Science Networker

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Science Academies in a Pandemic

[By Dr M. Oladoyin Odubanjo, Executive Secretary of the Nigerian Academy of Science]

Science is under scrutiny at this incredible moment that the world is grappling with a pandemic. Faced with a new disease, COVID-19, many questions arise with sometimes contradictory responses from the scientific community. What is really being challenged is science advice, which is the process, structures and institutions through which governments get to consider science in policy and decision making. While institutions such as national science academies are increasingly being recognized as knowledge brokers for African governments, emergencies (such as the current pandemic) create a challenge for science advice as the known policy cycle is abandoned. However, academies are needed at such uncertain times and must innovate to provide science advice.

Academies must get involved in the control effort in their countries, regions, and globally given the 'unknowns' of this new disease. There is critical need for evidence-informed policymaking. They must engage with governments to provide credible interpretation of data/information, jettisoning bureaucratic processes for the provision of rapid science advice.

The Nigerian Academy of Science circulated two Press Releases at the start of the outbreak in Nigeria in March 2020. While the first press release stated the known facts about the disease, the second (for which an advert was placed in a national newspaper) was to call for a national lockdown and to advise on steps to be taken to contain the disease before, during, and after the lockdown. The second Press Release was shared at a time when the country had panicked after some high ranking government officials were suddenly discovered to have the disease even without evidence of community transmission.

The Academy chose to engage with the government directly and indirectly. Direct engagement and advocacy influenced the constitution of a Ministerial Expert Advisory Committee to advise the Minister of Health on containment efforts. The Committee is chaired by a past President of the Academy who is also a renowned virologist. Other members of the Committee include Fellows of the Academy including her incoming President, an epidemiologist. Another Committee was set up by the Federal Ministry of Science and Technology and is chaired by the Academy President. The Executive Secretary of the Academy was also invited to advise the Risk Communication Pillar of the Nigeria Centre for Disease Control (NCDC).

The indirect provision of science advice includes engaging with the mass media using press releases, writing of articles, and granting interviews. The indirect engagement, especially through the media, is not only providing accurate information to the public for informed action but also ensures that public officials can be held accountable by the informed public. In addition to this, the Academy has now commenced a series of webinars to address various issues the pandemic has thrown up including how to provide education under the circumstances.

Lastly, given the fact that the pandemic is a new disease, the Academy has been a voice of advocacy for locally relevant research. Thankfully, the Tertiary Education Trust Fund (TETFund) provided several grants to enable scientists pursue pertinent research. The Academy was also contracted to drive some of the 'special grants' research to ensure that they are not only implemented in a coordinated fashion but that the findings are effectively infused into policy.

Even though the pandemic is undesirable, it remains a situation that calls for the voice of national science academies. However, academies must not wait to be invited but rather be innovative to provide adequate, timely and credible science advice.

From the President

Our lives have drastically and fundamentally changed since the appearance of the global pandemic. Human activities in all sectors of the public life have been severely restricted in most countries in the world. In addition to endangering basic human rights to live, COVID-19 has dramatically affected many aspects of modern civilization and brought about job losses most notably in the tourism industry. Schools and universities are closed and forced to move their activities online. The mode of production and distribution of agricultural products, transport, national and transnational trade, the social, economic and cultural way of life as established today have shown their vulnerability. Our current scientific knowledge has shown its limits.

Our science academies are called upon to reflect and propose the most appropriate solutions for our continent. We must adapt our resources to our realities, and avoid the consequences encountered elsewhere on other continents, while seeking the simplest protocols that can be adapted to Africa.

By hosting the COVID-19 Webinar on 22 July 2020, NASAC demonstrated that difficulties can be turned into opportunities. A few highlights from the webinar proceedings included the following:

- In order to overcome COVID-19, it is necessary to make the voice of science heard and shared by all stakeholders.
- Collaboration by all actors - scientists, experts of communication and mass media, journalists, decision-makers, civil society and NGOs - is important to combat the pandemic.
- Academies ought to continue learning about COVID-19's immunology, therapy and vaccines, as well as modeling for its management. Overall though, the lesson on how to secure funding for COVID-19 research would be most valuable.
- Academies must engage with national government as a response to COVID-19 and seek collaboration and partnerships both regionally and globally.
- Academies must articulate a response on the COVID-19 pandemic and implement it together or at least by region, while taking into account national and regional specificities.

Continued partnership with the Inter Academy Partnership (IAP) has facilitated a shared experience and learning among regional networks of academies globally. For that NASAC will continually be grateful and continue to diligently serve as IAP's affiliate regional network for Africa, despite the challenges posed by the pandemic.

Do stay safe!

Yours faithfully,

PROF. MAHOUTON NORBERT HOUNKONNOU
President and Chair of the Board, NASAC

Activities and Events

Establishing Science Academies

Under the Academy Development Initiative, the team at the NASAC secretariat has now held seven virtual meetings for scientists in seven African countries to support the establishment of science academies. These countries include: Central African Republic (CAR), Democratic Republic of Congo (DRC), Chad, Malawi, Lesotho, Angola and Sierra Leone.

The virtual meetings are the beginning of a long journey towards establishing these academies to fulfill their mandate of making the *voice of science* heard by policymakers in the respective countries. These virtual interactions have enabled scientists to consider the legal framework for establishing an academy as a legal entity and to critically think about academy's membership and leadership.

First Virtual Workshop of the Scientific Sorting House Experts

NASAC is part of a consortium of 35 organizations implementing the Long-term Europe-Africa Partnership for Food and Nutrition Security and Sustainable Agriculture (LEAP4FNSSA). The role of NASAC is to constitute and convene a team of experts who will lead the Scientific Sorting House mechanism on FNSSA. The six experts are drawn from Africa and Europe through NASAC and EASAC-European Academies Science Advisory Council respectively.

NASAC convened the first Virtual Workshop of the experts on 13 August 2020. The workshop outputs included a better understanding of the LEAP4FNSSA Project and the AU/EU partnership. The experts also gained better understanding on the Programme and Innovation Management Cycle (PIMC) and the scientific sorting house concept. Two other Virtual Workshops of the experts are scheduled for September and October 2020.

Response of Science Academies to the COVID-19 Pandemic

On 22 July 2020, NASAC hosted a Webinar on the Response of Science Academies to the COVID-19 Pandemic. The Webinar was organized in collaboration with the InterAcademy Partnership (IAP). Sixty (60) participants were in attendance, mainly from the academies' membership and secretariat staff. The inclusion and representation of national young academies was also noteworthy.

The webinar provided a platform for the academies to share experiences on how African Science Academies are responding to the COVID-19 pandemic. Additionally, one of the other main objectives of the webinar was to enable participants to interactively explore lessons on good coping mechanisms to successfully deal and overcome global disruptions. Dialogue at the meeting showcased the importance of collective and individual responsibilities for the Network and the Science Academies respectively in order to forge ahead post-COVID-19.

Below is a highlight of the responses of academies to the pandemic as was presented at the virtual meeting.

Algerian Academy of Sciences and Technologies (AAST)

AAST response to COVID-19 focused on recommendations to policymakers on how to manage COVID-19 and providing practical actions based on epidemiological modelling analysis of the status of the disease at the national and departmental level. Members of the Academy undertook public awareness against COVID-19 and information was published in newspapers in Arabic and French. A member of the Academy designed, manufactured and patented an ozone disinfection device for hospitals, ambulances, and Intensive Care Units and an industrial scale manufacturing agreement was in the finalization stage.

Botswana Academy of Sciences (BAS)
Botswana Academy was involved in the production of Personal Protective Equipment (PPE's) like shields for lecturers in collaboration with universities and other technical organizations in Botswana.

Cameroon Academy of Sciences (CAS)
CAS set up a COVID-19 Taskforce and it also produced two (2) Statements. One of the statements provided recommendation on decentralization to ensure that each of the 10 regions in Cameroon had a testing center for COVID-19. The Academy also provided a recommendation for the creation of a Scientific Committee with detailed Terms of Reference. Members of the academy generated expert nominees from various disciplines who could complement and strengthen the Ministry's Committee. CAS emphasized the importance of the independence of the Scientific Committee to the national ministry of Cameroon.

Ghana Academy of Arts and Sciences (GAAS)
Among experts expected to participate in a virtual symposium that the Academy is organizing from 17-20 November 2020 are medical scientists. The scientists made two crucial observations or discoveries on the use of certain drugs in the management of COVID-19. One of them was priority exclusion of G6PD Deficiency patients in being exposed to Chloroquine/ hydroxychloroquine or Intravenous Vitamin C and the other discovery was use of Hydrogen peroxide mouthwash and gargle to limit SARS-CoV-2 infection. The Symposium would provide a fact finding analysis for future positioning of the academy on the COVID-19 pandemic. The Academy also intended to produce policy briefs for quick dissemination.

Mauritius Academy of Science and Technology (MAST)
MAST held a series of online Zoom meetings of scientists which allowed the development of advice to decision-makers. One of the virtual meetings was themed "*COVID-19 and its implications for local and world food-security*". During that meeting, discussion on the origin and duration of pandemics was led by Dr. Deoraj Caussy, an epidemiologist and Member of MAST. The link between the academy and decision makers in government and elsewhere was defined and established. Among the outputs from the Academy was a paper on *Food Security in the post- pandemic period*.

Hassan II Academy of Sciences and Technology – Morocco
Hassan II Academy of Science and Technology, Morocco issued a Press Release on 14 April, 2020, in which it recommended some actions allowing better understanding of the nature, development and treatment of COVID-19. The Academy set up a Work Committee which on 1 May 2020, held a video conference meeting to concretely implement these proposals as part of an Action Plan. Other academy initiatives included setting aside a budget of 10 million DH launched from 1 June, 2020 as a Call for Research projects on Medical aspect in pandemics (notably COVID-19), Mathematical modeling and artificial intelligence for COVID-19 fight.
The Academy is organizing the 3rd Congress of the African Council for Scientific Research and Innovation (ASRIC), of the African Union, under the theme "*Epidemics and Pandemics*" to be held in Rabat, Morocco from 23-25 November 2020. The congress would have the participation of African Scientists and international experts.

Nigerian Academy of Science (NAS)
NAS' response encompassed engagement with the National Government of Nigeria through serving in the National Advisory Panel. The Academy aims to ensure easy integration into policy, advocating for roundtables and policy briefs to solve national problems. NAS circulated two Press Releases on COVID-19. The first Press Release reassured the public while the second one advised the Government on the need for lockdown after the disease had spread to give them an opportunity to re-strategize.

NAS had also written features in local dailies and made media appearances and set up webinars that involved engaging policy makers and scientists in the country in order to address the pandemic.

Additionally, NAS circulated surveys with Results to Save Lives (RTSL) working in collaboration with academies in West Africa to engage and disseminate information.

Rwanda Academy of Sciences (RAS)
The Academy worked with the national Biomedical Center in charge of national coordination of issues of COVID-19.

Members of RAS also appeared on national TV creating awareness on the importance of wearing masks. The Academy produced a paper on Testing Methods of Pulling (where many people could be tested in a short time) and this method was being used globally.

Some members of the Academy were undertaking research on COVID-19 under the title *Rapid Optimal COVID-19 responses through science advice of multi-disciplinary multilateral demonstration network*.

Académie Nationale des Sciences et Techniques du Sénégal
The Senegal National Academy produced statements in newspapers giving advice to policy makers as a response to the pandemic. Members of the Academy served in national Scientific Committees giving advice and heading laboratories that were involved in analysis of COVID-19 in the country.
The Academy also published papers and articles on COVID-19 and its members were interviewed in various panels and seminars where they gave advice to the Government.

Sudan National Academy of Sciences (SNAS)
The Academy was concerned with the long term effects of COVID-19 on education in Sudan and in Africa. Universities worldwide are starting to develop online platforms to provide quality education for all. The continent is faced with an opportunity and a challenge. The opportunity entails utilizing online education platforms to deliver high quality courses especially in higher education. It requires inter-universities collaboration to develop a high quality platform to teach strong and quality courses.

SNAS was convincing the national government of Sudan to invest in renewable energy and especially solar energy. It was advocating for COVID-19 recovery to be based on green technology that can provide education for all especially those in the rural community.

Academy of Science of South Africa (ASSAf)
The Academy's response involved science advice, engagement in science, mobilization of knowledge and collaboration through formal partnerships. ASSAf partnered with strategic international and regional stakeholders including IAP, S20, and TWAS-SAREP among others during the pandemic. It served in Advisory Committees and participated in webinars. The Academy issued rapid grant funding for COVID-19 in partnership with the National Research Foundation.

ASSAf will in the near future support a coordinated effort using a multidisciplinary approach in driving a collective African agenda. ASSAf was looking into coordinating different SADC country responses and evaluating the success and/or failures of these measures.

Academy of Arts, Sciences and Letters Beit al-Hikma –Tunisia
The Academy set up a scientific committee which produced several papers and press releases with recommendations about testing, vaccinations, and treatment. These recommendations were adopted by the government of Tunisia.

Zambia Academy of Sciences (ZaAS)
The Zambia Academy delivered a Policy Advisory note on COVID-19 to the national government of Zambia through the Vice President's Office. It also engaged a local TV station, Loyola TV, through which it interacted and shared information with journalists. The Academy sent scientific messages to a large multitude.

Members of the academy encouraged scientists and doctors to look for local solutions in response to the pandemic. They advocated for the use of the CBU/UNZA – Decontaminator/Ventilator and herbal medications where found to be potent.

The Ivorian Science Academy (ASCAD)

The Ivorian Science Academy carried out a survey on COVID-19 which was conducted by a research team from the three institutions collaborating closely with the Academy. The survey was carried out in the context of the outbreak of the global coronavirus pandemic (COVID-19) and was a contribution to the understanding of the temporal evolution of the disease in Ivory Coast.

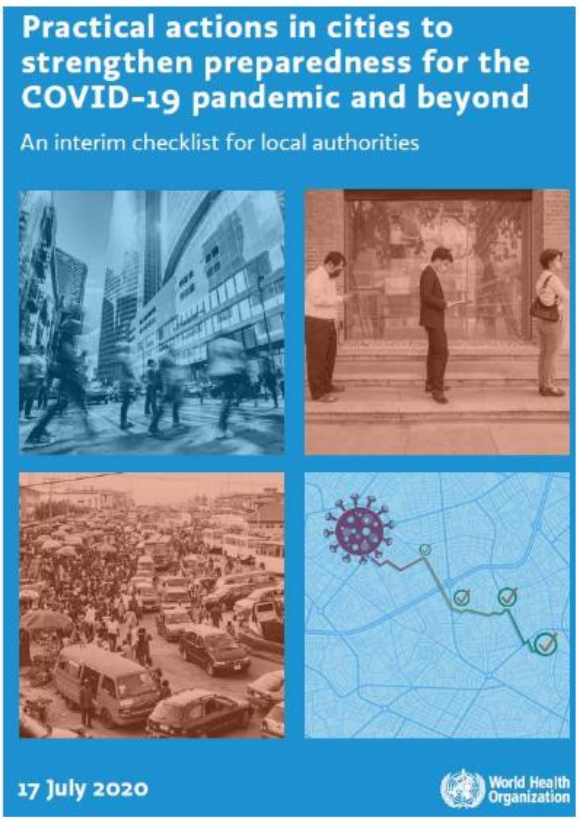
The statistical survey took place in Abidjan city and its surroundings from March11, 2020, the date of appearance of the disease first case in the country, to April 18, 2020. The interpreted results showed that the disease could remain controllable in the medium term. This study was a call to the Ivorian government to take up preventive measures against any uncontrollable exponential progression of the disease in the country.

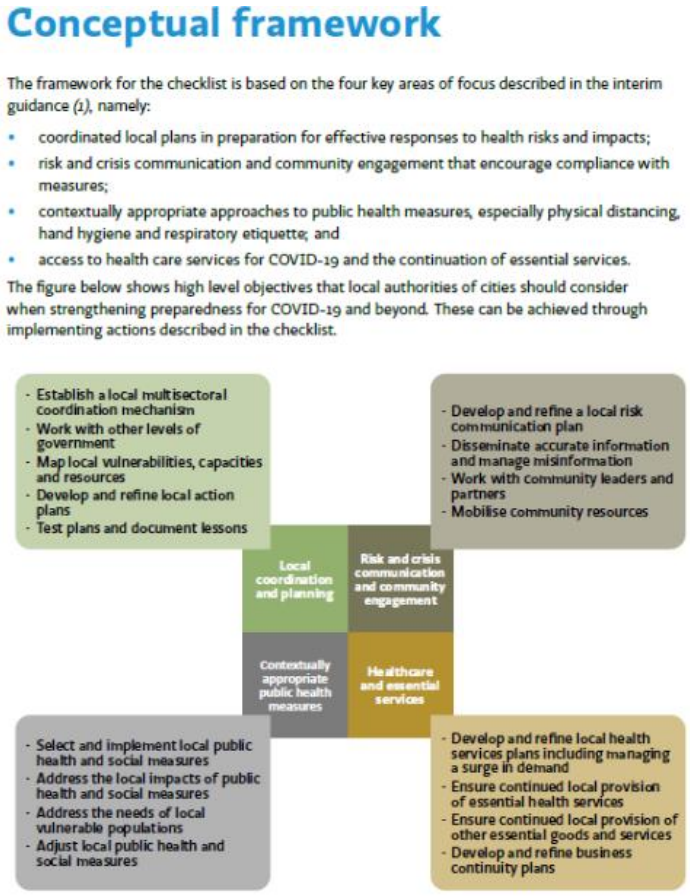
South Africa Young Academy of Sciences (SAYAS)

In response to COVID-19 pandemic SAYAS engaged in a number of activities one of them being the translation and dissemination of infographics and posters into local languages.

SAYAS also submitted a proposal to the call for the COVID-19 Rapid Response Grant by the National Research Foundation of South Africa.

The Academy was involved in collating articles written by its members and the transmission of credible information to the science community through Webinars. It further published articles in local newspapers and supported a group of learners who did not have online access through running a campaign for donations to purchase *learner study guides*.





Conceptual Framework by WHO as presented by Prof. Himla Soodyall, Executive Officer, Academy of Science of South

Announcements and Appointments

Africa Kicks out Wild Polio

World Health Organization Regional Office for Africa

AFRICA KICKS OUT WILD POLIO

The NASAC Treasurer, Prof. Rose Leke, was among speakers at a livestream event to celebrate the eradication of wild poliovirus and subsequent certification by the Africa Regional Certification Commission for Polio. The event took place during the virtual session of the 70th WHO regional Committee for Africa on 25 August 2020. It served as a celebration of the region's achievement and an opportunity to highlight the importance of strengthening routine immunization and building strong primary health care systems.

Prof. Leke is the Chairperson of the Africa Regional Certification Commission for Polio Eradication which is a 16-member Commission for Polio Eradication appointed in 1998 by the WHO Regional Director for Africa. Its mandate is to oversee the certification process and act as the only body to certify the African Region to have eradicated the wild poliovirus. As one of the leaders who helped make Africa's success against wild polio a reality, Prof. Leke was a featured speaker.

ASSAf Council Member appointed at University of the Witwatersrand (Wits)

Prof Zeblon Vilakazi, ASSAf Council Member and nuclear physicist, was appointed Vice-Chancellor and Principal of the University of the Witwatersrand (Wits). He took over from fellow ASSAf Member, Prof Adam Habib, who was at the helm for seven years.

Prof Vilakazi's takes up the role after several years as Vice-Principal and Deputy Vice-Chancellor for research and postgraduate studies at the same institution.

National Science and Technology Forum (NSTF)-South32 Awards

The National Science and Technology Forum (NSTF)-South32 Awards were established in 1998 as a collaborative platform to recognise outstanding contributions to science, engineering and technology (SET) and innovation by SET professionals and organisations in South Africa. Awards may be granted to experienced scientists, engineers, innovators, science communicators, engineering capacity builders, and organisational managers/leaders, as well as data and research managers.

The announcement of the 2019/20 NSTF-South32 Awards winners took place at the virtual Awards Gala Event on 30 July 2020.

The following members of ASSAf were the given Awards:

Lifetime Award

Prof Michèle Ramsay – Professor: Human Genetics; Director: Sidney Brenner Institute of Molecular Bioscience; and DSI/NRF SARChI Chair: Bioinformatics and Genomics of African Populations, University of the Witwatersrand (Wits). She received the Award for her pioneering genomic medicine approaches in Africa and for leading the transcontinental study on factors that contribute to African diseases.

NSTF-Water Research Commission (WRC) Award

Prof Faizal Bux – Director and Professor: Institute for Water and Wastewater Technology, Durban University of Technology (DUT), Department of Science and Innovation/National Research Foundation South African Research Chair Initiative: Wastewater Treatment, DUT. He received the award for researching wastewater as a resource and not a burden to society.

Special Annual Theme Award: Materials for inclusive economic

Prof Michael Wingfield – Professor: Forestry and Agricultural Biotechnology Institute and Advisor to the Executive, University of Pretoria (UP). He was recognized as a South African plant pathologist for a lifetime of contributions to the identification and management of plant diseases, as well as the education and mentorship of large numbers of plant pathologists and entomologists globally.

Academy Week of Science for Development

The Cameroon Academy of Sciences (CAS) is organizing the Academy Week of Science for Development to be held from 6-8 October 2020. Activities will feature the Colleges of Biological sciences, Mathematics and Physical sciences and Social sciences.

In view of the global pandemic, COVID-19 will be a prominent topic of discussion. The academy envisions to end the activities with the General Assembly of the Academy and admission of new fellows.

Disseminating Evidence-Based Policy Briefs on the Coronavirus Disease (COVID-19) Pandemic in West Africa

The Nigerian Academy of Science (NAS) has partnered with several West African Academies to undertake a project aimed at disseminating pertinent information on the COVID-19 pandemic. The Academies are Ghana Academy of Arts and Sciences (GAAS), Académie Nationale des Sciences et Techniques du Sénégal (ANSTS), Academie Nationale des Sciences, Arts et Lettres du Benin (ANSALB), and Académie Nationale des Sciences, des Arts et des Lettres du Burkina Faso (ANSAL BF). Planned webinars for this project will focus on discussions drawn from Policy Briefs/Reports developed by the Resolve To Save Lives (RTSL) Consortium. The objective of this project is to engage West African policymakers/stakeholders (through the platforms of West African national science academies) by discussing key messages/policy recommendations contained in the RTSL policy briefs on COVID-19. Further details will be available on the NAS website in due course (www.nas.org.ng).

Disseminating Universal Health Coverage in Nigeria (UHC) Workshop

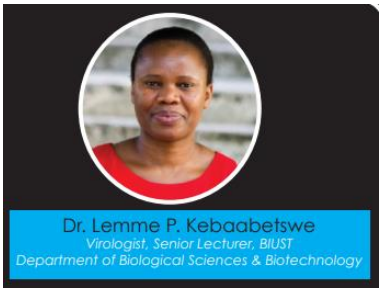
The Nigerian Academy of Science (NAS), in partnership with the Academy of Medical Sciences (AMS) - UK, will organize a stakeholders' workshop focused on UHC in Nigeria. The theme of this virtual event - slated for 2nd and 3rd September 2020 is *Understanding the Context of Health Coverage in Nigeria, and Progress Towards Effective Universal Health Coverage*. Given the importance of UHC in achieving sustainable development, the aim of this workshop is to bring together stakeholders from research, policy, and practice to consider the vision and status of UHC in Nigeria, and mobilize support for the implementation of evidence-based health policies. Further details on this workshop will be made available on the NAS website (www.nas.org.ng).

BAS: The voice of science in Botswana during Covid-19

Botswana Academy of Science

The United Nations and the British High Commission offices in Botswana jointly organized a panel discussion on scientific strategies that can be adopted to prepare for future pandemics, under the theme, *"The voice of science in Botswana during the Covid-19".* The event was hosted live from the Botswana International University of Science and Technology, (BIUST) on 19 June, 2020. The panellists were:-

1. Prof. Joe Jarvis from the Botswana Harvard AIDS Partnership and Infectious Disease & Research. Prof. Jarvis is also a Professor in Global Health, London School of Hygiene & Tropical Medicine and UK.
2. Dr. Lemme P. Kebaabetswe, BIUST virologist who is also a Senior Lecturer at the Department of Biological Sciences and Biotechnology.
3. Prof. Kerstin Andrae-Marobela who is a member of Botswana Academy of Sciences and a Molecular Cell Biologist at the University of Botswana. Prof. Andrae-Marobela is the acting Director of Center of Scientific Research, Indigenous Knowledge & Innovation (CesrIKi) and Coordinator of Covid-19 IK Research Consortium.
4. Mr. Oabona Monngakgotla who is the Deputy Director, Department of Research Science & Technology.



The discussion focused on the epidemiology of SARS-CoV-2 and the implications of infections in Botswana. Also discussed was the use of traditional medicinal plants and drug treatment of COVID-19. Furthermore, the reasons for delayed development of vaccines were discussed, as were local strategies to manage COVID-19. Lastly, the Department of Research Science & Technology highlighted measures being put in place to increase the visibility of scientists in COVID-19 research.

Call for Experts in gene editing technology in Africa

Gene editing has recently come under the spotlight with the development of CRISPR/Cas systems which provide simplicity and ease of targeted gene editing process. The risks involved in gene editing technology products are significantly low because the changes are like those found in naturally occurring populations. Furthermore, once the gene editing agents have segregated out, there is no distinction between a 'naturally occurring' mutation and a gene edit. Therefore, the introduction of genome editing into modern breeding programs should facilitate rapid and precise crop improvement.

Africa Harvest (www.africaharvest.org), CropLife International (www.croplife.org) and NASAC are calling for experienced and distinguished experts (senior or early-career researchers) on gene editing technology in Africa. Experts who wish to stand out and be the voice of promoting the gene editing technology in Africa and beyond.

Click https://nasaconline.org/wp-content/uploads/2020/08/Call-for-Gene-Editing-Experts-180820-1.pdf for more information on the gene editing technology in Africa and how to apply.

On the Spotlight

The Ugandan mathematical model measuring transmission rate of COVID-19

Dr. Betty Kivumbi Nannyonga and a team comprising experts from scientific institutions in Uganda developed a mathematical model with local context data to study the effect of misinformation on community spread of COVID-19. They published this in a paper titled *Infodemic: How an Epidemic of Misinformation Could Lead to a High Number of the Novel Corona Virus Disease Cases in Uganda*.

The collaborative effort engaged several institutions. They included the Uganda National Academy of Sciences, the Departments responsible for Mathematics and Health Sciences, and the Directorate of Quality Assurance in Makerere University. Other institutions were the Uganda Virus Research Institute, Ministry of Health, Uganda Peoples Defense Forces and the World Health Organization. Together, they determined that misinformation could lead to a high number of the novel Coronavirus Disease cases in Uganda.

The main assumption of the model that they developed was that misinformation is an *infodemic* that could compound the medical crisis. The mathematical model explored whether contact between an ignorant and a misinformed individual is more likely to cause more coronavirus infections than that between ignorant individuals. It characterized two variables - rumors and epidemics - similarly since they are short-lived, time-dependent processes.

The model showed that if controlled, misinformation eventually stops, but the rate at which it does depends on the level of effectiveness of the control strategy. It found that when rumour spreaders are many, more people get infected with the virus. A forecast further proved that community cases can rise due to misinformation showing a causal relation between an epidemic and *infodemic.* The forecast revealed that when more than half of the population has heard of a rumour, it ceases to be news. The coronavirus epidemic curve for *infodemic* therefore drops.

In Uganda, misinformation has been propagated on social media. Some examples of misinformation are that holding ones breath is a method to test for COVID-19, and that a boiled concoction of local herbs cures the virus. Without scientific backing, miracle cures including the Madagascar herbal 'Covid-organics' have been touted in the paper as being misleading. Also misleading was skepticism regarding

COVID-19 - positive results of long distance truck drivers - many Ugandans argued that the cases were planted to prolong an already existing *lockdown*.

In discussing the findings, the authors acknowledged that the most dangerous misinformation is that which distorts medical and epidemiological facts or numbers, such as the wrongly interpreted 'herd immunity' concept. This is because it is more believable. They also pointed out that misinformation should be suppressed at the peak of the spread.

The paper made some recommendations to the government. They included the need to consider weaving information surveillance into disease surveillance to prevent community spread in Uganda due to misinformation. Other recommendations included frequent addresses by the presidency and local councils to populations and communities. The use of mobile apps to reach greater populations was also recommended.

Member-Academy's Feature

Mauritius Academy of Science and Technology (MAST)

The Mauritius Academy of Science and Technology was established in 2006 at the Mauritius Research Council by a group of local scientists. The academy was established as a platform for top scientists to have common **reflection, common/coordinated advice and common/coordinated action.**

MAST became a member of the Network of African Science Academies as it believed that academies do not act in isolation. Through the network, MAST has made regular and significant global contributions to science and technology. Recently, MAST made a contribution to NASAC through a paper on COVID-19 by one of its members, Dr. Deoraj Caussy. The Academy makes contributions to the Inter Academy Partnership with the latest one being a paper on Food Security in the context of COVID-19.

Since its inception, members of MAST have participated in several regional and international meetings. In the past year, the meetings and events participated in are:

- 13-16 November 2019: MAST was represented by Dr. Salem Saumtally at the Fifteenth Annual Meeting of African Science Academies (AMASA-15) hosted by the Ghana Academy of Arts and Sciences in Accra, Ghana, under the theme *'Science, Technology and Innovation for FOOD SECURITY and poverty alleviation, in Africa'.*
  Dr. Soumtally reported on the Role of Academies on the above theme, linked to Sustainable Development Goals (SDGs) 1 and 2.

- On 14 and 15 January 2020, Dr. Michael Atchia participated at the NASAC *Science Education Programme (SEP) Working Group*, meeting held in Nairobi, Kenya. Dr. Atchia was elected as the Vice-Chair of the Working Group. *Members of **NASAC SEP Working Group** placed Science Education in the broad context of the availability of **STEM** (Science, Technology, Engineering, Mathematics) education throughout the curriculum of each of our education systems.*

- On 15 July 2020, Prof. Goolam Mohamedbhai made a presentation at a webinar organized by the African Association of Physiological Sciences. The presentation was on *« COVID-19: What impact and consequences for higher education in Africa? ».*

As a way to strengthen the dialogue between scientists and policymakers, MAST constituted a working group to discuss science, technology and societal issues. The Working Group discussed global themes with a national focus and made policy recommendations on the contribution of science to sustainable development through a report titled *"Issues of food security, societal problems and impact on environment".*

In terms of technology, MAST has been in close collaboration with the Aeronautical Society of Mauritius (AeSM) for making aeronautics better known especially to young people who may consider careers in the aviation field.

A major action by the Council has been the establishment of MAST Fund for the Advancement of Science and Technology (M-FAST). The aim of the fund is to aid the advancement of Science and Technology in Mauritius. The fund facilitates short-term visiting professors/experts, funds original research projects and publish results of research and organize seminars and conferences. A sub-committee of the MAST Council develops thematic areas for consideration by M-FAST. Themes include science education, environment and Sustainable Development, technology transfer, commercialization of research findings and social impacts of science and technology.

Another major action by MAST Council concerns the role of academies in major events such the COVID-19 pandemic. MAST organized an online Council meeting with the participation of the MAST Working Group. The topic for the virtual meeting was "*COVID-19 and its implications for local and world food-security".*

On 22 July 2020, the MAST elected Council Members for the period **2020-2022.**

President	:	Dr Michael ATCHIA
1st Vice President	:	Dr Asha DOOKUN-SAUMTALLY
2nd Vice President	:	Pr Goolam MOHAMEDB'HAI
Secretary	:	Pr Yashwant RAMMA
Assistant Secretary	:	Pr Rubina JUWAHEER
Treasurer	:	Dr Salem SAUMTALLY
Assistant Treasurer	:	Dr Ravhee BHOLAH
Immediate Past President	:	Dr Jean-Claude AUTREY
Founder President	:	Pr Soodursun JUGESSUR
Member	:	Dr Yousuf MAUDARBOCUS
Member	:	Dr Deoraj CAUSSY

About NASAC

The Network of African Science Academies (NASAC) was established on 13th December 2001 in Nairobi, Kenya and is currently the affiliate Network for InterAcademy Partnership (IAP) for Africa.

NASAC is a consortium of merit-based science academies in Africa and aspires to make the "voice of science" heard by policy and decision makers within and outside the continent. NASAC is dedicated to enhancing the capacity of existing national science academies and champions in the cause for creation of new academies where none exist.

The Secretariat

Mrs. Jacqueline Kado
Executive Director

Mr. Philbert Okello
Finance Officer

Ms Anne Songole
Programme Manager

Ms. Rahab Gitahi
Programme Officer

Ms. Fatuma Achieng
Administrative and Programme Assistant

Mr. Benard Magudha
Communication Assistant

As at November 2019, NASAC comprised of the following twenty-eight members:

1. **African** Academy of Sciences (AAS)
2. **Algerian** Academy of Science and Technology (AAST)
3. Académie Nationale des Sciences, Arts et Lettres du **Bénin** (ANSALB)
4. **Botswana** Academy of Sciences (BAS)
5. Académie Nationale des Sciences du **Burkina** (ANSB)
6. **Burundi** Academy of Sciences and Technology (BAST)
7. **Cameroon** Academy of Sciences (CAS)
8. Académie Nationale des Sciences et Technologies du **Congo** (ANSTC)
9. Académie des sciences, des arts, des cultures d'Afrique et des diasporas africaines, **Cote d'Ivoire** (ASCAD)
10. Academy of Scientific Research and Technology, **Egypt** (ASRT) – *Provisional Member*
11. **Ethiopian** Academy of Science (EAS)
12. **Ghana** Academy of Arts and Sciences (GAAS)
13. **Kenya** National Academy of Sciences (KNAS)
14. **Madagascar's** National Academy of Arts Letters and Sciences
15. **Mauritius** Academy of Science and Technology (MAST)
16. Hassan II Academy of Science and Technology in **Morocco**
17. Academy of Sciences of **Mozambique** (ASM)
18. **Nigerian** Academy of Science (NAS)
19. **Rwanda** Academy of Sciences (RAS)
20. Académie des Sciences et Techniques du **Sénégal** (ANSTS)
21. Academy of **Science of South** Africa (ASSAf)
22. **Sudanese** National Academy of Science (SNAS)
23. **Tanzania** Academy of Sciences (TAS)
24. Académie Nationale Des Sciences, Arts Et Lettres Du **Togo** (ANSALT)
25. **Tunisia** Academy of Sciences Arts and Letters
26. **Uganda** National Academy of Sciences (UNAS)
27. **Zambia** Academy of Sciences (ZaAS)
28. **Zimbabwe** Academy of Sciences (ZAS)

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