

The 2030 Agenda in African Cities



In 2016, the International Science Council (ISC) partnered with the Network of African Science Academies (NASAC) in a project known as Leading Integrated Research for Agenda 2030 in Africa programme (LIRA2030). The Swedish International Development Cooperation Agency (Sida) provides funding for the project. Together, ISC, NASAC and Sida have published a report titled '[Advancing the 2030 Agenda in African cities through knowledge co-production](#)'.

The report acknowledges the critical role that cities play in transformation towards sustainable development. It cites the SDGs against the Agenda 2063 of the African Union, the Paris Agreement on Climate Change and the Sendai Framework on Disaster Risk Reduction and the New Urban Agenda. Some of the key learnings in the report lean toward knowledge production and co-production, and the need to realize the full potential of the knowledge co-production process. There is therefore need to build capacity of the next generation scholars on this, the report recommends. Investment in transdisciplinary research and training is crucial to equip the next generation of scholars with the mind-sets and tools needed to ensure that urban science is geared towards transformative change in African cities.

The projects profiled in the report inspire hope for early-career African scientists to undertake research

that crosses the conventional boundaries between science, policy and society, and that ultimately contributes to social change. In order to create enabling environments for co-production of knowledge involving different actors in society, the report indicates that academic institutions, international and national funding agencies have a role to play.

From the President



While we know that the global pandemic is far from over, we are encouraged to see the number of infections steadily decreasing in some of the worst

hit countries. Africa is also still grappling with various coping mechanisms in a pandemic-war that we are very much determined to win.

The science community remains at the forefront of the COVID-19 pandemic, with researchers constantly proposing ways to mitigate the scourge. The national academies in Africa have also continued to play a pivotal role within their Ministries of Health committees in their respective countries. As the epitome of scientific achievement in the country, several have developed either national or regional statements that provide evidence-informed advice to their governments on how to address the pandemic.

In the spirit of embracing the new-normal post COVID-19, NASAC and its membership have continued to implement requisite activities, albeit virtually. In this issue of the Science Networker, we highlight some of the activities and initiatives related to the COVID-19 pandemic that our members have undertaken. You will also note that the Commonwealth Academies developed a statement on Climate change, Biodiversity and Sustainable Energy in relation to the pandemic.

In this Issue, the African Scientists Directory is also highlighted as a tremendous milestone for the scientific community in Africa. This directory was developed and is hosted by the International Science Council Regional Office for Africa (IS-CROA) with funding from the South African Department of Science and Innovation and technical support from the Academy of Science of

South Africa (ASSAf). The Directory targets registration of African scientists with Doctoral degrees (and Master's degrees in engineering and health sciences). It also provides a platform for scientists, funders, decision-makers, researchers and other groups to consult for professional purposes.

Last but not least, our main story, *The 2030 Agenda in African Cities*, features the publication: *Advancing the 2030 Agenda in African Cities through Knowledge Co-production*. A must-read, sterling achievement by our grantees; the early career-researchers funded under the Leading Integrated Research for Agenda 2030 in Africa (LIRA2030 Africa) programme. LIRA 2030 Africa programme is co-managed with NASAC and the International Science Council and funded by Sida. This year, the programme awarded eight more collaborative research grants as highlighted in the *Spotlight* section of this bulletin. The early career researchers will work towards publishing their research in science journals in Africa and globally. This Issue then concludes with a member-academy's feature on the Hassan II Academy of Science and Technology of Morocco.

As a Network, it remains our fervent hope that you, our reader, continues keeping safe despite these challenging and uncertain times brought about by the COVID-19 pandemic.

Yours faithfully,

**PROF. MAHOUTON NORBERT
HOUNKONNOU**

NASAC President and Chair of the Board

Recent activities and Events

Climate Change and Health Virtual Editorial Meeting

Under the auspice of the Inter Academy Partnership (IAP) and with funding support from the German Ministry of Education and Research (BMBF), NASAC in partnership with the German National Academy of Sciences Leopoldina, is implementing a new project on Climate Change and Health (CCH). The project involves development of an Africa report on Climate Change and Health, which together with reports from other regions by other regional networks will contribute to the global IAP report on the topic.

Implementation has begun for the project with the constitution of a CCH Working Group. NASAC received nominations from its members and from the young academies to constitute the Working Group which held its first editorial meeting virtually on 28 and 29 May 2020. The Working Group discussed the table of contents for the report and strategised on developing a workplan to generate the report against which writing-tasks were allocated.

12th Meeting of the NASAC Board

The new NASAC Board held its first meeting since being elected to office in November 2019 on 10 June 2020. The meeting was held virtually due to the ongoing COVID-19 pandemic that has brought about travel restrictions. The board is led by the President Prof. Mahouton Norbert Houkonnou, with requisite gender diversity.

During the meeting, the board reviewed activity progress reports of the Network. Besides the review, the Board discussed the effects of the pandemic on NASAC activities extensively. Members of the Board agreed that NASAC will host a Webinar on the response of academies to the pandemic in Africa on 22 July 2020. Additionally, the drafting of a [NASAC statement on Human Rights](#) was commissioned.

Actions of Member Academies on the COVID-19 Pandemic

NASAC Member academies have undertaken initiatives and activities related to the COVID-19 pandemic. Many academies have played a role in advising their governments. The activities are highlighted below with relevant links provided.

Cameroon Academy of Sciences **POSITION STATEMENT ON** **CAMEROON'S RESPONSE TO THE** **COVID-19 PANDEMIC**

On 25 May 2020, the Cameroon Academy of Sciences (CAS) released a statement in response to the COVID-19 Pandemic in Cameroon. The Academy statement which states that all the 10 regions within the country have recorded cases of the pandemic, reminds the public that the COVID-19 pandemic is a rapidly evolving health crisis with novel medical/scientific challenges which must be addressed by appropriate scientifically-based interventions rather than loose unsubstantiated

rhetoric, and so advises vigilance and patience by all and sundry until a conclusive solution is obtained.

Academy of Scientific Research and **Technology, Egypt** **ASRT RAPID RESPONSE RESEARCH,** **DEVELOPMENT AND INNOVATION** **PLAN (RAPID RDI) TO COMBAT** **CORONAVIRUS "SARS-COV-2"**

In February 2020, as a first action to address (COVID-19), the Academy of Scientific Research & Technology (ASRT) prepared a scientific report about the coronavirus situation supported by a proposed road map for scientific

research to cope with the pandemic, followed by a detailed short-term action plan to face the challenge and to help the state to combat the virus. In March 2020, ASRT Council approved the action plan and allocated 30,000,000 LE (about 1.9 million US Dollars) to fund the implementation.

**Mauritius Academy of Science and
Technology**

**POST COVID-19 CONFINEMENT:
ENHANCING FOOD SECURITY
PREPAREDNESS AT NATIONAL LEVEL**

The Mauritius Academy of Science and Technology (MAST) during confinement and through the use of Zoom communication developed a Position Paper on Food Security which was identified as a major area of difficulty created by the COVID-19 pandemic in the country. In the wake of the COVID-19 pandemic, the Academy strongly feels that coordinated national initiatives are warranted to address food requirements in Mauritius in the coming weeks and months. Systematic and sustained actions are needed for sustainable food and nutrition security at national level in the short and long terms.

The statement states that the current pandemic of COVID-19 is likely to exacerbate food security challenges in Mauritius. Closed borders, national lockdowns, and the reduction in air and sea traffic have significant adverse effects and would have major impact on supply chains and logistics in the months ahead. International trade disruptions may trigger food price panics and difficulties in obtaining imported foodstuffs.

**Hassan II Academy of Science and
Technology, Morocco**

**ARRANGEMENTS AND MEASURES
IMPLEMENTED BY THE HASSAN II
ACADEMY OF SCIENCE AND
TECHNOLOGY TO DEAL WITH THE
COVID-19 PANDEMIC**

In accordance with the missions as defined by the law of its creation, in particular, the promotion of scientific research and the support of proposals intended to enlighten public authorities on decisions relating to scientific questions having an impact on the health, social and economic life of citizens, and within the framework of the national effort of solidarity, mutual help and mobilization of the Moroccan people, facing the coronavirus pandemic "COVID-19"; an effort to which called His Majesty the King, may God assist him. **The Hassan II Academy of Science and Technology**, in addition to its financial participation in the special COVID-19 fund, issued a press release (No. 1) on April 14, 2020, in which it particularly recommended, on a scientific level, a few actions allowing to better understand its nature, development and treatment. On Friday, May 1, the Work Committee of the Hassan II Academy of Science and Technology held a video conference meeting to concretely implement these proposals as part of an action plan.

The Nigerian Academy of Science
PRESS STATEMENT COVID-19
PANDEMIC: CONTAINMENT IS
POSSIBLE

In pursuit of her mission to help solve national problems through the instrumentality of science, the Nigerian Academy of Science (NAS) released a Press Statement on the COVID-19 Pandemic. The Statement which was released on 12 March 2020 states that it is possible to arrest the spread of the disease if the right steps are taken. It states that the known measures already in place, regular and proper washing of hands, screening at the ports of entry, quarantine/isolation, contact tracing, public enlightenment, use of personal protective equipment, and equipping and training of health workers are effective in containing the spread of the virus and these should be strengthened in Nigeria.

Academy of Science of South Africa (ASSAf)
REPORT ON ASSAf'S RESPONSE TO
THE COVID-19 PANDEMIC

The Statement by the Academy of Science of South Africa (ASSAf) on the Implications of the Novel Coronavirus (SARS-CoV-2; COVID-19) in South Africa was published on 2 March 2020, three days before the first COVID-19 positive case was announced in the country. The COVID-19 pandemic, hailed as an “unprecedented” event, culminated in the announcement of the national disaster management plan by President Ramaphosa on 15 March, followed by the lockdown measures which came into effect on 26 March 2020. A number of ASSAf Members were signatories to an open letter to President Ramaphosa and the Cabinet from 76 South African economists, economic and business analysts (30 March 2020). The letter outlines 18 measures which government needs to undertake in order to support and stabilise the economy, and to ensure that the most vulnerable people and businesses will be protected.

COMMONWEALTH ACADEMIES STATEMENT ON CLIMATE CHANGE, BIODIVERSITY
AND SUSTAINABLE ENERGY

The Commonwealth Academies developed a statement on Climate Change, Biodiversity and Sustainable Energy stating that the COVID-19 pandemic has had a profound impact across the globe, affecting health and health services, impacting the global economy, and exacerbating social and economic inequalities. The Statement was made on World Environment Day calling on governments to continue addressing the joint challenges of climate change and biodiversity loss. Governments must ensure that global economic recovery from the pandemic is environmentally sustainable, the statement read in part. Commonwealth Heads of Government were therefore urged to utilize opportunities presented by COP 26 and COP 15 to discuss these issues, to work with the global research community and to grasp the opportunity of a decarbonized economy. Indeed, COVID-19 has highlighted the importance of governments working together and we must build on this global response to address the climate crisis, the statement said.

Announcements

The African Scientists Directory Connecting African Scientists Globally



The [African Scientists Directory](#) was launched virtually on 25 May 2020, as part of virtual Africa Day celebrations with the aim of identifying and mobilizing African scientists in the natural and social sciences, humanities, engineering, mathematics and technology. To date, 2 252 users have registered on the Directory, 780 profiles have been created, out of which 420 have been reviewed and published.

The Directory aims to advance the sustainable and socio-economic development of individual African countries and the continent at large and is expected to:

- facilitate the free flow of scientists and scientific knowledge across borders;
- promote the participation of African scientists in science activities on the continent and worldwide;
- ensure efficient information transfer between scientists;
- allow for the collation and dissemination of valuable scientific information for Africa; and
- promote and facilitate the formation of scientific societies and academies within the continent as well as sub-regional partnerships on the continent; as well as
- promote and facilitate capacity building in Africa; including
- support post-graduate training programs for early-career scientists.

The African Scientists Directory is accepting profiles of African scientists with Doctoral degrees (and Master's degrees in engineering and health sciences). Scientists are encouraged to submit their professional

details to the Directory, through 3 simple steps: [Register & verify email](#) — [Login](#) — [Create a Listing](#). The submission and hosting of scientist profiles is free of charge, and selected professional data is available as Open Access to all science stakeholders.

Scientists, funders, decision makers, research groups and more are encouraged to consult this Directory for professional purposes.

ASRT Call for Proposals on Disruptive Technologies

Academy of Scientific Research and Technology, Egypt (ASRT) and South Africa's Technology Innovation Agency (TIA) signed a collaboration agreement in November 2019. The agreement intends to further enable the promotion of targeted market-oriented research cooperation and technology innovation partnerships between the two countries. As a first step to activate the cooperation, a call has been launched inviting scientists to submit project proposals on applied research and innovation in the domain of Disruptive Technologies. These proposals should have a focus on real-world, realistic solutions that are in line with requirements of the Egyptian and South African communities.

[This link](#) provides more information about the call

On the Spotlight

Projects on Collaborative Research for Agenda 2030 in African Cities Awarded

LIRA 2030 Africa programme jointly implemented by NASAC and the International Science Council (ISC) made a call for proposals for collaborative research. Existing grantees were eligible for the Awards which involve publishing trans-disciplinary articles in science journals in Africa and globally. Eight grants of EUR20, 000 each were awarded to grantees whose proposals involved working together with each other for the first time. Below is a list of the proposals that have been awarded and the lead researcher for each project.

 <p>Prof. Henri Sourou Project title: Contributing to the achievement of Sustainable Development Goals in West Africa: Knowledge on sanitation, water and health risk in the coastal cities: Cotonou, Lomé and Abidjan Countries involved: Benin, Togo and Cote D'Ivoire</p>	 <p>Dr. Amollo Ambole Project title: Informing Energy Futures through lessons from Science-Policy-Society Interactions Countries involved: Kenya, Uganda, South Africa and Ghana</p>
 <p>Dr. Peter Elias Project title: Achieving Sustainable Urban Development through a Methodological Framework for Data Governance in Africa Countries involved: Nigeria, Ghana, Angola and Mozambique</p>	 <p>Dr. Gladman Thondlana Project title: Facilitating urban sustainability through knowledge co-production Countries involved: South Africa, Ghana and Zimbabwe</p>
 <p>Dr. Temilade Sesan Project title: The utility of informality: Rethinking approaches to inclusive urban water and waste management in sub-Saharan Africa Countries involved: Burkina Faso, Ghana, Niger, Nigeria, South Africa, Uganda, and Zambia</p>	 <p>Dr. Nelson Odume Project title: Pathways, contextual and cross-scale dynamics of science-policy-society interactions in transdisciplinary research in African cities. Countries involved: South Africa, Ghana, Nigeria, Senegal, Ivory Coast and Uganda</p>
 <p>Dr. Sokhna Thiam Project title: Analyzing the contribution of transdisciplinary research to the global sustainability agenda in African cities Countries involved: South Africa, Nigeria, Ghana, Senegal, Ivory Coast, and Uganda</p>	 <p>Dr. Buyana Kareem Project Title: Transdisciplinary sustainability research in African Cities: Pathways and Power Dynamics Countries involved: Uganda, Kenya and South Africa</p>

Member-Academy's Feature

HASSAN II ACADEMY OF SCIENCE AND TECHNOLOGY



His Majesty The King Mohammed VI
Patron and Protector of the Academy



His Majesty The King Hassan II
Founder of the Academy

<http://www.academiesciences.ma>

According to the wishes of His Majesty the King Hassan II, blessed be his soul, the Hassan-II Academy of Science and Technology is a place of high thinking. Here men and women whose talent, enlightenment and wisdom have earned them a prominent standing within the international scientific community work to foster moral serenity in society and to achieve the material prosperity of the nation as well as its intellectual advancement. They do this by pondering on how to provide mankind with enlightenment and guidance in its effort to usher in a new era.

The fact that mastering sciences is nowadays an essential complement to national sovereignty, the Academy has a strong conviction that i) creativity and innovation in science and technology have a significant impact on social and economic developments in modern nations and ii) the scientific research policies have to be reshaped and attuned to human needs, and their technical applications have to be kept within overriding ethical boundaries.

Placed under the guardian protection of His Majesty the King Mohammed VI, the mission of the Hassan-II Academy of Science and Technology is promoting and developing the scientific and technical research and contributing to setting the general orientations for the scientific and technological development. Additionally, its mission is making pertinent recommendations regarding the national priorities of research, evaluating research programs and ensuring their grants and contributing to integrating the Moroccan scientific and technical research activities within the national and international socio-economical environments.

The academy is composed of 90 members. 30 of the members are national members holding resident status, 30 are foreigner scientists who qualify as associates and 30 corresponding members are composed by both national and foreigner scientific personalities.

Missions (extracts of the law)

The Hassan-II Academy of Science and Technology is a dynamic organization that seeks to achieve the general objectives set indicated in the earlier paragraphs and the following:

Promotion and development of scientific and technical research

- Ensure that scientific and technical research ranks high among the values upheld by the nation;
- Propose to the authorities the relevant routes and means to kindle the scientific spirit within the Moroccan society;
- Provide local scientists and researchers with a special forum for debate and interaction;
- Foster high-level communication channels between national scientists and the international scientific elite;
- Work for the dissemination of science by organizing panels and scientific events, publishing relevant material, and opening science libraries;
- Review and evaluate the scientific findings and innovations submitted for its consideration;
- Ensure that the scientific and technical research exercises are made within the moral and ethical prescriptions.

National policy for scientific and technical research

- Contribute to setting the general orientations for the scientific and technological development;
- Put forward recommendations about priorities and how to achieve the nation's targets in terms of research;
- Contribute to the elaboration of scientific human resources policy capable of attracting high-profile scientists and, more importantly, promoting an adequate intellectual and material environment so as to provide talented Moroccan researchers who are sought or employed by foreign research laboratories and centers, with an efficient incentive to stay in their country;
- Monitor continuously the progress made in the field of technology for the benefit of the nation.

Evaluation and funding of scientific and technical research programs:

- Carry out studies, analyses and surveys in connection with research activities;
- Encourage the implementation of research programs which have been set in accordance with national priorities, determine their relevance and scientific value, and, when necessary, allocate them appropriate financial resources;
- Assess the implementation of research programs sponsored by the Academy, and to take all the relevant steps to enhance the resources of existing and projected research laboratories and other facilities.

Integration of scientific and technical research activities in the social and economic environment at national and international levels.

- Propose to the relevant authorities the modalities on scientific and technical cooperation for participating in regional or international research programs; and provide advises on the evaluation of the activities carried out by the national research institutions involved in these programs;
- Help to establish the adequate mechanisms for consultation, on a permanent basis, between the research and technical innovation community and its social and economic counterparts.

Functioning of the Academy

The Academy organizes one plenary session a year, where the general public maybe admitted upon invitation. The plenary session should also gather the maximum possible members, residents, associates and

members. It national tribune present their scientific and

Ordinary sessions the resident studying various the national and technology evaluate the and projects.

corresponding provides a unique for local scientists to work and their technical findings.

are also held among members for problems related to priorities in research and discuss and submitted reports



Academician members and participants at the 2019 Solemn Plenary Session on "Biomedical engineering towards improved prevention diagnosis and therapy"

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

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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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