

IMPROVING THE MANAGEMENT OF WATER RESOURCES FOR SUSTAINABLE DEVELOPMENT IN AFRICA AND THE AMERICAS



NASAC-IANAS-UNESCO Water Workshop Participants

NASAC in collaboration with the Inter-Academy Partnership (IAP), the InterAmerican Network of Academies of Science (IANAS), and UNESCO held an Africa Water Workshop on the theme ***“Improving the Management of Water Resources for Sustainable Development in Africa and the Americas”*** on 12-15 October 2015 in Nairobi, Kenya. The workshop was the second of a two-part initiative after the first workshop was held in Panama City, Panama in October 2014.

The workshop provided a platform for sharing experiences and exchanging ideas on how science can influence policy on water in Africa through IANAS and NASAC. It was attended by 54 participants comprising of academicians, scientists, policymakers, researchers and experts on water from both Africa and Americas.

The forum enabled participants to take stock of the relevant issues in water for Africa and the Americas, while deliberating on how to maximize the circulation of and referencing of NASAC’s policymakers booklet entitled: *The Grand Challenge of Water Security in Africa: Recommendations to Policymakers*. Scientists and policymakers present used the opportunity to dialogue on better mechanisms for continuous engagement and encouraged the national uptake of policy advice on water emanating from regional level through NASAC and IANAS.

The four-day event included a field trip for participants to visit the Nairobi Water and Sewerage Company (NCWSC) Ndakaini Dam and Ngethu Water Treatment Works. The discussions on the trip centered on water sources, security of the

dam and plant, water treatment processes, the financial sources for operations as well as socio-economic challenges being encountered.

The workshop was successful in facilitating dialogue between scientists and policymakers under specific themes of eutrophication and wastewater management; water and climate change adaptation; water, energy and agriculture; water quality and quantity; role of regional networks on continental water issues; models for integrating science advice into water policies.



Participants at the Ndakaini Dam

From the Chair



This end-of-year bulletin highlights activities that were undertaken by NASAC in the second-half of 2015. One of those activities was the Second Fundraising Training Workshop that took place first to third September 2015. NASAC is

committed to building the capacity of its member-academies to strengthen them to raise project funding and accurately report on implementation progress and outcomes. The funding support for the training was received from the NASAC-Leopoldina Phase I project, funded by the German Ministry of Education and Research (BMBF). The workshop also tackled resource mobilization and grant management. The decision to hold a 2nd training workshop was arrived at based on needs expressed by members after the first training workshop and the challenges they face in resource mobilization. We believe that most academies found the training beneficial in a bid to improve the efficiency at their secretariats.

Phase I of the NASAC-German Academy of Sciences Leopoldina collaboration came to a successful conclusion in October 2015. NASAC was able to finalize and publish four policymakers' booklets titled: ***The Grand Challenge of Water in Africa; Changing Disease Patterns in Africa; Climate Change Adaptation in Africa; and Harnessing the Potential of Modern Agricultural Biotechnology for Africa's Socio-Economic Development.***

These booklets were endorsed by our members after undergoing peer reviews and can therefore be used as essential science-policy advisory instruments. NASAC's mandate is to make the *voice of science* heard in Africa and globally. The policymakers' booklets are a fulfillment of that mandate, enhancing NASAC's role as a provider of science-based advice to policymakers and the public.

The hosting of the Annual Meetings of African Science Academies (AMASA) from 2015 became the collective responsibility of NASAC and its members. The Kenya National Academy of Sciences (KNAS) successfully hosted 2015's AMASA-11 conference titled: *"Non-Communication Diseases: Post 2015 Agenda"*. The local hospitality was graciously supported by the Government of Kenya secured by KNAS. NASAC secured additional contribution from IAP to mostly pay for international travel. Academy of Science of South Africa (ASSAf) will host the AMASA-12 Conference in 2016 in South Africa, while Nigerian Academy of Science (NAS) will host AMASA-13 in 2017.

NASAC and Hassan II Academy of Morocco in collaboration with *Elephant Vert*, a fertilizer producing company in Morocco will support an African Prize for laboratories. The prize will target agricultural research for sustainable development and it will be launched in 2016, co-administered by NASAC and Hassan II Academy.

Lastly, and with heartfelt gratitude for the support you have accorded to NASAC in 2015, I wish you a very prosperous 2016 on behalf of the NASAC Board and Secretariat.

Activities and Events

Second Fundraising Training Workshop on Resource Mobilization (1-3 September 2015)

NASAC in collaboration with the German Academy of Sciences Leopoldina, with funding support from the BMBF-German Ministry of Education and Research, organized a training workshop purposed to enhancing fundraising skills of staff and officials of science academies. The training workshop was focused on Resource Mobilization and Grant Management, and was held at the Hilton hotel in Nairobi, Kenya. The three-days training was conducted by two trainers from MDF-ESA and it brought together twenty two academy staff and officials from thirteen academies in Africa.

The first training workshop, still on Resource Mobilization was held in August 2014 on the theme: *“Enhancing Fundraising Skills for Science Academies”*. The target group and funding partner remained the same as that of the second training workshop in 2015.



Group discussion during the fundraising training

On day 1, the lead trainer focused on resource mobilization and grant management, interactively discussing the granting trends in Africa and why donors give grants. The main message on day one was how to synergize academy efforts to meet donor

expectations on projects that served the priorities of all parties. On day 2, the main topic covered was Writing Proposals. Practical examples of funding calls from different funding agencies were discussed. Participants identified possible topics that would constitute the statement of work and were taken through a rigorous hands-on session of developing both a problem tree and an objective tree to justify the proposed intervention. The terms impacts, goals, objectives, outcomes and outputs were also defined. On day 3, Reporting on Grants received after project implementation was discussed.

At the end of the workshop, participants were awarded certificates of participation. They gave very positive feedback about their experience in the training workshop. Feedback from participants included recommendations that NASAC should hold the training workshops annually, with a possible focus on “Financial Reporting” for 2016, which the Mauritius Academy offered to host if funding was availed.

Overall, the participants appreciated the fact that their feedback at the first training was taken into account by NASAC and Leopoldina/BMBF as well as the trainers. This they said, was commendable and a hallmark of genuine partnership.



Fundraising training workshop participants

Eleventh Annual Meeting of African Science Academies (AMASA-11)

The Kenya National Academy of Sciences (KNAS) in collaboration with NASAC hosted the Eleventh Annual Meeting of African Science Academies (AMASA-11) on 29th November to 1st December 2015 in Nairobi, Kenya. KNAS secured funding support from the Kenyan Government through the Ministry of Education, Science and Technology and the National Commission for Science Technology and Innovation (NACOSTI). NASAC secured additional funding support for the event from Inter Academy Partnership (IAP).

The theme of AMASA-11 was “*Non-Communicable Diseases: Post 2015 Development Agenda*”. Under this topic, the meeting focused on sharing multi-sectoral experiences in dealing with NCDs; identified policy issues on NCDs in Africa; made proposals on scientific and policy interventions that can address NCDs; and enumerated good practices for purposes of bench marking.

Over 150 health experts, policymakers academy officials and staff from over 19 African countries participated at the AMASA-11 conference. Representation of academies from Germany and the United Kingdom was also registered. Ministry officials from the Kenyan government also participated and the Conference was officially opened by Prof. Collette Suda, the Principal Secretary of the Kenyan Ministry of Education Science and Technology.

On 29th November 2015, NASAC launched the Policy booklet on ***Changing Disease Patterns in Africa: Recommendations to Policymakers***. This was organized as the official welcome dinner of AMASA-11. KNAS also held its new-members’ induction ceremony on 30 November 2015, at which more than 50 fellows were inducted.



Group photo of the AMASA 11 participants

11th NASAC General Assembly (GA) Meeting

The NASAC GA meeting was held on 29 November 2015 in Nairobi, Kenya, and also as a side-event of AMASA-11. The meeting had representation from 15 out of the 21 member-academies of NASAC and was graciously hosted by the Kenya National Academy of Sciences. By invitation, representatives of the German National Academy of Sciences Leopoldina were also present and spoke about the NASAC-Leopoldina collaboration project concluded as Phase I and renewal of Phase II. The Global Young Academy representative also participated and discussed the value of national young academies (NYAS) in Africa working in complementarity with the senior academies.

Besides the review of project activities, the GA also provided advice on governance issues and approved the NASAC 2014 audited accounts. During the GA, it was recommended that the policymakers’ booklets produced as outputs of the collaborative project with Leopoldina should be circulated beyond the 21 NASAC member academies in the dissemination phase. Outreach should be made to the countries that have no academies to demonstrate how African science academies are active and can provide relevant science advice.

The GA members also endorsed the revision of NASAC Constitution based on inputs made by members during the 2014 Assembly, under the leadership of the Secretary General. Besides this, a Strategic Planning Committee was appointed from among members present to facilitate the drafting of the NASAC Strategic Plan 2016-2020.

Launch of the NASAC Water and Health Policymaker’s Booklets

The launch events are organized by NASAC to publicize the policymakers’ booklets and bring them to the attention of the policymakers in Africa.

The science-policy document entitled: ***The Grand Challenge of Water in Africa – Recommendations to Policymakers*** was launched on the 13 October 2015 in an event that brought together water experts, policy makers, and academy members/staff.



Launch of NASAC Water Policy booklet

The policymakers' booklet on water calls for good governance, social consensus, innovative technologies as well as developed frameworks for corporate action shared and guided by the African Water Vision. The booklet is based on facts, on science as well as on results of key findings by African scientists, on water research.

With the development of this booklet, Prof. Daniel Olago the Chair of the Water booklet editorial team expressed hope that there would be increased interaction between scientists and policymakers as well as with key stakeholders in the water sector in Africa.

At the launch of the Health policymakers' booklet entitled **"Changing Disease Patterns in Africa: Recommendations to Policymakers"**, participants were taken through the events that brought about the completion of the Health booklet.



Dr. Caussy Deoraj making a presentation during the launch of the NASAC Health Policy booklet

The Health experts, policymakers, academy staff members and officials were presented with the six key messages highlighted in the booklet by the lead editor of the booklet, Dr. Caussy Deoraj as follows: (i) Assessing the changing disease patterns; (ii) Planning to avert and mitigate dual burden of Communicable and Non communicable diseases; (iii) Creating and enhancing partnership; (iv) Mobilizing resources for a healthy future; (v) Generating evidence through research; and (vi) The role of science academies in articulating the voice of science.

At the end of each launch event, participants were issued with copies of the booklets and given an opportunity to discuss the key messages and recommendations made.

COP 21 Africa Pavilion Side-event

On 10 December 2015, NASAC and IOC-UNESCO organized a joint side event at the Africa Pavilion at the main venue of the COP21 at Le Bourget, France. This side event was entitled, **Realizing African Renaissance through Science-Policy Dialogue on Climate Change Adaptation and Resilience: the Critical needs for Africa to invest in home grown Science and appropriate Blue and Green Technologies towards poverty alleviation and sustainable development**. Sponsors of this event included NASAC, IOC-UNESCO, the InterAcademy Partnership, UNDP, and Africa Department of UNESCO. The Organisation Internationale de la Francophonie upon request by the Delegation of the Republic of Senegal to the COP21/CMP11 offered simultaneous interpretation services.

The side event was organized in collaboration with UNEP and ICSU Regional Office for Africa. The event brought together a wide range of African and overseas partners including representatives from Academies, universities, private sector including oil and gas industries, policymakers including Diplomats and Ambassadors, civil society and the youth including students and young scientists and environmental professionals.

The 90-minutes event organized in to introduction and science sessions, science policy dialogue panel discussions and interactive exchange and interaction with the participants. Key among the recommendations made after the event included: (i) Pursuing partnership between NASAC and AUC, as well as between NASAC and UNFCCC Secretariat; (ii) Organizing a similar side-event for COP22, that will be organized in Morocco in 2016; and (iii) NASAC and IOC-UNESCO promote "Oceans" as a key and unique component of climate change systems in Africa.

On 9th December 2015, a one-day-seminar was also hosted by IOC-UNESCO at the UNESCO offices in Paris, France to prepare for the discussions and deliberate on the agenda for the Africa Pavilion side-event. The one-day-seminar on the same topic brought together African and overseas earth system sciences specialists (e.g. marine scientists, oceanographers, climatologists, educators, social scientists), and policymakers including Diplomats, Ambassadors and Permanent Delegates at UNESCO, civil society and African youth (students and entrepreneurs) based in France.

Announcements and Appointments

IAP Food and Nutrition Security and Agriculture (FNSA) Project

The IAP Food and Nutrition Security and Agriculture Project is a two-and-a-half year project funded by the German Federal Ministry of Education and Research (BMBF) as the project on ***“Strengthening the Global Network of Science Academies (IAP) by developing regional statements on food and nutrition security and agriculture”***. IAP is also providing financial support, while NASAC as its affiliated regional network in Africa will provide in-kind support.

The project, which commenced on 1st November 2015, will focus on a global report utilizing specific regional/continental situation to provide scientific recommendations on the topic of "Food and Nutrition Security and Agriculture". The project hopes to provide advice to policymakers and decision-leaders as well as foundations and donors worldwide. Reports from the four regional academy networks will form the basis of the global report.

National science academies have a responsibility to ensure that the collective voice of science is heard in major policy debates. By engaging its four regional networks (AASSA, EASAC, IANAS and NASAC), IAP has the capacity to advise on the scientific dimensions of policymaking at global level and across disciplines (including economics and other social sciences).

While tackling food and nutrition security, a keen focus is also placed on agriculture. There are interconnected problems for food, health and other resources, particularly water and energy. The biosciences are regarded as critical in providing integrated solutions.

Africa is heterogeneous and each topic addressed will need to take into account cross-cutting dimensions of nutrition, societal determinants and impacts, potential for delivering innovation and for wider sharing of good practice, and environmental implications.

For NASAC, the outcome is expected to be a policymakers' booklet on Food and Nutrition Security and Agriculture. The booklet will then be launched and a science-policy dialogue facilitated by hosting a scientific conference and ministerial roundtable in 2017.

NASAC Strategic Plan (2016-2020)

NASAC is in the process of developing its next strategic plan for 5 years, 2016-2020. A Steering committee for this process was constituted during the NASAC General Assembly in November 2015 and it will be chaired by the NASAC Vice-Chair for Policy Review and Administration, Dr. Yousuf Maudarbocus. A drafting committee comprising of one Board member and two GA members (Sudan National Academy of Sciences and Kenya National Academy of Sciences) was also formed.

The NASAC Strategic Plan will take into account pertinent recommendations that are contained in the strategy document of ASADA-Africa's Science Academy Development Agenda. ASADA is a plan succeeding the major 11-year African Science Academy Development Initiative (ASADI), a project that was led by the US National Academies of Science and funded by the Gates Foundation until June 2015.

On the Spotlight

The dialogue between science, policy and society as basis for independent science-based advice for policy-makers and the public

Under Phase II of the NASAC-Leopoldina cooperation with funding from the German Ministry of Education and Research (BMBF), the project will now be undertaken in collaboration with the Academy of Science of South Africa (ASSAf), the Ghana Academy of Arts and Sciences (GAAS), and the Global Young Academy (GYA). The main outcome of the project is geared towards the dissemination of the policymakers' booklets produced in Phase I and scope for new thematic work for the collaborating partners.

The project will aim at ensuring the partners engage in activities that can help to:

1. consolidate the position of the African Science Academies as providers of independent science-based advice to policy-makers and societies in Africa
2. communicate the science-based advice by the African Science Academies which was the result of the collaboration between Leopoldina and NASAC in the period 2011-2015, on Health, Water Management, Climate Change Adaptation and Agricultural Biotechnology
3. strengthen collaboration by expanding the circle of project partners, thereby increasing the contact and support within the membership of NASAC and strengthening the entire network
4. broaden collaboration by involving young African researchers and Young Academies in Africa and encouraging and supporting the formation of new National Young Academies where none exist
5. scope further thematic work between Leopoldina, the African Science Academies, the African National Young Academies and African members of the GYA, with a focus on the area of sustainable urban development

This project timeframe runs from 2015 to 2018 and each partner has the responsibility of organizing communication events on NASAC's Policymakers' Booklets as follows:

- GAAS - Changing Disease Patterns in Africa
- ASSAf - Climate Change Adaptation and Resilience
- NASAC – Agricultural Biotechnology and the Grand Challenge of Water Security
- GYA - Integration of young academicians and/or academies in all the events.

The key focus areas of the project will be communicating the recommendations of African Academies on the 4 booklets while actively integrating African young scientists & Young Academies during the implementation of the project.

As a new theme under this project, there will be a Conference on ***“Smart Cities in Africa: science's contributions to sustainable urban development”***, which will take place in 2017. The objective of the conference will be to integrating the perspective of previous studies by African academies to help establish links between different science communities' economists and social scientists. It will also aim to give an opportunity for engaging closely with policymakers and the public and fostering closer cooperation between African academies on research for urban development.

There will also be integration of young scientists and science journalists into the project as it is important to connect the academies' work to a younger generation of African scientists and to media contacts. It is hoped that through better interaction between academies and journalists, a wider public audience and policymakers can be reached. The relevant networks that will be established will help to deepen the impact of academy work already done on water, health, climate change adaptation and agricultural biotechnology through the booklets.

Member-Academy's Feature

Academy of Science of South Africa (ASSAf)

The Academy of Science of South Africa (ASSAf) was founded in 1996 and is the only national science academy that is officially recognized by the South African government through the ASSAf Act (*Act 67 of 2001*), as amended. ASSAf aims to provide evidence-based scientific advice on issues of national interest to government and other stakeholders. ASSAf regularly publishes its findings and recommendations and also acknowledges the achievements of distinguished South African scientists in order to develop the intellectual capacity of the nation and promote innovative scholarly thinking.

Overview of Objectives

ASSAf, as the only national science academy to be officially recognized by the South African government, recognizes and rewards excellence; promotes innovation and scholarly activity; provides effective, evidence-based scientific advice to government and other stakeholders; promotes public interest in and awareness of science and science education; and promotes national, regional and international linkages. Below are some of the highlights for the period under review.

Membership

The core function of a national science academy is to honor the country's most outstanding scholars by electing them to membership of the academy. ASSAf members are drawn from all disciplines. Of these, 25% are women and 28% black. The total membership of ASSAf is 472.



Young Scientist Conference 2015

From left: Prof R. Crewe, Past-president: ASSAf, Prof R. Diab, Executive Officer: ASSAf, Prof D. Reddy, President: ASSAf and Mrs N. Pandor, Minister of Science and Technology

Programs and Activities

- Policy Advisory Programme
- Scholarly Publishing Programme
- Open Access Platform
- *South African Journal of Science*
- Liaison Programme
- AU-The World Academy of Sciences (TWAS) Prize for Young Scientists
- Young Scientists
- Women for Science
- Annual Meeting of African Science Academies
- Recognition of Excellence through Awards

International Strategic Partnerships

ASSAf participates in and maintains effective relations with international science academy networks to enhance global and continental policy advisory activities and to facilitate funding opportunities.

To date, ASSAf has signed memoranda of understanding (MoUs) with African science academies in Mauritius, Nigeria and Uganda, and has partnered with them on many projects. ASSAf is a signatory to MoUs with five international science academies, in Belarus, China, Germany, India and Russia.

ASSAf is a member of the executive bodies of the InterAcademy Partnership, the InterAcademy Council (IAC), the InterAcademy Medical Panel, and the Network of African Science Academies.

You are encouraged to visit the academy's website at www.assaf.org.za for further details.



Recognition of Excellence through Awards

Prof. A. Chinsamy-Turan and Prof. D. Reddy at the 2015 ASSAf Annual Awards.

The Network of African Science Academies (NASAC) was established on 13th December 2001 in Nairobi, Kenya, under the auspices of the African Academy of Sciences (AAS) and the InterAcademy Panel (IAP)

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 Africa and worldwide. 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 December 2015, NASAC comprised of the following twenty one members:

- African Academy of Sciences
- Cameroon Academy of Sciences
- Ghana Academy of Arts and Sciences
- Kenya National Academy of Sciences
- Madagascar’s National Academy of Arts, Letters and Sciences
- Nigerian Academy of Science
- Académie Nationale des Sciences et Techniques du Sénégal
- Uganda National Academy of Sciences
- Academy of Science of South Africa
- Tanzania Academy of Sciences
- Zambia Academy of Sciences
- Zimbabwe Academy of Sciences
- Sudanese National Academy of Sciences
- Mauritius Academy of Science and Technology
- Hassan II Academy of Science and Technology, Morocco
- Academy of Sciences of Mozambique
- Ethiopian Academy of Sciences
- Académie National des Sciences, Arts et Lettres du Benin
- Académie Nationale des Science, Arts, Lettres du Togo
- Académie Nationale des Sciences du Burkina (ANSB)
- Académie Nationale des Sciences et Technologies du Congo (ANSTC)

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