

On Site with the LIRA Projects

Project Title: Towards healthy communities: Citizen Science for improved air quality in Nairobi (Kenya) and Addis Ababa (Ethiopia)



In Kenya where the site visit took place, the project is in Mukuru -Rueben informal settlements. The NASAC team was given an overview of the project on Mukuru Air Quality Research and findings of the project by Cassilde Muhonza and William Opondo. The project is dubbed CSAP- Citizen Science and Air Pollution, and uses portable pollution monitoring sensors to trace exposure of human beings to indoors and outdoors pollutants under “real” conditions in the informal settlements. The project is also committed to learning from local communities about their perception of exposure to, and harm from, air pollutants, while teaming them about pollution monitoring and avoidance techniques. This leads to community empowerment. In the longer-term, the project aims to inform policy-making based on evidence of air pollution and its effects on local communities.



The project has brought value addition in the lives of the community champions involved, and this was further reiterated when the NASAC team participated in a community awareness meeting held by the informal settlement dwellers to discuss an integrated action-plan towards solving both land tenure issues and how to foster a green environment. The major gap noted for the project was the lack of interaction with the industry as a key stakeholder.

Project Title: Towards reducing human exposure to combustion-derived pollutants in urban areas of the Lake Victoria watershed; Improvement of indoor air quality in selected urban communities of Kampala and Mwanza

The site visit took place in Kampala, Uganda where the PI, of the project Dr. Kenneth Arinaitwe gave an overview of the project and stated the progress of the project and the challenges that are being faced during implementation.

Project Title: Co-designing energy communities with energy poor women in urban areas; case studies in Kenya, Uganda and South Africa



In Kenya where the site visit was undertaken, the project is in Kosovo village in Mathare informal settlement. During the site visit meeting at the informal settlement, the NASAC team was given an overview of the project and taken for a tour of Mathare Kosovo area and a visit to the home of one of the respondents of the project. One thing that was strongly pointed out by all the members was that they were pleased in the way that they

were involved in the project so far. The approach and methodology used in conducting the research was positively unique. They appreciated how actively they had been involved in the research and affirmed that they had a sense of ownership to the project. Those who had participated in the workshop at the University of Nairobi had applauded the experience and their involvement in trying to find possible solutions to their energy needs in the presents of other stakeholders. Most of the members reiterated the fact that they have through the research gained knowledge and enlightenment concerning energy use, effects and availability of sustainable energy sources. Some of the members mentioned how they had been spending so much money on inefficient energies like paraffin and charcoal stoves to cook and heat but have so far realized that using other energies like liquid petroleum gas (LPG) was more efficient and even cheaper. In addition, they were glad that they now had knowledge of the negative effects that comes with using unsustainable energy sources and were now channeling their efforts in changing to better energy forms and creating awareness within the community by enlightening their neighbors and friends.



Site visit at Mathare Kosovo

From the Chair



We have reached the end of 2017 and with great pleasure I present you with this issue of ***The Science Networker***.

NASAC as a Network of Science Academies has continued to grow

and to engage in various activities that involve all the academies. As we close 2017, it is appropriate for me to reflect upon our successes and highlight the Networks accomplishments.

NASAC's key objective is to provide authoritative science advice for policy formulation towards the development of science in the continent. Some of the successful experiences of academies in Africa in the area of science policy advice are not just to deliver a piece of advice to government but how the government reacts to it and whether that advice could help change policy. NASAC with financial support from the InterAcademy Panel and the BMBF through the German Academy of Sciences, Leopoldina organized a workshop on Capacity Enhancement on Academies' Communications, Outreach, and Distribution of Science-Based Advice to Policy Makers and the Public to address the best way to exercise thoroughness when communicating to policy makers through appropriate quality assurance and peer review processes.

NASAC continues to champion Science Education and in collaboration with the French Academy of Sciences, we held AEMASE III Conference with the aim of gathering support for the establishment of CESAME (Centres for Education in Science for Africa the Mediterranean and Europe), where educators of

science teachers coming from the AME region would be in close contact with colleagues from other countries and scientific workers, and initiated to the IBSE pedagogy in science. Seven centers officially declared their willingness to launch a CÉSAME: that is in South Africa, Benin, Cameroon, Egypt, Italy, Morocco and Tunisia. The conference was under the theme: "AEMASE III: A way towards International Centers for Science Teachers"

I also take this opportunity to congratulate the NASAC Vice-President for Scientific Matters, Prof. Oyewale Tomori on his induction as a member of the Class 2016, of the US National Academy of Medicine on the 14th of October, 2017 in Washington, USA. We take great pleasure in honoring him as a great scientist who is having a great impact in not just Africa but internationally as well. NASAC is truly honored to have him as a Board member.

The end of a year is a good time to look back, reflecting on achievements, and to look forward, to see what we still need to accomplish. I wish to thank NASAC members, stakeholders, scientific fraternity and the NASAC secretariat for their continued support and contribution to the growth of our Network and towards ensuring that NASAC continues to realize its objective of making the "voice of science" heard by policy and decision makers within Africa and worldwide.

Sincerely,

ROF. MOSTAPHA BOUSMINA
President of the NASAC Board

Recent Activities and Events

Science Academies are urged to ensure that society is aware of what they do

On 6th and 7th July 2017, NASAC hosted the workshop on ‘Capacity Enhancement Workshop on Academies’ Communications, Outreach and Distribution of Science-Based Advice to Policy makers and the Public’. In attendance were academy representatives from nineteen academies. The representatives held discussions on how to communicate science-based advice to policy makers.

The main objectives of the workshop were:

1. To share experiences on the communication events on NASAC’s policy maker’s booklet.
2. To acquire basic understanding of the scientific advice sought by policy makers.
3. To ensure that the scientific advice provided by the academy is free from political interference.
4. To exercise thoroughness when communicating to policy makers through appropriate quality assurance and peer review processes.
5. To create an awareness of the challenges that may arise while communicating to the policy makers and the public.
6. To highlight the value of science academies as key actors and agents-of-change in the policy environment.

New academies from Benin, Burundi, and Botswana also participated at the workshop.

From the workshop deliberations, it was noted that the value of science academies in Africa has greatly risen. However, academies are faced with major challenges among them being inadequate financial resources and gender imbalance (less than 10% of academy members are women).

At the workshop, academies were urged to provide service to scientific and development communities, to the general public, and to government. Additionally, they should introduce appropriate reforms to increase membership by electing younger scientists, including women. Science academies were charged to ensure that society becomes aware of what they do by building their capacity to be able to inform society on the science and achievements in the ongoing scientific work, in an informative, expert, and comprehensive manner.



Transdisciplinary Training – Advancing the implementation of SDG 11 in Africa

As part of the 5-year "Leading Integrated Research for Agenda 2030 in Africa" programme, the International Council for Science (ICSU), in partnership with the Network of African Science Academies (NASAC) and the International Social Science Council (ISSC) a training event on integrated research, took place from 28 August – 1 September 2017 in Kampala, Uganda. The training which was held at Makerere University targeted 31 early career researchers who submitted proposals and were selected. The training aimed at strengthening scientific capacity to undertake TD research, to enable researchers to build meaningful inter- and trans-disciplinary projects, to support the development of full

proposals and to strengthen science communication skills.

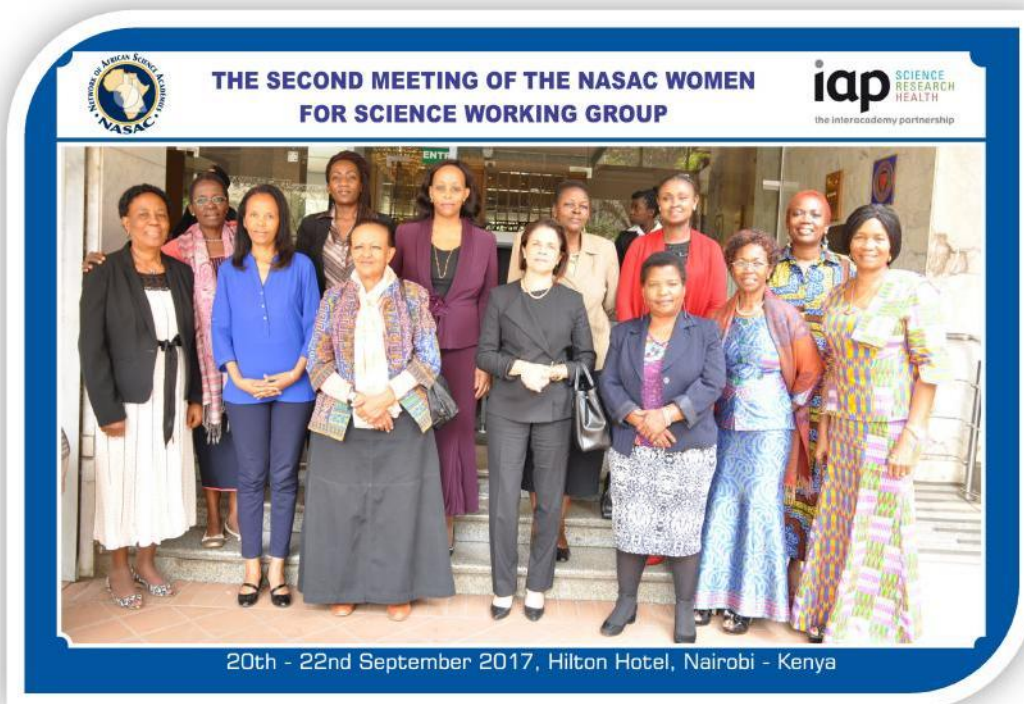
The training workshop presented theories, methods, and examples of TD research. The workshop also included modules on science communication and proposal writing as well as a field visit to the KALOCODE project in Kasubi, organised together with the Makerere Urban Action Lab.

Participants at the training were thereafter given a six-week timeline to submit full proposals. In January 2018, 10 collaborative research projects across Africa will subsequently be awarded the grant each worth up to 90,000 Euro over 2 years.



Group photo of the participants at the training

Women for Science meet in Nairobi



The Women for Science Working Group Members met in Nairobi, Kenya from 21-22 September 2017 with support from the InterAcademy Panel (IAP). During the two-day meeting, members reviewed the publication on Inspiring Stories of Women Scientists in Africa and developed a dissemination and communication strategy.

NASAC Women for Science Working Group reviewed the work plan for 2018 and endorsed the dissemination strategy for the publication. Members of the working group will implement the dissemination plan in their respective countries and find forums where this can be done. Dissemination must be done to universities and high schools as well.



Prof. Tsegaye hands over the book in Ethiopia at the EAS GA meeting. L-R Prof. Tsegaye, WG Member, Prof. Tsige, EAS President & Prof. Masresha, EAS ED

African European Academies for Science Education (AEMASE) Initiative

The “*AEMASE III: A way towards International Centers for Science Teachers*” conference was hosted by the French Academy of Sciences in collaboration with NASAC which had funding support from IAP. This event was held in Paris, France under the theme: on 3-4 October 2017. The event brought together over 100 participants including representatives from NASAC member academies.

The objective of the event was to launch a project of Centers for Science Education in Africa, Mediterranean Zone and Europe (CESAME), where teachers and their trainers will interact with scientists for a few weeks and train on investigation, taking advantage of rich international exchanges. Seven centers officially declared their willingness to launch a CÉSAME and these are centers in South Africa, Benin, Cameroon, Egypt, Italy, Morocco and Tunisia.

AMASA 13 - “STI education and manpower development in Africa”

The Thirteenth Annual Meeting of African Science Academies (AMASA 13) was hosted by the Nigerian Academy of Science (NAS) in Abuja, Nigeria from 13-16 November 2017. The theme for the AMASA-13 meeting was “*STI education and manpower development in Africa*”.

NAS also celebrated its 40th anniversary as the “*voice of science*” in Nigeria and organized a series of events in commemoration. In addition to hosting the AMASA-13 conference, there was a Learning Collaborative event, facilitated by the International Network for Government Science Advice (INGSA) and focusing on “*the art of providing science advice*”. Nigeria Academy also graciously hosted the LIRA 2030 Annual Research Forum from 14-15 November as a parallel session of the AMASA-13 meeting. The 9 grantees of the 1st call of the project together with their co-investigators were invited to participate at this forum.



AMASA13 meeting hosted by the Nigeria Academy of Science – Group Photo of the participants

General Assembly Meeting

The General Assembly meeting of NASAC Members was held on 16 November 2017 Abuja, Nigeria and was graciously hosted by the Nigeria Academy of Science back to back with the AMASA-13 meeting.

Members were presented with the activity progress reports of the Network. The NASAC audits, finances and the budget for 2018 were also presented and they were approved.

At this meeting, the Botswana Academy of Sciences (BAS) was granted full membership to the network.

Announcements and Appointments



INSTITUT DE FRANCE
Académie des sciences

International Forum Women and Sustainable Development in Africa

**Dar-es-Salaam, Tanzania,
8-10 March 2018**

NASAC in collaboration with the French Academy of Sciences is organizing a high profile forum on *Women and Sustainable Development in Africa*. The forum will be held from 8-10 March 2018 in Dar es Salaam, Tanzania and will be hosted by the Tanzania Academy of Sciences (TAAS). The forum is aiming at inviting 200 participants.

Given the social and economic progress of African nations, this initiative by African scientists to highlight the contribution of science to development is to be commended. With this objective in mind, science academies organize an international forum focusing on the contribution by women to social and economic progress in African countries. It is important to highlight the challenges encountered by women in their pursuits to care for the family, educate, improve access to water, energy, healthy food, combat negative effects of climate change and sustain a growing, young and under-employed population.

The achievements already made in Africa on these matters will be presented with emphasis on the means required to accelerate transition to maximise success for this innovative forum. The forum will emphasize the contribution that scientific disciplines can make in addressing these questions. Success stories on the conference theme will be presented by women's associations and their networks, from which valuable lessons can be learned.

At the end of the event, a forum declaration and statement by the scientific community will be submitted for consideration by the policy- and decision-makers in Africa

The NASAC Women for Science working group members will be fully involved in the conference and even participate as presenters and facilitators.

President of NASAC takes part in Groupe Inter-académique pour le Développement



The President of NASAC, Prof. Bousmina, took part in the board meeting of GID (Groupe Inter-académique pour le Développement). The meeting which was held in Paris, France on October 26th, 2017 gathered several participants from the Mediterranean and Africa regions. The aim of the meeting was to discuss and work out the strategic plan of GID, with an emphasis on the relationship between Europe and Africa. NASAC is an ex-officio member of the GID board.



On the Spotlight

NASAC Vice-President for Scientific Matters is inducted as a member of the Class 2016, of the US National Academy of Medicine

The **NASAC Vice-President for Scientific Matters** and the immediate past president of the Nigerian Academy of Science, Professor Oyewale Tomori, FAS, was inducted a member of the Class 2016, of the US National Academy of Medicine on the 14th of October, 2017 in Washington, USA. 70 regular members and 10 international members were also inducted at the event. Election to the Academy is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

Reading Tomori's tribute, the orator said *"Dr. Oyewale Tomori led the development of the Africa Regional Polio Laboratory Network, a vital part of the global polio eradication program. His work established a paradigm for the development of similar laboratory networks for measles, yellow fever, influenza and other viral hemorrhagic fevers, including Ebola virus, in Africa"*



Prof. Oyewale Tomori, receiving certificate of membership from President of the US Academy Prof. Victor Dzau, at the induction ceremony



Prof. Oyewale Tomori, FAS in a group photograph of the President, US Academy of Medicine, Prof. Victor Dzau, with 80 newly inducted members of the Class

Member-Academy's Feature



THE KENYA NATIONAL ACADEMY OF SCIENCES (KNAS)

The Kenya National Academy of Sciences is a learnt, non-political, non-sectarian and non-profit making entity founded in 1983 under the auspices of the National Council for Science and Technology (NCST). The mandate of KNAS is to mobilize Kenya's scientific community in the creation, maintenance and advancement of knowledge in all fields of human endeavor. This is intended to effectively inform policy, build capacity in Research and Innovation, and provide solutions to improve people's quality of life.

KNAS has 59 fellows and 160 Members, whose profiles are captured in the 1st edition of the Profiles publication (2015). The Academy also mentored the establishment of the Young Academy in 2015. The membership of the Young Academy is currently 30 founding members.

Recognizing that the field and study of the Sciences is essential for the Socio-economic growth, advancement and development of the nation, the major objectives of KNAS are:-

- To promote the advancement of basic, applied and innovative technologies, and enhance standards of scientific and technological achievements in Kenya
- To provide evidence based advice for policy formulation to the Government of Kenya, especially on issues pertaining to the relevance and quality of the Sciences, including Physical, Mathematical and life Sciences as well as Human, Social and Economic sciences.
- To establish and maintain associations, relations, linkages and partnerships between scientists in Kenya and the international scientific community.
- To publish Journals, Magazines, Research articles and Conference reports/proceedings in order to promote the exchange and dissemination of knowledge

With increased membership of Fellows and Members, there has been an upturn of activities with the Government of Kenya and international collaborations.

MoU with BAST

The Beijing Association for Science and Technology (BAST) visited KNAS in 2015 and in 2016. During their visit last visit in 2016, a memorandum of Understanding (MoU) was signed.



The Key elements of the MoU include the following:-

1. Capacity development (Postgraduate training and Secretariat training); Provision of joint Research with focus on collaboration in Agriculture and Herbal (Alternative) medicine.
2. Collaboration in setting up a Science Centre in Kenya while supporting the exchange of experiences, talents and experts.
3. To mobilize relevant funds needed for the various projects in a jointly consultative and cooperative manner, in order to entrench and sustain beneficial exchanges and cooperation.

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) in 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.

As at November 2016, NASAC comprised of the following twenty four members:

- Académie des Sciences et Techniques du Sénégal (ANSTS)
- Académie Nationale des Sciences du Burkina (ANSB)
- Académie Nationale des Sciences et Technologies du Congo (ANSTC)
- Académie Nationale des Sciences, Arts et Lettres du Benin (ANSALB)
- Académie Nationale Des Sciences, Arts Et Lettres Du Togo (ANSALT)
- Academy of Science of South Africa (ASSAf)
- Academy of Sciences of Mozambique (ASM)
- African Academy of Sciences (AAS)
- Algerian Academy of Science and Technology (AAST)
- Botswana Academy of Sciences (BAS)
- Cameroon Academy of Sciences (CAS)
- Ethiopian Academy of Science (EAS)
- Ghana Academy of Arts and Sciences (GAAS)
- Hassan II Academy of Science and Technology in Morocco
- Kenya National Academy of Sciences (KNAS)
- Madagascar's National Academy of Arts Letters and Sciences
- Mauritius Academy of Science and Technology (MAST)
- National Academy for Cote d'Ivoire
- Nigerian Academy of Science (NAS)
- Sudanese National Academy of Science (SNAS)
- Tanzania Academy of Sciences (TAS)
- The Uganda National Academy of Sciences (UNAS)
- Zambia Academy of Sciences (ZaAS)
- Zimbabwe Academy of Sciences (ZAS)

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