2nd African Conference on Emerging Infectious Disease And Biosecurity Lagos.

Lagos State Ministry of Health

AFRICAN GONG
The Pan-African Network for the Popularization of Science & Technology and Science Communication

GET Global Emerging Pathogens Treatment Consortium

Global Affairs Canada

Mothergold

WEST AFRICAN TASK FORCE FOR EMERGING & RE-EMERGING INFECTIOUS DISEASE OUTBREAK

Science Communication & PLUS Faculty Conference REPORT

27-29 JULY, 2016

Theme- Strengthening African Health Systems: Building Resilience and Capacity to Tackle Epidemic Threats

Core Themes:

- Emerging Infectious Diseases (EID)
- Biosecurity & Biosafety
- Science Communication and the Public Learning & Understanding of Science (PLUS)
- Vaccine Strategies

Background of the Science Communication and PLUS Faculty

The Science Communication and Public Learning and Understanding of Science (PLUS) Faculty are a major pillar and key strand in the programme content of the **2nd African Conference on EID and Biosecurity.**

Science communication and the Public Learning and Understanding of Science (PLUS) has been a growing and emerging framework since the 1980's, particularly in the developed world, where it is 'mainstreamed' as a key plank of the Science, Technology and Innovation (STI) policy and outreach strategy for the advancement of society and entry into the economy of discovery.

A key driver of this development has been the growing recognition of the critical role of STI in the development trajectories of nations and thus, the imperative to enhance the scientific knowledge base and capacity of citizens. Despite this, the African continent continues to lag-behind in the domain of science communication and the PLUS.

The Post-2015 Global Sustainable Development agenda encapsulated in the Sustainable Development Goals have elaborated in much more detail than the Millennium Development Goal's (MDG's), the complex interlinkages between the multi-level development challenges across the globe. These challenges are profound, and nowhere more so than on the African continent. Science communication and the public learning and understanding of science should help to overcome Africa's myriad and intractable development challenges by highlighting and promoting the pivotal role of science, through developing innovations and solutions. This is evident in health where the very dismal levels of scientific literacy in African countries is a big challenge in addressing public health pandemics and pathologies, such as Ebola, HIV/AIDS, Tuberculosis, Malaria, high maternal and infant mortality rates and childhood vaccination programmes.

The **2nd African Conference on EID and Biosecurity** is ambitious in aiming to achieve a re-imagined and re-fashioned landscape of transformative science communication and the PLUS for sustainable development in Africa. Hence, the strategic partnership of ***African Gong*** and the **Global Emerging Pathogens Treatment Consortium (GET) on the organisation of the Science Communication and PLUS Faculty,** working to enhance scientific literacy, community engagement and scientific outreach in Africa, with the aim of reducing knowledge gaps at the individual, policy, institution, government levels and at socio-economic (gender, social class, age, etc.) levels and reduce the knowledge gaps in legislation and implementation.

African Gong: is an emerging Pan-African network for the Popularization of Science & Technology, and Science Communication in Africa. It is developed with the strategic support of the UNESCO Africa Region. It aims to create a strategic platform from which Africa can contribute to global structures and institutional capacities for the advancement of science communication, science and society studies and the public learning and understanding of science. It also contributes a uniquely relevant and inclusive African-centred paradigm and community of practice to the global development agenda and addresses the critical need for transformation in the science communication and the PLUS sector. ***African Gong*** also facilitates and enables the strategic positioning of science and its applications at the heart of the African sustainable development framework.

The Global Emerging Pathogens Treatment Consortium (GET): is a Pan-African consortium of experts in the fields of infectious diseases, various sub-specialities of pathology, physicians, bio-informatics, bio-banking, ethics, social science, community engagement, patient advocates, engineers and government administrators. GET aims to promote high level advocacy necessary for ensuring political will is focused on the appropriate commitment to research and development necessary to safe guard Africa from the devastating effects of emerging, re-emerging, dangerous and highly infectious pathogens. In so doing, empowering the people and institutions of the continent to harmoniously and effectively mitigate and adapt using advancing technologies and the knowledge economy to define robust strategies and capacity endowments to proactively respond to early warning signs. Through research, collaboration, support, information and service, GET will respond with holistic expertise, appropriate communication and strategic interventions to crises in health and humanitarian issues in Africa; developing complete frameworks and promoting political buy-in to accelerate capacity transfer and application of new technologies and effective communication to minimize risks arising from the emergence and re-emergence of dangerous pathogens and neglected infectious diseases in Africa, in accordance with the Global Health Security Agenda and ***One Health*** paradigm.

There is a strategic rationale for the development of science communication and the public learning and understanding of science capacity, expertise and innovative good practice in Africa, based on African-centred approaches. Despite major advances in the field of science communication and the PLUS in the global north, and in parts of the developing world such as Latin America, the Caribbean, India and some Asian countries, science communication and the popularization of science and technology on the African continent has woefully failed to take off and is very marginalized in the scientific landscape. That marginalization is due to certain factors, such as the lack of policy and institutionalization of the science communication and the public learning and understanding of science agenda by African governments, and science and technology institutions in Africa. There is

thus, increasingly a growing understanding of the rationale for the strengthening of the science communication and PLUS agenda within STI policies at African national levels, Regional Economic Communities (REC's) and within continental development frameworks such as the African Union's Agenda 2063 and the AU/NEPAD Science, Technology & Innovation Strategy for Africa (STISA) 2024.

Science Communication & PLUS Faculty Members

- Dr. Elizabeth Rasekoala (Faculty Chair) President – ***African Gong***, South Africa
- Prof. Godfrey Tangwa (Faculty Co-Chair) Chair of CASE – GET, Cameroun
- Dr. Chux Daniels, SPRU - University of Sussex, United Kingdom
- Prof. Akin Osibogun, University of Lagos, Nigeria
- Dr. Judith S. Gbenoudon, The Ministry of Higher Education and Scientific Research & The University of Abomey-Calavi, Republic of Benin
- Dr. Samuel Ujewe, University of Pretoria, South Africa
- Mr. Rodrick Sambakunsi, Malawi Liverpool Wellcome Trust, Malawi
- Dr. John Amuasi, KCCR, Kumasi, Ghana
- Ms. Funmi Tsewinor, Ecological Society of Nigeria, Nigeria

Science Communication & PLUS Faculty Expected Outcomes

The **Science Communication & PLUS Faculty** of the **2nd African Conference on EID and Biosecurity** will aim to achieve strategic and far-reaching outcomes which will have substantial impact on policy, practice and the capacity development foot-print for science communication and PLUS in Africa. Key conference outcomes envisaged are as follows:

1. Provide a networking platform to shape the future of Science Communication and PLUS Policy, Practice and Capacity-building in Africa.

2. Raise awareness and prompt action in the promotion of Science Communication and PLUS Policy, Practice and Capacity-building in Africa.

3. Contribute to the principles of sustainable development and the role of Science Communication and PLUS in the prevention, containment and management of EID's in Africa.

4. Engender and grow the pan-African network and interest group in Science Communication and PLUS which will facilitate the transfer and sharing of knowledge and good practice amongst practitioners.

5. A comprehensive **Conference Outcome document** outlining the concrete resolutions, declarations and recommendations from the discussions, plenaries and thematic deliberations and engagements of the Faculty.

6. A **Call for Action document** highlighting key programmatic action plans based on each of the three thematic focus topics of the Science Communication and PLUS Faculty– with specific initiatives conceptualised to address the way forward in each thematic area.

7. A **dissemination strategy** to ensure that the comprehensive Conference Outcome document and the Call for Action are shared with strategic policy-makers and stakeholders at national levels, REC's, and African continental frameworks such as those of the African Union Commission (AUC), NEPAD, the African Development Bank (AfDB) and Multi-lateral development agencies.

8. The Production of a **Conference Compendium** of peer-reviewed academic papers presented by academics and researchers in the Faculty sessions at the Conference.

Main Themes & Sub-Themes for the Science Communication & PLUS Faculty

The **2nd African Conference on EID and Biosecurity and it's Science Communication and PLUS Faculty** aims to reflect and take stock on the state of science communication and the public learning and understanding of science policy, practice, 'mainstreaming' and capacity development within national, Regional Economic Communities (REC's), and African regional STI realms, and agree on the next five years' programmatic action and systematic implementation strategies at the various levels. It also aims to achieve a consensus position on the dynamics of the African science communication and PLUS development agenda. There is a need for new ways of approaching the craft and delivery mechanisms of science communication and PLUS, in order to maximize impact and enhance development gains in Africa.

The Science Communication and PLUS Faculty is predicated on transformative and inclusive Multi-disciplinary and Trans-disciplinary discourses, deliberations

and contributions. In this regard, we welcome contributions from across all the science disciplines (Natural, Life and Physical), the Humanities, Social Sciences, Anthropology, etc.

This will be achieved through engaging on the following themes and sub-themes:

1. **Science Communication & PLUS in Africa: Policy Development Challenges and Opportunities**

   This theme will focus on the policy landscape for science communication and PLUS on the African continent, and assess the policy space in terms of available frameworks, interventions and gaps at national levels, Regional Economic Communities (REC's) and the continental level. It will also focus on the knowledge gaps for policy development as regards levels of awareness, sensitization and understanding amongst African policy-makers. These discussions will be fully elaborated in the two further sub-themes as follows:

   a. Science communication & PLUS in Africa: Defining the Agenda and knowledge development processes

   b. Science communication & PLUS in Africa: Policy sensitization strategies

2. **Good Practice programmes and projects implementation – African Models for Science Communication and PLUS as a containment strategy for EID**

This theme will focus on the skills and capacity-building landscape for science communication and PLUS on the continent, and address the challenges inherent in delivering this capacity. It will also focus on identifying, showcasing and highlighting good practice initiatives in science communication and PLUS across diverse stakeholders and practitioners, particularly regarding the development of innovative African models for Science Communication/PLUS and its role in preventing and curtailing public health crises emanating from EID's. These issues will be fully elaborated further via the two sub-themes as follows:

a. Capacity and skills development for science communication & PLUS

b. Outputs on successes, challenges and opportunities for Science Communication/PLUS and EID prevention

3. Strengthen evidence base through sharing of research, information and Capacity-building

This theme will focus on the research and development landscape for informing on policy development and good practice on science communication and PLUS. It will also address the challenges of bridging the research/researcher-policy divide and the effective and cohesive networking of African practitioners in science communication and PLUS, in order to engender enhanced partnership working, increased programmatic delivery and innovative good practice development. These issues will be fully further elaborated in the two sub-themes as follows:

a. Strengthening partnerships for Science Communication & PLUS – Policy interfaces

b. Strengthening partnerships and networks amongst practitioners: Inclusion & Innovation

GENERAL CONFERENCE SUMMARY

The "**2nd African Conference on Emerging Infectious Disease and Biosecurity"** was held from the 27th-29th of July 2016, at the Eko Hotels Convention Centre in Lagos, Nigeria.

This forum brought together hundreds of participants from around the globe, including policy makers, biomedical scientists, public health stakeholders, science communicators, scientists, science journalists, journalists, professionals from the health sector, and a variety of academics to discuss the era of Emerging Infectious Diseases (EID), the biosecurity threats they pose and science communication and the public learning and understanding of science (PLUS) as a critical pillar in the mitigation, prevention and containment of EID. **The forum was jointly organized by the Lagos State Ministry of Health, Global Emerging Pathogens Treatment Consortium (GET), West African Taskforce for the Control of Emerging and Re-emerging Infectious Diseases (WATER), African Gong: the Pan-African Network for the Popularization of Science & Technology and Science Communication, and Mothergold Ltd.** The three-day meeting was sponsored by Global Affairs, Canada. There were attendees from ten member states of the Economic Community of West African States (ECOWAS), Cameroon, Kenya, South Africa, Mozambique, Uganda, with delegates representing international and multilateral organizations including, the African Union Commission (AUC), the New Partnerships for Africa's Development (NEPAD Agency), and the World Organization for Animal Health (OIE).

The three-day conference served as the annual follow up to the **"African voices and leadership in accelerating the evaluation of treatments and potential Ebola vaccines in West Africa,"** which took place in January of 2015 in Dakar, Senegal. That first conference culminated with the **Declaration of the Forum of Dakar**, a multi-lateral international document synthesized during the height of the West African Ebola virus epidemic. The Dakar Declaration highlighted Ebola as a severe public health threat to the West African region, and provided recommendations for (1) containing the threat, (2) identifying and promoting treatment options, and (3) galvanizing scientists, policy makers, and the African community at large to mobilize a concerted plan to action.

While the Ebola epidemic is contained, in terms of new cases of morbidity and mortality across West Africa, the deadly pathogen has not only wreaked long-lasting havoc on multiple African economies, but also remains a very active threat on the regional and global scales in terms of biosecurity and biosafety. In addition, continued discussion on Ebola virus vaccine programs and other therapeutic approaches, one of the prominent themes of the conference was discussing how to (1) optimize a regional rapid response strategy for absolute containment of dangerous biological samples (i.e. Biosafety Level-4 pathogens); (2) develop a regional bio -banking program for the Ebola virus and other

emerging infectious pathogens and (3) develop a strategic pan-African framework for the advancement of science communication and PLUS as key mechanisms for the prevention, mitigation and containment of EID and other health and wellness challenges on the African continent. The forum provided an opportunity for African academics/experts and members of the African community, as well as their international partners, to express their voices within a fully culturally cognizant context.

The discussions focused on the following **Four** Faculty-led Themes:

- Emerging Infectious Diseases (EID)
- Biosecurity & Biosafety
- Science Communication and the Public Learning & Understanding of Science (PLUS)
- Vaccine Strategies

These four themes underscored every element of the conference, both through specialized discussions of them independently in dedicated Break-out sessions, and through interweaving them into a targeted approach and strategic framework for building resilience and capacity across the region.

In addition, these Conference discussions were fully underpinned by the following challenging considerations:

- The need to enhance the commitment of policymakers to adopting strong science-based research resolutions not only on the national level, but also coordinated across the sub-regional levels and the continent level;

- The pressing infrastructural and developmental challenges hampering home-grown scientific progress;

- The existence of a pervasive disconnect between the scientific community and policymakers, and the imperative to close this knowledge gap, especially when coordinating and mobilizing responses against pathogen outbreaks.

- Furthermore, due to factors such as the remarkable degree of international and inter-regional travel that exists in our modern era, and the fact that biological threats pay no cognizance to international borders during an outbreak, national public health policies need to adopt unwavering scientifically-informed decisions in concert across geographical regions.

General Recommendations from the Lagos Forum July 2016:

- Optimize a refined regional harmonization strategy to combat outbreaks of emerging and re-emerging infectious diseases and other dangerous biological agents;
- Further promote advocacy for political buy-in of African governments regarding the production of Ebola virus vaccines and therapeutic strategies;
- Establish shared, regional bio-banking facilities to contain dangerous pathogens for use in scientific research utilizing best practices maintenance capabilities;
- Greater attention is needed to be given to neglected diseases that are re-emerging (e.g. Lassa fever, Zika, etc.);
- Strengthen financial, human and infrastructure resources to improve the African health sector.

Science Communication and Public Learning & Understanding of Science (PLUS) Recommendations:

- Promote networking on science communication and PLUS at continental level with sub-regional and national chapters;
- Build and strengthen the (1) scientists-policy-makers forum; and (2) scientists-users of scientific data/technology interphases;
- Promote African students enrolment in science, technology, engineering and mathematics (STEM) including a specific emphasis on girls and women;
- Strengthen both human and institutional capacity in science communication and PLUS in Africa

CONFERENCE OPENING CEREMONY

The conference commenced with an opening ceremony at the main Conference Hall of Eko Hotels and Suites, Lagos, Nigeria. Major highlights from the opening ceremony were the Welcome Address from Prof. Akin Abayomi (Principal Investigator of the Global Emerging Pathogens Treatment Consortium – GET), and Dr. Jide Idris (the Lagos State Honorable Commissioner for Health).

In his words of welcome, Prof. Akin Abayomi stated the critical importance for Africa to host its own indigenous meetings, with a view to establishing a robust and science evidence-based response mechanism to address the increasing incidences of Emerging Infectious Diseases (EID), from an African perspective. This should be done in collaboration with other global initiatives to support Africa's development agenda. As a follow up to the first African Conference on EID and Ebola held in Dakar, Senegal, in 2015 – which outlined the severe infrastructural and technical deficiencies in the Region, Prof. Abayomi highlighted the four themes of the Lagos Conference, which strategically expand beyond the limited Dakar platform. He also noted the focused objectives of the Lagos Conference, which include: sharing experience and best practices; identifying regional and international opportunities for collaboration; and initiating a harmonized African strategy to engender full political support from policy-makers and relevant stakeholders.

Dr. Jide Idris, in his opening remarks, applauded the initiative of the Lagos Conference to further consolidate the Dakar Conference. He reiterated the commitment of the Lagos State Government to adopt initiatives and strategies evolving from this and similar conferences, in fostering the policy, practice and programme development of the Lagos State Ministry of Health. While noting the sustained threat that EID pose to African countries, he highlighted the need for African sub-Regions to be on full alert and strengthen their disease surveillance mechanisms, while scaling up emergency response preparedness. He thus concluded: "*We as a global community can only be as strong, as the weakest link and any dangerous pathogen is only one flight away".*

PLENARY 4: PUBLIC LEARNING AND UNDERSTANDING OF SCIENCE – STRATEGIES TO COMBAT EID's

This first PLUS Plenary at the Conference was chaired by Dr. Elizabeth Rasekoala (***African Gong***)

This Plenary session was comprised of the following sections:

1. **STISA 2024: Science Communication Policy and Programme Development in Africa**

Keynote Presenter*:* **Dr. Mahama Ouedraogo** - Acting Director: Human Resources, Science and Technology, Africa Union Commission (AUC-HRST).

Dr. Ouedraogo in his speech outlined a concise timeline of the trajectory of science and technology policy development in Africa, at the continental level, beginning with the Lagos Declaration in the 1980's which committed African governments to a target of spending at least 1% of GDP on Science and Technology research and development (R&D). He bemoaned the fact that very few African governments had reached these low targets, set so long ago, and the profound implications of this under-funding on the development trajectory of the continent, given that no continent can develop without science and technology at the core of its vision, development planning and implementation.

Dr. Ouedraogo then highlighted the current African Union ten-year framework for scientific development, **the Science, Technology and Innovation Strategy for Africa (STISA-2024)** which was adopted by African Heads of State in 2014, and its **Six priorities** on: 1) Eradication of Hunger and achieving Food Security; 2) Prevention and Control of Diseases; 3) **Communication (Physical & Intellectual Mobility**); 4) Protection of our Space; 5) Live Together-build the Society; and 6) Wealth Creation.

Dr. Ouedraogo also summarized the vision of the African Union to reinstate the place of science and technology at the core of Africa's sustainable development, as envisioned in the AU's continental development strategy, **Agenda 2063**, '***The Africa We Want'***. Despite our wealth in natural resources, our ability to tap into these on the continent rests, on our learning and understanding of science. Against this background, the African Union sees the need to re-establish the learning of science and technology, at all levels, in the education of African children. One of the major challenges is that much of scientific knowledge is created, stored and transmitted in highly technical terms. This poses great difficulty in teaching basic science, especially at lower educational levels.

These challenges were posed to the Forum of the 2nd African Conference on EID's, to consider as critical to be overcome, beginning with the conference itself. Dr. Ouedraogo noted that while the African Union is committed to applying the

benefits of science towards Africa's development, the onus rests on its academics, scientists, and researchers, to forge new paths to simplify and amplify the communication and learning of science and technology, in languages, contexts, and paradigms that are understandable and relevant to Africa's population.

2. Science Communication Developments: Global Trends, Latin America, and EIDs

Presenter**: Prof. Andre Ramos** from the Federal University of Santa Catarina (UFSC), Brazil.

The original speaker designated for this slot had been Dr. Luisa Massarani, the current Director of Red-POP - the Latin American Science Communication Network. Unfortunately, Dr. Massarani could not attend due to logistical challenges.

In his presentation, Prof. Ramos outlined the global development trajectory of science communication, from the time of scientists such as Galileo, who faced skepticism about their scientific discoveries, including religious persecution and sought to engage the public directly in the understanding of their scientific innovations, to present day scenarios which involve the use of social media, and various challenges to the communication of scientific innovations that still occur within the realms of culture, religion, socio-economic inequalities, lack of diversity and inclusion, gender inequalities, and the urban-rural divide, etc.

Prof. Ramos also highlighted developments on the science communication and PLUS landscape in Latin America, including the formation and growth of Red-POP, the Latin American science communication network, which is 25 years old, and the Brazilian Association for the Advancement of Science (SBPC), which is also of a similar duration, as exemplars of the strong infrastructure that exists in Latin America for the delivery of science communication. This infrastructure has been well utilized in the drive to address the current Zika Virus epidemic in the region. In spite of these developments, though, the Latin American region just as the African region, is also still battling with challenges on a number of fronts, such as: securing adequate funding for science communication programmes; sustaining government focus and priorities on science and technology programmes in general, and in science communication, in particular, at a time when national budgets have been cut due to the economic downturn; capacity-building of scientists and researchers to meet the demand for the enhanced outreach of science communication programmes, particularly into rural areas and rural dwellers and populations.

PLENARY 10 – PUBLIC LEARNING AND UNDERSTANDING OF SCIENCE (PLUS)

The T**heme** for this second PLUS Plenary session was '**Science Communication & PLUS in the '*Africa We Want'* – Continental, International and National Perspectives'**

The Panelists on this PLUS Plenary consisted of **Dr. Mahama Ouedraogo** - Acting Director: Human Resources, Science and Technology, Africa Union Commission (AUC-HRST); **Prof. Andre Ramos** from the Federal University of Santa Catarina (UFSC), Brazil; **Mr. Joao Cossa** - Head of Department of Communication, Ministry of Science and Technology, Higher and Technical Vocational Education, Mozambique; and **Ms. Syntia Nchangwi** - GET.

The presentations from each of the panellists focused on summarising and emphasising the key actions and take-away messages on the science communication and PLUS imperatives for the African continent, as follows:

1. Dr. Mahama Ouedraogo - Acting Director: Human Resources, Science and Technology, Africa Union Commission (AUC-HRST)

Dr. Ouedraogo emphasised the following take-aways in his presentation:

- To make policy effective, we can never underscore communication. We also need an innovative approach to funding which pertains to how we mobilize domestic African resources, including how to mobilize the private sectors.
- There is need all over Africa for ordinary people to learn and understand science. There is a challenge of communicating science to the public and public understanding of science. However challenging this may be, we need to take into account the imperative that, in order for African citizens to appreciate and benefit from scientific achievements, we need to learn science and popularize science.
- There is a need for more effective communication between African researchers, scientists and academics and African policy-makers at all levels, national, regional and continental, so as to further enrich and populate the science policy development landscape with innovative ideas, programmes and enhanced capacities.

2. Prof. Andre Ramos from the Federal University of Santa Catarina (UFSC), Brazil

Prof. Ramos emphasized the following take-aways in his presentation:
The challenges on science communication and PLUS in Latin America and in Africa provide a shared learning incentive for both regions to grow the requisite solidarity and collaborative frameworks in this arena, through developing the following platforms:

- Africa and Latin America share numerous historical and socio-economic elements, and yet, co-operative actions between scientists and researchers across both continents, are very few and far between. Science and culture are inseparable. If we want science to improve human lives, we need to think of a Science for ***all***, and in order for this to be realized, scientific knowledge must be shared. African and Latin American scientists and researchers should be working to develop joint initiatives and projects in this regard.
- Africa and Latin America are both continents with large rural populations. Over 75% of the world's poorest people live in rural areas and one third of them are indigenous people. Empowering rural dwellers is one of the prime ways of bringing development. Fighting this type of marginalization through science communication outreach can also help fight conflicts, including emerging infectious diseases, because there is a convergence between poverty and these crises. In taking scientific knowledge to rural areas, our core principles should be Inter-disciplinarity, respect for culture, and real experience sharing.

3. **Mr. Joao Cossa** - Head of Department of Communication, Ministry of Science and Technology, Higher and Technical Vocational Education, Mozambique

Mr. Cossa's presentation highlighted the developments in the growth trajectory of the Ministry of Science and Technology, Higher and Technical Vocational Education, in Mozambique, and the policy imperatives that have driven the evolution of the Ministries' brief over the past decade. He also showcased programmes of the Ministry which are focused on enhancing science education and science communication, such as the Mozambique National Science Fair which takes place annually in October, and is a national platform for raising the profile of science and technology, in education, socio-economic development, research, science and society and wealth and job creation.

Mr. Cossa emphasized the following take-aways in his presentation:

- African scientists and researchers should not wait for governments to take the lead all the time. They should be pro-active in approaching

governments with ideas, proposals and initiatives, and should also take leadership for science communication and science and society projects;
- African governments need to do more to bring the private sectors on board in terms of funding, innovative ideas and programmes on science communication. Government resources will always be limited and under pressure, hence the need to seek alternatives, such as the private sectors;
- African governments need to be mindful of the socio-economic challenges of youth, gender inequalities, urban-rural divides, etc., and to take these into account in the development of frameworks for science communication and PLUS, so that all sections of society benefit and not just a small elite in the urban areas.

4. Ms. Syntia Nchangwi - GET

Ms. Nchangwi's presentation focused on the three pillars of: Policy; Practice and Programmes; and Capacity-building developments for science communication and PLUS in Africa. She highlighted the growing gaps between international developments in the field and in Africa, articulating the danger that as a continent, we could be forever left behind in these fields, if we do not address the imperatives of taking concerted, focused and strategic action now, at all levels, national, sub-regional and continental.

Ms. Nchangwi emphasized the critical role that science communication and PLUS could have played in the prevention, mitigation and control of the Ebola epidemic, and the need for PLUS to be fully embedded and integrated into these systems for future learning and capacity-building. We should not be waiting for the next crisis to hit before we take these lessons on board, and close the gaps in the understanding and scientific knowledge base of our communities, so that they are better prepared and able to build their resilience to EID's.

Ms. Nchangwi emphasized the following take-aways in her presentation:
- African scientists and researchers must undergo a profound mind-set change in which they commit to science communication and PLUS as an integral core part of their mission and work, rather than an added-on.
- African scientists and researchers need to take up leadership and be pro-active in coming up with strategies, good practice and sustainable platforms for enhanced science communication and PLUS across the continent, and demonstrate that African-derived approaches can deliver impact for communities across the continent, including in the context of African indigenous languages as effective mediums for the delivery of these activities;
- African senior researchers should act as mentors and role models for young and emerging researchers and scientists, in order to engender and boost their interests, knowledge and practice of science communication and PLUS.

BREAKOUT SESSION: PUBLIC LEARNING & UNDERSTANDING OF SCIENCE (PLUS) – STRATEGIES TO COMBAT EID's

This session was co-chaired by Dr. Elizabeth Rasekoala (***African Gong***) and Dr. Mahama Ouedraogo (*Acting Director: Human Resources, Science and Technology, Africa Union Commission* ***AUC-HRST***).

Discussions centred on the following **sub-themes**:

- Science Communication & PLUS in Africa: Policy Development Challenges and Opportunities
- Good Practice programmes and projects implementation – African Models for Science Communication and PLUS as a containment strategy for EID
- Strengthen evidence base through sharing of research, information and Capacity-building
- Discussions, Drafting and consensus on the PLUS Faculty Communique and Call for Action document

Key Discussion Points

The session flagged the following issues:

- The dearth of Science Communication and PLUS policies, programmes and capacities in Africa;
- The importance of fostering networking on science communication at the continental level - perhaps taking the form of sub-regional and national chapters;
- The need to advocate for policies and programmes on science communication in Africa;
- The importance of building and/or strengthening the researcher-policymaker relationship;
- The need to strengthen communication links between scientists and the general public; and
- The urgent need to strengthen human and institutional capacity in science communication and PLUS in Africa.

To set the stage for discussions on these sub-themes, the following presentations were made by participants who had submitted **Abstracts** for Oral presentation at the Conference:

- 'Scientifying' villagers or 'Villageising' Scientists: A false disjunctive dichotomy in the communication conundrum. (Author: Prof. Godfrey Tangwa)
- How do Residents of Ebola Affected Areas Perceive and Respond to Ebola Virus Disease? An Urban Attitude Survey in Lagos, Nigeria. (Author: Dr. Adeyeye Peter Olusegun)
- Infectious Diseases and Just Healthcare Access: An African Ethical Framework for Policy Reform. (Author: Dr. Samuel Ujewe)
- Knowledge, Beliefs and Malpractices regarding Prevention of Ebola Virus Disease in a Rural Community of North Western Nigeria. (Authors: Joshua, I.A., et. al.)
- African and Latin America: Rebuilding Old Bridges through Science Communication. (Author: Prof. Andre Ramos)
- Reaching the Marginalized: The Example of an Inclusive Scientific Communication Program. (Authors: Ramos et. al.)

Science Communication & PLUS Resolutions

The highlight was on the importance of effective science communication and public learning and understanding of science. Specifically, how African populations can interact with scientific information in a language they can relate to. There was a general agreement to the effect that this has implications for health research in Africa, and the overall welfare of African populations. The following resolutions were reached at the end the session:

- African Scientists and academics are encouraged to learn to communicate their research findings to the public in a language that is easy to understand. This would enhance more effective community engagement practices in research, and the promotion of public understanding of the sciences. It may also facilitate public debate on issues relating to science and technology.
- In communicating science to African populations, Scientists need to take into consideration relevant cultural norms, beliefs and practices.
- There is need for communication between researchers, policy makers and community leaders. This would enhance policymakers' understanding of science and technology matters that are relevant for effective policy-making and development. It would further enhance greater communication between scientists, policy makers and society as a whole.

- Scientists need to engage investors and diverse stakeholders' in a sustained conversation, thereby encouraging them to invest in science and technology related activities in Africa. Such conversations are only possible if both sectors can learn the art and practice of science communication, through empowering capacity-building, knowledge sharing and engagement platforms.
- There is an increasing demand for African professionals with skills in the public communication of science and technology.
- Networking among researchers and academics of varying specializations and professionals in the scientific industry, is key in promoting science communication and PLUS in Africa.

At the end of these discussions, the following areas of **interventions** were proposed:

- There is need to support policy development for science communication and PLUS in Africa;
- Practice and Program development for science communication and PLUS should be encouraged in Africa;
- There is an urgent need for capacity building in science communication and PLUS in Africa;
- Science communication should be mainstreamed in all aspects of the other Conference thematics on infectious and emerging diseases;
- Monitoring and Evaluation (M&E) frameworks should be developed for all science communication and PLUS activities to assess, enhance and sustain impact and good practice;
- African governments should promote the development/strengthening of science communication and PLUS in their national Science, Technology and Innovation (STI) policy frameworks;
- The need for the training of communicators in Science; science journalism, and the mass media;
- The establishment of science communication/PLUS Scientific Awards in Africa with different focus on youth, women, etc. Themes can be selected based on current and emerging issues (e.g. Ebola research, climate change, food security, etc.);
- The establishment of African Research Grants' programmes targeting science communication and PLUS research initiatives;
- The establishment and promotion of Science Centers, Science Museums, and Libraries (e.g. the Library of Alexandria), in African countries, with special targets for children and youth.
- The establishment of a Public Lecture Series to be delivered by renowned African scientists who can act as role models for African youth, raise the profile of science on the continent, and generate interest in science communication and PLUS;

- Promoting STEM education at all levels, with specific emphasis on girls and women;
- Promote alternative funding mechanisms for science communication and PLUS programmes, particularly focusing on domestic (mostly African funds);
- A consensus statement and **Call to Action document** should be established on the PLUS Faculty's Communiqué, and once finalized, should be widely disseminated to all stakeholders and relevant institutions, at national, sub-regional, regional and international levels.