tremendous contribution to science and society. He is active in knowledge generation and

sharing with over 100 scientific

publications with a total citation of 967, h-index of 16, and i10-index of 24. One of his papers won "The 2014 Outstanding Paper in Plant Genetic Resources award from the American Crop Science Society". He has mentored and supervised many young scientists, including 10 MSc, 5 PhDs, and 3 Post-Doctoral fellows. On top of teaching, Dr. Odong provides technical backstopping in research design, data management, and analysis to research scientists and academics at NARO, IITA, and RUFORUM member universities. He has supported strengthening applied statistics and biometry capacity in sub-Saharan Africa; he has been a visiting lecturer at the University of Ghana, the University of KwaZulu Natal, the University of Namibia, and the University of Zimbabwe. He has facilitated over 30 trainings in researchdesign, data management, and analysis and has so far trained over 1000 scientists from universities and research institutions across Africa. Dr Odong has developed a statistical technique for defining core collection in gene banks and was a part of the team that developed Uganda's sorghum germplasm core collection.



DR. YAZIDHI BAMUTAZE - AGRICULTURAL SCIENCES -

GEOGRAPHICAL SCIENCES. Dr. Yazidhi has 25 years of professional experience, leadership, and training in Africa and Europe. His field of professional expertise and specialty primarily lie in Geomorphology and Geoinformation Science, with a teaching bias in Natural Hazards, Disaster Science, Geographical Information Systems, and Remote Sensing. His research is primarily

concentrated on drivers of geohazard processes and patterns. He applied deep knowledge in geography and spatial data analytics

to solve complex problems in global environmental change (land use change/land cover and transitions, climate change), mainly focusing on fragile landscapes. His core research focuses on two lines of scientific inquiry: (1) establishing contextual relationships between human and natural processes to understand

better risk contexts and dimensions in fragile landscapes and (2) advancing geospatial analytics. He authored over 60 scientific publications, including 50 journal articles. I have over 50 publications in peer-reviewed journals and book chapters. My citation indices as of October 2023 stand at Citations 796, H-Index = 15, i10 index = 23. He is a member of the Editorial Board of four international journals and one local journal and he has successfully supervised five PhD and 30 Masters students to completion. A Makerere University Senate member representing the School of Forestry, Environment and Geographical Sciences (SFEGS).



PROF. NELSON TURYAHABWE AGRICULTURAL SCIENCES

- FORESTRY. He is a Professor in the Department of Extension and Innovation Studies, School of Agricultural Sciences, College of Agricultural and Environmental Sciences, Makerere University. He holds a BSc and MSc. Forestry from Makerere University and a PhD in Forestry (Community Forestry) from the University of Stellenbosch. Has vast experience in teaching, research,

consultancy, and community outreach in the areas of Extension, Rural Development, Sustainable Forest and

Wetland Management, Environmental Governance, Policy and Institutional Analysis, Climate Change and Adaptation, Community-Based Forestry/ Natural Resources Planning and Management, Project Monitoring and Evaluation, Forest Certification and Auditing. He has been involved in curriculum development and supervised over 20 MSc and PhD students. He has published over 30 articles in peer-reviewed journals and book chapters in sustainable forestry management, agriculture, rural development, wetland management environment, and allied resources. Prof. Turyahabwe is an Innovation Scholar on a collaborative project between Makerere University's College of Agricultural and Environmental Sciences (CAES) and Michigan State University's Borlaug Higher Education for Agriculture Research and Development (BHEARD) Programme. He is currently a Principal Investigator on a project Titled, "Diversity and Inclusion in Leadership Training" between Makerere University in partnership with Michigan State University (MSU) African Studies Center and Michigan Fellows Agribusiness Initiative (MFAI), supported by Alliance African Partnership (AAP); and Environmental, social and human health impacts of Artisanal and small-scale gold mining in Uganda; Status, concerns and mitigation" supported by Makerere Innovation Research Fund and Government of Uganda. He has previously led and successfully coordinated research projects funded by IDRC SIDA through the Inter-University Council for East Africa (IUCEA). He has been a reviewer/Vetter of various proposals and concepts for PhD students from DRGT. Turyahabweis a

Member of Uganda Conservation and Agroforestry Development (UCAD) Ltd, Uganda Forestry Association (UFA), Commonwealth Forestry Association and Uganda Forestry WorkingGroup.



DR. DENNIS MUHANGUZI - VETERINARY SCIENCES - MOLECULAR EPIDEMIOLOGY/NATURAL SCIENCES. His contributions to the sciences have focused on the molecular epidemiology of tsetse and tick-borne diseases and on applying new research outcomes to address public health and veterinary health problems. These research efforts have culminated in a better understanding of tick-borne hemiparasites circulating

in Uganda as well asthe optimization of the protocol of preferentially applying pyrethroid insecticides on the predilection sites of tsetse flies and ticks (RAP) to control human and animal African trypanosomiasis –HAT/AAT (sleeping sickness/nagana) with extended benefits on the control oftick-borne diseases. This approach finds applied attraction in small-holder livestock farmers with inelastic budgets whose health has been constrained by zoonotic diseases like sleeping sickness and poverty aggravated by hunger due to low livestock production because of tsetse and tick-borne diseases. Dennis anticipates extending his contribution to sciences in reverse pharmacology/genetics, molecular epidemiology of neglected zoonotic diseases, and designing cheap and sustainable diagnostics. He has drawn > £ 1 million into producing over 30 peer-reviewed publications.



DR. JULIANNE SUSANNE SANSA OTIM - INFORMATION AND COMMUNICATION TECHNOLOGY. She is a resourceful and productive scientist who takes initiative in exceeding objectives. She is a keen researcher who finds work within collaborative partnerships exciting. She is currently a Senior Lecturer at Makerere University College of Computing and InformationSciences and leads the IoTra lab. Under her leadership, the IoT-ra lab developed

several innovative solutions, including i) a low-cost automatic weather station, ii) weather information dissemination systems, iii) weather data repositories, and weather forecast models. These solutions were deployed in Uganda (in partnership with the Uganda National Meteorological Authority) in Tanzania, South Sudan, Ghana and Nigeria. She has also undertaken multi-disciplinary studies with health, agriculture, and electrical engineering colleagues. Her research lab has won research grants from several Development agencies,

resulting in capacity building within the Computer Networks Department, which she led for seven years. Julianne has published widely in peer-reviewed international journals and conferences. She received a PhD in Communications Networks from the University of Groningen, the Netherlands, after studying "Internet High-speed Data Transport Protocols." Before that, she had completed an MSc. in Computer Science and a BSc. in Computer Science and Mathematics from Makerere University. Her research interests are Internet- of-things for developing regions, ICT4Development, Communications Network Protocol Design, telecommunication policies analysis, Quality of Service, Quality of Experience and Systems Security. Julianne is currently the Principal Investigator of a 5-year multi-disciplinary international research project building an adaptive environment monitoring network with applications in pollinator protection and insect pest control (www.ademnea.net).



DR. SAPHINAH BIIRA - PHYSICAL SCIENCES - PHYSICS (MATERIALS SCIENCE FOR ENERGY TECHNOLOGIES.

She is a self-driven Senior Scientist, Educationist, and Administrator with over 20 years of working in Educational Institutions. Her experience includes teaching (high schools and universities), research, outreach engagements, and administration. She is an expert reviewer and assessor

with NCHE, which assesses the readiness of academic institutions, validates facilities, and reviews academic programs for possible accreditation. A mentor for the emerging women in science, technology, and innovations (STI) in Uganda, Sudan, and Mozambique (a project under Forum for Women Vice Chancellor in Africa (FAWoVC). She also does unstructured mentorship personally for young girls, upcoming scientists, and career women. She is an Executive member of the Steering Committee of the African Light Source (AfLS), a technical committee spearheading the coming of the first-ever African Light Sources (i.e., Synchrotron), a Team Leader, and International Committee of Women in Physics (ICWIP) for Uganda. A founding member for the formation of the OWSD Uganda Chapter, currently registered by OWSD, and she is its Outreach and Publicity Coordinator. Member of Uganda University Quality Assurance Forum (UUQAF) and East Africa Quality Assurance Network (EAQAN), bodies spearheading and streamlining the quality in education institutions in East Africa. An external examiner and supervisor for several postgraduate student dissertations for Makerere University, Kyambogo University, and Busitema University. She is a reviewer of several Journals and conference series. She has contributed widely to the body of knowledge, as evidenced by the number of publications, reads, citations, and conferences attended. She was a member of Gulu University Council representing students and Busitema University Council representing academic staff.

ANNEX 1: SPEAKER BIOGRAPHIES



MS. SUSAN NANDUDDU

Susan Nanduddu is a development practitioner interested in climate justice, gender equality, and trade empowerment. For over 15 years, she has been involved in climate change knowledge brokering, climate policy formulation, and program and project design.

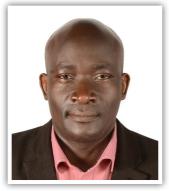
She is a theme lead for the International Community Based Adaptation Conferences, including climate finance and Adaptation Innovation. Recently, she was co-convener of a webinar on the intersectionality of climate justice in Eastern Africa with professors

from the University of Leeds and the University of Nairobi. She advocates for increased, flexible, and accessible climate finance mobilized by the Minority World and that most of this finance should reach the frontlines of climate change at the local level. She is the Executive Director of the African Centre for Trade and Development (ACTADE), a non-governmental organization that promotes trade empowerment, climate action, and inclusive budget advocacy in Uganda. ACTADE is the interim fund manager for the Least Developed Country Initiative for Effective Adaptation and Resilience, which intends to deliver 70% of climate finance to the local level. Susan holds a Master's in Development Studies from the Uganda Martyrs University.



MS SEKINDI RUTH, Director of Monitoring & Inspections, UHRC. Ruth Ssekindi is a passionate human rights lawyer who has dedicated 17 years in the human rights field. Ruth is currently the Director for Monitoring and Inspections with the Uganda Human Rights Commission, a position she has held for four years where she is charged with ensuring UHRC's monitoring of the human rights situation in Uganda and monitoring the Government's compliance with international treaties and convention obligations. Before this, Ms. Ssekindi

spent 12 years as Director of Complaints, Investigations and Legal Services, where she investigated, mediated, and offered redress in thousands of cases.



MR. FRANCIS KIBIRIGE. Francis Kibirge is the Managing Director of Hatchile Consult Ltd, a local social research company; he has worked as a sampling Specialist with Afrobarometer, where he was charged with the responsibility of overseeing the quality of Afrobarometer national representative samples across 30 African Countries, provided support to National Partners to design and implement fieldwork methodologies consistent with Afrobarometer field protocols. He has worked as an Afrobarometer Network Data Manager in

20 African countries to produce quality public opinion datasets, worked closely with national teams to prepare national representative samples, conducted field training, and implemented quality assurance protocols. He is an Afrobarometer Fellow who has undergone Fellowship training in Political Science, Research Methodology, and Advanced Statistics from both the University of Cape Town and the University of Michigan. He graduated with a Bachelor of Science in Agricultural Engineering from Makerere University.



DR. JOSEPH KATSWERA

Joseph Katswera is the District Natural Resources Officer for Kasese District Local Government. He is a champion for tree growing and a champion in renewable energy in Kasese District. Mr. Katswera has been rallying households in Kasese to use energy-saving stoves for cooking and solar lighting instead of clearing trees for wood fuel.



DR. KRISTOFER HOYT Ph.D.

Kristofer Hoyt is a Managing Consultant Guide house, a leading global provider of consulting services to the public sector and commercial market with broad management capabilities. He is also a Professor in the Sociology department at Colorado State University. He is a well-rounded and experienced social researcher, communicator, and educator with experience in qualitative interviewing, evaluation research, survey methods, quantitative research, and media analysis. He is interested in energy efficiency,

renewable energy, research, education, environment, social science, and culture.

ANNEX 3: LIST OF PARTICIPANTS

No	Name	Organization	Email/phone contact
1	Dr. Maria Goreti Nakabugo	UNAS	gnakabugo@uwezouganda.org 0772951762
2.	Prof. Livingstone Luboobi	FUNAS	0759170077
3.	Mr. William Bigambwesi	UNAS	0392885878
4.	Prof. Paul Mugambi	FUNAS	ppmugambi@yahoo.co.uk 0772454541
5.	Mrs. Lydia Mugambi	FUNAS	0770537060
6.	Mr. Owor Domisiano	Petroleum Authority of Uganda	0773334200 domisiano.owor@pau. go.ug
7.	Prof. David J. Bakibinga	FUNAS	djakibinga@gmail.com 0772402356
8.	Dr. Maxwell Otim Onapa	FUNAS	Maxwell.otim@gmail.com
9.	Mr. Christopher Rokoni	UNOC	Christopher.rokoni@unoc.co.ug 0784438238
10.	Ms. Bridget Kyarikunda	Youth Go Green	kyarikudabridget@gmail.com 0705050818/0772370805
11.	Mr. Peter Byarwanju	UNFEE	peterwanju@gmail.com
12.	Prof. Oswald Ndoleriire	Kabale University	ondoleriire@gmail.com 0772419001
13.	Dr. Roboni Tumuhimbise	NARO	0778455710
14.	Mr. Simon Musasizi	CCFU	trust@crossculturalfoundation.or.ug 0776652240
15.	Ms. Esther Nakkazi	Consultant	estanakkazi@gmail.com
16.	Prof. Esezah Kakudidi	MAK	esezahk@gmail.com
17.	Mr. Richard Kagolobya	MAK	Richard.kagolobya@gmail.com
18.	Mr. Peter Kibazo	UMI	pkibazok@gmail.com
19.	Mr. Johnson Asiimwe	Finding XY ltd	Johnson.asiimwe@findingxy.com
20.	Mr. Steven Mwiru	MWE	0773099075
21.	Mr. Stephen Opio	MWE	0782013963 stevenopio@gmail.com
22.	Dr. Thomas L. Odong	CAES Maker- ere university	Thomas.l.odong@gmail.com 0772986821
23.	Ms. Nabukalu Benitah	UBC	0703347099
24.	Dr. Sam Okware	UNHRO	0772409810
25.	Prof. Nelson Turyahabwe	Makerere University	0772642283
26.	Prof. Patrick Rubaihayo	MAK	prubaihayo@gmail.com 0772734416
27.	Mr. Mathias Robert Arinaitwe	UNMA	Mathiasrobert99@gmail.com 0788584129
28.	Prof. Monica B. Chibita	UCU	0779842135

29.	Mr. Denis Asiimwe	GCGI	0782787536
30.	Ms. Honesty Natumanya	MAMITA	0788194664
31.	Prof. Twaha Ali Basamba Ateenyi	Makerere	0782475422 twaha.basamba@mak.
32.	Mr. Kitazze Dan	Buganda Kingdom	0772643944 kitazzedan@gmail.com
33.	Dr. Benon Kigozi	MUK	benkigozi@rocketmail.com
34.	Ms. Asiimwe Hannah	MUK	Kayzhannah300@gmail.com
35.	Ms. Nampiima Ruth Angel	MUK	Nampiimaruth12@gmail.com
36.	Mr. Sydney Sproul	UNAS	ssproul@unas.org.ug
37.	Prof. Nelson K Sewankam- bo	Mak CHS	sewankam@infocom.co.ug
38.	Mr. Denis Mugagga	MoFPED	Denis.mugagga@finance.go.ug
39.	Prof. Grace Ndeezi	MakCHS	gndeezi@gmail.com
40.	Ms. Ruth Ssekindi	UHRC	ssekindi@yahoo.com
41.	Dr. Joseph Rujumba	MAK	jrujumba@yahoo.com
42.	Ms. Irene Atim	UNAS	iatim@unas.org.ug
43.	Ms. Lucy Ampumuza	UNAS	0774194465
44.	Dr. William Olupot	Nature and livelihoods	wolupot@gmail.com
45.	Mr. Allan Ochieng	NPA	Allan.ochieng@npa.go.ug 0776008099
46.	Dr. Kristofer Hoyt	Guide house	kristoferhpyt@gmail.com
47.	Mr. Isa Kawude	OPM	Isakawunde@gmail.com
48.	Mr. Edward Okot Omoya	EADB	Eomoya@eadb.org
49.	Ms. Rebbeca N. Sserwanga	Triune Consult	rnabatanzi@gmail.com
50.	Dr. Peter Ebanyat	MUK	Peter.ebanyat@gmail.com
51.	Mr. Francis Kibirige	Afrobarom- eter	fkibirige@afrobarometer.org
52.	Ms. Carolyne Nakayiza	Afrobarom- eter	carol@hatchileconsult.com
53.	Dr. Donald R. Kugonza	MUK	donkugonza@gmail.com 0782874551
54.	Ms. Lena Bratlie	UNCDF	07888817597
55.	Mr. James Magezi Akiiki	Climate Change Adaptation innovation CHAI	0772413311
56.	Mr. Kasagga Shafic	MUK	
57.	Ms. Mary Kansiimu	NewVision	mkansiimu@newvision.co.ug
58.	Mr. Robert Katamba	UBC TV	0700246030 robertkatamba@gmail.

59.	Dr. Emmanuel Kasimbazi	Makerere/FU-NAS	ekasimbazi@yahoo.com
60.	Prof. Joseph Obua	Mak University	0772444492 jobua09@gmail.com
61.	Ms. Sana Naluwembe	UNFC- CC-RCC	snaluwembe@unfccc.int
62.	Mr. Jill Musoke	UNOC	Jillmusoke7@gmail.com
63.	Mr. Benard Osiron	UNOC	Benard.osiron@unoc.co.ug 07750754466
64.	Mr. Kawalya Ronald	MoJCA	Kawalyaronald@gmail.com
65.	Dr. Yazidhi Bamutaze	Mak CAES	yazidhibamutaze@gmail.com
66.	Dr. Joseph Katswera	Kasese DLG	katswera@gmail.com 0772997158
67.	Prof. Peter Baguma	Makerere	Peter.baguma@mak.ac.ug
68.	Mr. S. K Lwanga		sklwanga@gmail.com 0772770099
69.	Prof. Florence D'ujanga	Makerere	0772478333 fdujanga@gmail.com
70.	Dr. Anywar Godwin	Makerere/FU- NAS	0702983410 godwin.anyawar@gmail.
71.	Mr. Micheal Bamawanye	Kyambogo University	Micky831@yahoo.com
72.	Dr. Everline Komutunga	NARO-NARL	komutunga@gmail.com
73.	Mr. Owor Conrad Ezra	Action Coaltion on climate change	Conrad.owor@gmail.com 0782311664
74.	Mr. Eddie Sembatya	Finding XY	Eddie.sembatya@findingxy.com
75.	Dr. Saphina Biira	Busitema University	0772523936 bsaphina@gmail.com
76.	Prof. Damalie Nakanjako	Makerere university	0772411273 dnakanjako@gmail.com
77.	Dr. Dennis Muhanguzi	MAK	0772331048
78.	Ms. Susan Nanduddu	ACTADE	snanduddu@actade.org
79.	Dr. Kalule Okello David	NARO	Kod143@gmail.com
80.	Prof. Maud Kamatenesi	UNAS	mkamatenesi@gmail.com
81.	SSP. Nyamaizi Marion	UPF	Marion.nyamaizi@upf.go.ug
82.	Ms. Hawah Nabweteme	UNAS	hnabweteme@unas.org.ug
83.	Mr. Louis Javuru	UNAS	
84.	Mr. Daniel Masereka	UNAS	
85.	Ms. Celia Nalwadda	UNAS	
86.	Mr. Christian Acemah	UNAS	
87.	Prof. Annettee Nakimuli	MUK school of medicine	0772471618 <u>annettee.nakimuli@gmail.</u> <u>com</u>
88.	Dr. Suzanne Kiwanuka	MSPH	skiwanuka@musph.ac.ug
89.	Dr. Julianne Sansa Otim	MAK	sansa@cit.ac.ug

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Uganda National Academy of Sciences

A4 Lincoln House | Makerere University
PO Box 23911, Kampala Uganda
Tel: +256-414-53 30 44 | E-mail: unas@unas.org.ug

Website: www.unas.org.ug | Unas twitter: @unasuganda