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Photo Credit: Water and Sanitation Program in Africa, Global Water Practice, World Bank

6 CLEAN WATER AND SANITATION



SUSTAINABLE DEVELOPMENT GOALS

Innovations to tackle Africa's water and sanitation crisis in the post-2015 era

By: [Magdaline Ncabira Nkando](#) - Senior Knowledge Management Specialist for the Water and Sanitation Program in Africa, under the Global Water Practice at the World Bank

The close of 2015 marked the end of the Millennium Development Goals (MDGs)—a global drive from the year 2000 to reduce poverty and improve the lives of people in developing countries—and the introduction of Sustainable Development Goals (SDGs) to anchor the global development agenda for the next 15 years.

The MDGs played a pivotal role in galvanizing the global community and intensifying investment to reduce by half the proportion of the population without safe drinking water. Today, over 90 per cent of the global population has access to improved sources of drinking water. But the world fell short on the sanitation target, leaving 2.4 billion without access to improved sanitation facilities, especially in Africa and Asia.



Although immense progress was made towards the MDGs, Sub-Saharan Africa remains the only world region that fell short of meeting the global targets for both water and sanitation. Nearly half of the estimated 663 million people worldwide without access to improved drinking water sources live in the continent. And the countries with the lowest sanitation coverage are also concentrated in Africa.

Towards a knowledge base of innovations

The SDGs on water supply and sanitation give new urgency to the challenge of water and sanitation development in Africa. To accelerate the gains achieved during the MDG era and to reach the even more ambitious SDGs, it is

imperative that the global community continues to advance promising solutions and ensure they reach the communities that can use them to transform their own livelihoods. New approaches are needed to identify priority innovations and ensure the financial and technical support is there to bring these ideas to low- and middle-income countries.

In the context of the SDGs, the Water Global Practice at the World Bank is leveraging on its international experience and learnings to build a knowledge base of proven, scalable and sustainable solutions for improving the state of water, sanitation and hygiene in Africa. A key aim is to share knowledge, foster dialogue, and identify common challenges and strategies to leverage learning across the sector.

Already, there is a solid body of knowledge on innovative and evidence-based approaches for improved water and sanitation in three broad areas: addressing the financing challenge; reaching the poor and underserved; and, harnessing the potential of Information and Communication Technologies (ICTs).

Innovative approaches for financing water and sanitation infrastructure

Among the single biggest constraints in achieving the SDGs is that of mobilizing investments for water and sanitation programs, particularly for constructing, operating, maintaining, and rehabilitating water and sewer infrastructure.

Across Africa, water and wastewater utilities frequently fail to recover enough revenue to cover even their basic operating and maintenance expenses, let alone depreciation of fixed assets and generation of a return on assets sufficient for any debt servicing or remuneration of invested equity. The major financing sources—public resources and development assistance—are often insufficient to pay for major infrastructure investments.

Notably, much less private capital has been committed into water and sanitation than other infrastructure sectors, such as energy and ICT. In this regard, the World Bank Water Global Practice, through Water and Sanitation Program (WSP), has been working with key public and private sector partners in Africa to mobilize domestic credit and address operating inefficiencies that negatively impact on the delivery of water and sanitation.

Making utilities more attractive to banks is possible and has been done successfully in the Philippines and elsewhere. Some approaches involve external means of reducing lending risk (such as through guarantees, pooled funds, or credit enhancements); others involve robust ratings of the creditworthiness of individual prospective borrowers.

In Africa, WSP partnered with the Water Services Regulatory Board (WASREB) in Kenya to conduct a credit assessment of 43 utilities. This resulted in 13 utilities being assigned an A or BBB rating (creditworthy), 16 assigned a BB rating (potentially creditworthy) and 14 utilities assigned 'no rating'. In 2014, one utility, the Embu Water and Sanitation Company, received the first-ever commercial loan of Ksh87 million shilling (US\$1 million) from the Housing Finance Company of Kenya (HFCK) to construct a water pipeline to expand connectivity to 6,000 households. This example demonstrates how public utilities can increase the overall funding available to the water sector by strategically using their limited public funds to attract additional financing from commercial lenders.

Even small-scale providers can be transformed into sound investments under the right conditions and with the right support, as demonstrated by another project in Kenya that applied a blend of commercial loans from a micro-finance bank, equity from project owners, and subsidies . . .

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From the ED's Desk

A legacy of driving scientific development

2015 was a momentous year for AAS. Among the highlights was the launch of AESA, an agenda setting and funding platform set up by the AAS, the NEPAD Agency and three global partners (UK Department for International Development (DFID), Bill & Melinda Gates Foundation and the Wellcome Trust). AESA was also endorsed by the African Union Summit of January 2015. Three major STI programmes are operating under AESA with dedicated programme managers already in place. Dr Tom Kariuki, a leading biomedical scientist, an AAS Fellow and a former member of the Governing Council of AAS is leading AESA. I wish to pay a huge tribute to Tom and to the senior Advisor Kevin Marsh who have worked tirelessly to lead the implementation of AESA and to realize what has been achieved so far. We are also very fortunate to have the unparalleled support of the President of Mauritius, HE Ameenah Gurib Fakim who presided over the colourful launch of AESA which received global coverage thanks to the efforts of our Communications Manager and back-up support from BMGF and Wellcome Trust.

The AAS is also marking its 30th year and it is proper that we take a moment to reflect upon the past three decades of existence. I have found it inspiring to read the foundation documents of AAS under the leadership of Prof Thomas Odhiambo. As founding president he said the following statement in the closing exhortation to the task force that was created to set up and launch the Academy on 10 December 1985:

...."It is vitally important for the African Scientific Community to take initiative in this crucial matter so that we can begin to create the geopolitical climate in which science and technology can flourish and where the scientific community can begin to play its destiny in this continent which for a thousand years has seemingly lost its soul and direction"

The programmes implemented by AAS in the past and presently are geared towards contributing to shaping the destiny of science and the continent. AAS supports the

training of scientists through programmes like AESA, CIRLCE and the Cell Biology Regenerative Medicine initiative where we are helping early career and senior scientists to develop their ideas and provide research that can be used for policymaking. By empowering scientists, AAS is building a critical mass to produce research and innovation to overcome some of the continent's developmental challenges and ensure that Africa contributes its own solutions to its own problems. Indeed, AAS is building this critical mass in climate change, health and areas critical to Africa.

It is also interesting to note the mentorship role of the TWAS President during the formative years of AAS. Salaam (Nobel laureate in Physics and founder of ICTP) had this to say at the inaugural meeting of AAS:

.....the African Academy of Sciences is very dear to us. It was initiated at the Third World Academy meeting in July 1985, and its foundation meeting was held at our Headquarters in December 1985. As a humble token, we have placed and will continue to place \$50,000 in support of the African Academy annually.

No wonder then it was Mohamed Hassan who took over as the President of AAS (1999-2011) after Odhiambo, concurrent with his responsibility as the Executive Director of TWAS. Hassan wrote a beautiful narrative of his reflections during the 25th Anniversary celebrations of AAS. He paid tribute to the former President of Nigeria, Olusegun Obasanjo, who in 2005 decided to help the Academy by contributing ca \$5million to the Academy's Endowment Fund. This growing Endowment now together with the assets (Estate, building, etc.) has grown to ca \$8.3 million. This action of Obasanjo is a realization of the hopes and aspiration of Odhiambo who had written in the first Annual report of the Academy as follows:

Our main desire is that we become increasingly self-reliant in what we do, getting more support from our own people – our people are the mountains on which we will climb to see the



Berhanu Abegaz, Executive Director, AAS

horizon beyond, the horizon beyond which Africa should develop into a healthier, happier and more dignified continent.

I feel a sense of pride and gratification with the present state of the Academy. The last few years have seen a huge increase not only in number of Fellowships but also their achievements. There is also a similar increase in number and quality of staff at the Secretariat. We wanted our Strategic Plan 2013-2018 to be one that would position AAS for better impact in Africa. In looking at where we are, I can say we are indeed poised to do just that.

Our experience during the last two years, working with some of the key global funders, has also taught us the need to ensure that we develop key policies that ensure good governance. The AAS Governing Council (GC) is particularly aware of this and has raised the need to re-examine our constitution to ensure that we follow good corporate governance practices. In the process of doing so, we are also advised that we align our constitution to a prototype issued by the Kenya Government Bureau for coordination of NGOs. We now have an Audit and Risk Committee which meets regularly to review various reports of the Academy and advises the GC on actions to be taken.

I want to thank each and every one of my staff for working hard and for supporting me to fulfil my duties at AAS. I close by wishing everyone a highly successful 2016.

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from the World Bank to finance community water projects in Kenya. As a result, more than 36,000 residents gained access to improved water supply for household and small-scale agriculture through an investment of US\$1.3 million in 28 projects. Even so, it is important to point out that while innovative financing can transform marginal projects into financially viable transactions, no amount of innovation can make non-viable projects bankable or overcome lender's concerns about sector governance, utility performance, and revenue predictability.

Expand reach to the poor and underserved

With the highest rates of urbanization across the globe, Africa's towns and cities are increasingly faced with the challenge of meeting the high demand for water, sanitation and other services. This challenge is most evident in the fast proliferating informal settlements and other underserved areas often populated by low-income and marginalized communities.

Borrowing from experiences from around the world, World Bank lending operations and WSP technical assistance have focused on implementing a range of innovations for improving delivery of water and sanitation services in informal settlements and low-income areas in Kenya, Mali, Senegal and Zambia. The technical assistance has been implemented through partnerships with utilities, including the Nairobi City Water and Sewerage Company (Kenya), Lusaka Water Company (Zambia) and ONAS (Senegal).

In Kenya, a pro-poor focused initiative dubbed Maji Mashinani—Swahili for “making water accessible at the grassroots”—combines different policy, financial and digital innovations that can be replicated and scaled up across African towns and cities to improve delivery of water and sanitation services in informal settlements and low-income areas.

First, Maji Mashinani enabled adoption of an innovative social connections policy that enabled utilities in five Kenyan towns to legitimize extension of water services to low-income

Karaweti Water Trust Project, Kenya

Karaweti Water Trust is a small piped water provider that sought to increase membership and revenue collection by providing more reliable water service. The Trust developed a project that installed a new borehole to supplement its existing supplies and customer-level meters. The project was financed with equity from the community, a loan of US\$54,000 from K-Rep Bank, a grant of US\$26,000 from the World Bank's Global Partnership on Output-based Aid (GPOBA) and technical support from WSP. The Trust was able to increase its number of connections by 38%, average monthly revenue by 90%, and 7 day/week water service from 8% to 87%.

settlements. Since social connections approaches champion the right of access to affordable water services on a non-discriminatory basis, especially for disadvantaged or marginalized groups, the policy provided a breakthrough for service providers to venture into previously inaccessible unplanned settlements areas where most of the poor reside.

Second, a financing and micro-credit scheme was introduced to make water and sanitation services affordable to low-income households through access to subsidized micro-loans, and staggered payment of consumption bills. Low-income households can borrow small amounts of money to offset the initial costs of getting a metered stand pipe water connection and, through a flexible payment scheme, repay the loans together with the monthly water bill over an agreed period. This scheme is specifically designed to suit the fluctuating incomes of self-employed and informal sector earners.

Third, Maji Mashinani leveraged on advancements in mobile telephony to introduce a digital platform—known as Jisomee Mita—that enables water consumers to use a mobile phone to send their own water meter readings, query and receive current water bills, then pay the bills using mobile money such as Safaricom's MPESA. Enabling low-income consumers to manage their water consumption and pay for services offers a dividend to water utilities, through an expanded revenue base and reduced operational costs.

Maji Mashinani demonstrates that poor communities not only aspire for, but can also pay for quality and affordable services. The success of Jisomee Mita also demonstrates that improved water and sanitation services can be enhanced

by creating access to affordable, sustainable and quality financial products and services to sections of the disadvantaged and low income segments of society.

In Lusaka, Zambia, where the proliferation of pit latrines posed a risk in contaminating the city's ground water supply, the challenge was addressed by introducing condominal sewer systems — which are basically a compromise between basic pit latrines and water-borne sanitation.

Condominal sewer systems, also known as simplified sewerage systems, are shallow sewers that serve clusters of housing. The systems use smaller diameter pipes than conventional sewer systems and simple inspection chambers at shallow depths instead of manholes. The technology has been used extensively and successfully in informal settlements in Brazil and Pakistan. For Zambia, the innovation provided a solution for how to deliver waterborne sanitation in peri-urban areas in a cost-effective and sustainable manner.

These innovations to deliver improved water and sanitation services to fast-growing towns and cities in Africa can enhance the competitiveness of the urban centers and ensure that they serve as engines of growth for the economy. Equally important is the impact that improved services can have on the urban poor residents, who can benefit from accessing water close to where they live and therefore save time and money for other activities, in addition to health benefits.

Harnessing the potential of ICTs

The growth and adoption of ICTs is fast changing the landscape of developing countries: as estimate 82% of Africans have access to mobile phones, and mobile technology contributes over six percent of the GDP of sub-Saharan Africa, compared to 4% of Latin America, and 1.4% of Asia/Pacific. Yet, only 63% of the population in sub-Saharan Africa has access to improved water supply, and 54% to basic sanitation.

A recent regional analytical study by WSP on the potential of ICTs to improve water and sanitation services . . . **Continue on page 5**

... shows that a lot can be learnt from how other sectors are using ICT applications to advance the development agenda. For example, in agriculture, ICTs have been harnessed to reduce transaction costs; increase access to information and markets; improve productivity and supply chain management; and strengthen the negotiating power and revenue of farmers. Similarly, in health, ICTs are being employed to improve health care through the provision of timely information; combat counterfeit drugs; expand reach of health care to underserved and rural communities; and increase productivity and reducing health care costs.

The WSP study also highlighted some priority WASH areas where ICTs can make a difference. First, by increasing access to water and sanitation; through collection, monitoring, presentation and analysis of WASH data; and mapping and monitoring of WASH infrastructure. Second, improving service delivery; through monitoring of service provision, in terms of functionality, timely and adequate water supply, water quality and water use management; empowering underserved communities through timely and improved access to information about water availability, price and quality; and, improving utility operations and enhancing efficiencies in transactions, financial management, revenue collection and customer engagement. Third, improving governance; by increasing transparency, accountability and participation; and by reducing the cost of access to information and service delivery.

There are already numerous examples in Africa of how advancements in ICTs offer promising solutions for ensuring the availability and sustainable management of water and sanitation. In Senegal, Mali, Niger and Benin, ICTs applications are being used to facilitate measurement and monitoring of water supplies, and enabling practitioners at the local level to ensure the equitable and sustainable extension of water, sanitation and hygiene services. Technologies such as mWater are being used to mark the location of infrastructure, log how many people

mWater - Senegal, Mali, Niger and Benin

mWater is a mobile-to-web based application for consumers and water service providers (WSPs) developed as a response to monitoring challenges for the growing number of small-scale water schemes in rural areas and small towns. The application aims to provide water service providers with the ability to remotely control water service delivery and also improve the management of water usage, daily operations as well as the maintenance of the network. As of June 2013, mWater was active in 252 water systems in Senegal, Mali, Niger, Benin.

- 246,900 people served in Niger and 415,900 people served in Mali under the mWater platform, which provides an ICT design structure in which mobile phone applications and web services are developed to support the life cycle of water supply systems, from construction (inventory and cartography) to operation (data collection, technical and financial management) and performance benchmarking.
- In Benin, the use of mWater resulted in new drawings of assets and water networks for 51 rural water point schemes.
- In Senegal, mWater has supported the mapping of 70 percent of existing water schemes (over 28,000 water points).

use services, and whether services are deteriorating or broken-down. ICTs are particularly important in terms of smart water management, facilitating operational efficiency improvements such as increasing efficiency gains and cost savings for urban utilities, especially in monitoring of service provision, and billing and collection. Some examples of successful applications are SDE' (Senegalaise Des Eaux) Supervision Cockpit in Senegal, and M-Pesa water payments in Kenya.

ICTs are also being applied to simplify service delivery and facilitate efficiency, speed, and timeliness of product delivery; and to enhance public participation and engagement, such as when used as a tool to encourage citizens to voice their concerns and putting pressure on the local government to address problems with their water and sanitation services. An example is MajiVoice in Kenya.

As the costs of ICTs continue to fall, governments are now able to better integrate ICTs into monitoring and evaluation frameworks. For example, in Liberia the use of FLOW, an open source mapping software, allowed for

the mapping of over 10,000 water points in less than six months in 2011 and supported the preparation of a national WASH sector investment plan from 2012 to 2017. In Liberia, a traditional paper based survey would take at least one year with no guarantee on the quality of data collected.

What has the WASH sector learnt so far in applying ICTs? First, keep users at the center, ensuring ICT applications are friendly to use, and that data is reliable and actionable. Second, ICT applications must be appropriate and adaptable to local realities. Third, wide stakeholder collaboration is critical for long-term success.

Even so, while ICT can be a key enabler for institutional transformation to address the demand for improved water and sanitation service, especially for hard-to-reach poor populations in rural and urban areas, it will never be the silver bullet. In order to maximize its transformational role in the sector, ICT should be recognized as a conduit or tool that needs to be continuously managed well in order to help achieve a solution. Impact and success need to be measured not merely in terms of implementation or uptake of the new technology, but more importantly with regards to achieving the sector's goals and priorities.

Conclusion

The SDGs provide an opportunity to massively scale cost effectively and thus deliver a range of policy, technical and financial products and services to the last mile. This will, however, require strategic efforts by all stakeholders, government, financial service providers, and regulators to make this happen. The take-away lesson is that we must be more deliberate on identifying the real game changers and focusing attention and resources on those innovations with the most potential to drive affordable impact over the next 15 years.

More examples and detailed information on innovative and evidence-based approaches for improved water and sanitation are accessible online: www.worldbank/waterpractice and www.wsp.org.

GFGP Programme

Good Financial Grant Practice

Development has commenced of a new pan-African standard which will be called 'Good Financial Grant Practice (GFGP)'.

Background

An International Financial Governance Consortium (IFGC) was founded in Jan' 2012 by some major funders of Medical Research and International Aid in Africa, namely the Medical Research Council (MRC,UK), the European & Developing Countries Clinical Trials Partnership (EDCTP), the Wellcome Trust (WT) and the Swedish International Development Agency (Sida). The consortium subsequently expanded to include many European and US funders of research and Not for Profit development aid programmes in Africa.

The objectives of the IFGC were to identify, and agree, ways for funders to have a more integrated approach for addressing the financial management challenges faced by both funders and fund recipients in Africa. Common challenges identified by members of the IFGC included funders independently carrying out pre-award assessments, having different reporting requirements, and separately undertaking post project audits. This resulted in recipients having multiple assessments, multiple audits, and inconsistent requirements from funders. All of which puts additional strain on recipient institutions' finance functions which are typically under-funded and under-resourced.

The IFGC unanimously agreed that there needed to be a paradigm shift to address these challenges. As a consequence, The Wellcome Trust and the Medical research Council are contributing towards a new initiative called the "Good Financial Grant Practice" Programme. The GFGP Programme will involve a project delivery team to be recruited and hosted at the African Academy of Sciences (AAS) in Nairobi, Kenya.

The AAS was chosen to host the GFGP Programme as the AAS is already the chosen delivery vehicle for the AESA



Michael Kilpatrick Senior advisor for the Good Financial Grants Practice initiative at the AAS

(Accelerating Excellence in Science in Africa) programme which is co-funded by the Wellcome Trust, the Bill and Melinda Gates Foundation and DfID (UK). The New Partnership for Africa's Development (NEPAD Agency) has endorsed the GFGP Programme as a key enabling capability for African fund recipients and the development of the new pan African standard of Good Financial Grant Practice has been adopted as a New Work Item by the African Organisation for Standardisation (ARSO). The GFGP Programme will be incorporated into the AESA platform and the First Technical Draft of the GFGP standard will be completed during 2016 when it will enter the ARSO Technical Harmonisation Committee Stages.

Key deliverables:

- A pan-African standard of "Good Financial Grant Practice (GFGP)" will be developed and agreed by a quorum of funders and recipients which is suitable for implementation in recipient institutions in Africa,
- A Financial Management Assessment Tool (GFGP - FMAT) will be developed which recipients will use to self-assess their capabilities against the GFGP standard,
- Funders will have access to a searchable data base of these GFGP-FMAT assessments,
- Commercial audit companies will be encouraged to obtain accreditation of their GFGP certification process,
- Pan- African adoption of the GFGP

standard will ultimately lead to a process of certification of the financial functions of institutions. This will enable funders to be confident that an institution is operating to GFGP standards and thus reduce the burden of multiple audits and financial assessments.

It is planned that the GFGP Standard and GFGP - FMAT tool will be equally applicable across all sectors such as Governmental and Charitable funded national and international AID programmes in Africa and other Low to Middle Income Countries.

Key benefits

- Reduction in the burden of audits and associated costs for fund recipients and their institutions;
- Recipients and Institutions will have uniform guidelines and standards to follow;
- Institutions will be able to assess their financial capability and competency and apply for capacity development funds to strengthen their finance functions;
- A mechanism for sharing the GFGP - FMAT information amongst funders which will not only avoid replication of pre-award assessments of recipients but also provide a resource for identifying common needs for financial capability training and development;
- Reduction in administration costs for funders and increased assurance that their funding is being used as intended.
- Harmonisation and standardisation of pre award assessments and financial governance should lead to identifying opportunities for standardising a significant proportion of funder reporting requirements.

Timeline

The Final Draft African Standard will be published and ready for adoption on a pan-African basis towards the end of 2017. Subject to securing additional funding, the GFGP-FMAT tool and associated database will be available for the launch of the new standard.

High level panel for SDG6: UN-Water committed to country led action, says UN Secretary-General

The Secretary-General of the United Nations, Ban Ki-moon, and the President of the World Bank, Jim Yong Kim, on 21 January 2016 jointly announced their intention to form a new panel to mobilize urgent action towards the sustainable development goal for water and sanitation (SDG 6) and related targets.

The announcement comes as countries experience water stress and water-related disasters that will grow worse due to climate change without better policy decisions.

“Water is a precious resource, crucial to realizing the SDGs, which at their heart aim to eradicate poverty,” said UN Secretary-General Ban Ki-moon. “The new Panel can help motivate the action we need to turn ideas into reality. The United Nations system, including through UN-Water and the United Nations development system’s universal operational presence, is committed to promote inclusive and country-led action on SDG6 and related targets.”

The panel, to be co-chaired by the Presidents of Mauritius and Mexico, will comprise a group of heads of State/Government from developed and developing countries, convened by the United Nations Secretary-General and the President of the World Bank Group to:

- Motivate Action – Focus public policy dialogue, private sector models and practices and civil society initiatives towards the Water SDG; and
- Advocate on financing and implementation – Promote efforts to mobilize financial resources and scale-up investment for the Water SDG, including through innovative financing and implementation strategies.

“Achieving the water global goal would have multiple benefits, including laying the foundations for food and energy security, sustainable urbanization, and ultimately climate security” said World Bank Group President Jim Yong Kim. “My hope is that this panel accelerates action in many countries so that we can make water more accessible to all.”

The World Bank and UN will facilitate access to a variety of technical organizations to support the panel, including OECD, Stockholm International Water Institute, World Economic Forum, World Water Council, and World Resources Institute.

Water and Sanitation is one of six topical areas identified by AAS in the academy’s strategic plan to work to build capacity and enhance competence of African scientists to address the challenges facing Africa. It is, therefore, welcome news to have this high level panel come into place and also have the President of Mauritius who is also a Fellow of the African Academy of Sciences as a co-chair

34 CIRCLE Visiting Fellows complete one year Fellowship

Thirty-four (34) Early Career Researchers who were awarded Climate Impact Research Capacity Leadership Enhancement (CIRCLE) visiting fellowships in 2015 have completed their 1 year fellowships. The 34 formed the cohort I of CIRCLE Visiting Fellows (CVFs).

The CVFs were from 24 institutions in 9 African countries. The CVFs were hosted in 13 African institutions for the fellowship period. The cohort I of CVFs have excelled individually and collectively and distinguished themselves at their host institutions.

Some the achievements of the CIRCLE cohort I a month to the completion of their fellowship include:

- 30 key publications from CIRCLE-funded research results in the form of research articles in peer-reviewed journals, review articles, blog posts, conference proceedings and book chapters
- 80% of cohort I CVFs have presented findings from their CIRCLE-funded research at international conferences across the globe
- There was promotion of intra-African collaboration between universities and researchers in the universities. University of Energy and Natural Resources in Ghana signed a collaborative agreement with the University of Ibadan in Nigeria and has jointly held a conference on sustaining hydropower energy for economic growth and development in West Africa in November 2015 as a result of a collaboration initiated by CIRCLE visiting fellows.
- CIRCLE has provided avenues for its CVFs to link with existing project in climate change in Africa
- Three Post-Masters CVFs have won scholarships for PhD studies
- One Post-PhD CVF have won a bigger award to continue his research and also get to train two Masters students

30

Number of key publications by end of November 2015

80%

Percentage of cohort I CVFs that have presented findings from their CIRCLE-funded research at international conferences across the globe

These modest achievements have come ahead of projected timelines and have been possible through dedication and commitment from CVFs, hardwork by their supervisors, specialist advisors and mentors.

Read about some experiences of cohort I of CIRCLE fellows at: <http://www.aasciences.ac.ke/programmes/circle-field-stories/>

AAS Fellows elected in 2015



Name: AKLILLU, Eleni
Country: Sweden / Ethiopia
Field: Medical and Health Sciences



Name: AWUAH, Esi
Country: Ghana
Field: Geological, Environmental, Earth and Space Sciences



Name: BALASUBRAMANIAN, Dorairajan
Country: India
Field: Biosciences



Name: COOVADIA, Hoosen
Country: South Africa
Field: Medical and Health Sciences



Name: DAAR, A
Country: Oman/Canada (Tanzania)
Field: Medical and Health Sciences



Name: EL MOURSLI Rajaâ C.
Country: Morocco
Field: Physical Sciences



Name: EKESI, Sunday
Country: Nigeria
Field: Agricultural and Nutritional Sciences



Name: FALADE, Catherine Olufunke
Country: Nigeria
Field: Medical and Health Sciences



Name: FAROMBI, Ebenezer
Country: Nigeria
Field: Biosciences



Name: FETENE, Masresha
Country: Ethiopia
Field: Biosciences



Name: FISH, Eleanor
Country: Canada (United Kingdom)
Field: Medical and Health Sciences



Name: GLITHO-AKUESON, Isabelle
Country: Togo
Field: Biosciences



Name: GRAY, Glenda Elisabeth
Country: South Africa
Field: Medical and Health Sciences



Name: HABTEMARIAM, Solomon
Country: United Kingdom (Ethiopia)
Field: Biosciences



Name: HABIB, Adm Mahomed
Country: South Africa
Field: Cultural Sciences, Humanities and Social Sciences



Name: HANEKOM, Willem
Country: South Africa
Field: Medical and Health Sciences



Name: HAILE, Sossina
Country: Ethiopia/USA
Field: Engineering Technology and Applied Sciences



Name: IBE, Oliver
Country: USA/ Nigeria
Field: Engineering Technology and Applied Sciences



Name: JAYE, Assan
Country: Gambia
Field: Medical and Health Sciences



Name: JONNALAGADDA, Sreekantha
Country: South Africa
Field: Chemical Sciences

AAS Fellows elected in 2015



Name: KUMWENDA, N. Isaac
Country: Malawi
Field: Medical and Health Sciences



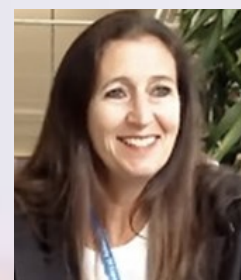
Name: MAJOZI, Thokozani
Country: South Africa
Field: Engineering Technology and Applied Sciences



Name: MAHOMED, Fazal Mahmood
Country: South Africa
Field: Mathematical Sciences



Name: MARSH, Kevin
Country: United Kingdom
Field: Medical and Health Sciences



Name: MIZRAHI, Valerie
Country: Italy / Zimbabwe
Field: Medical and Health Sciences



Name: MOGESSIE, Aberra
Country: Austria / Ethiopia
Field: Geological, Environmental, Earth and Space Sciences



Name: MUTAPI, Francisca
Country: Zimbabwe / United Kingdom
Field: Biosciences



Name: OZOEMENA, Kenneth Ikechukwu
Country: Nigeria / South Africa
Field: Chemical Sciences



Name: QUAKYI, Isabella
Country: Ghana
Field: Biosciences



Name: RAMJUGER-NATH, Deresh
Country: South Africa
Field: Engineering Technology and Applied Sciences



Name: SEWANKAMBO, Nelson
Country: Uganda
Field: Medical and Health Sciences



Name: SHEPHARD, Gordon
Country: South Africa
Field: Chemical Sciences



Name: SIMPORE, Jacques
Country: Burkina Faso
Field: Biosciences



Name: TANGWA, Godfrey Banyuy
Country: Cameroun
Field: Cultural Sciences, Humanities and Social Sciences



Name: VALE, Peter Christopher
Country: South Africa
Field: Cultural Sciences, Humanities and Social Sciences



Name: VILAKAZI, Zebon
Country: South Africa
Field: Physical Sciences



Name: ZHANG, Linqi
Country: China
Field: Medical and Health Sciences



Name: ZEWDE, Bahru
Country: Ethiopia
Field: Cultural Sciences, Humanities and Social Sciences

The Ishango Bone:

Symbol of humankind's intellectual progress from the heart of Africa

By: Stephen A. Matlin, Alain Krief and Philippe Lambin

Introduction

During the period 1950 to 1959, the Belgian geologist Jean de Heinzelin de Braucourt, conducted archaeological excavations at Ishango, a region on the shores of Lake Edward in what is now the Democratic Republic of Congo, close to the border with Uganda. This had earlier been identified as a site of prehistoric human activity and the excavations uncovered millions of objects, including human bones and bone harpoon heads dating from 20,000 to 25,000 years ago. In 1957, de Heinzelin's team found an object which has become known as the Ishango Bone, an archaeological treasure now in the Royal Belgian Institute of Natural Sciences (RBINS) in Brussels¹.

The 10 cm long Ishango Bone is made from two pieces of different materials – a dark brown bone handle, carved from a mammal's fibula (probably that of a baboon) that has been narrowed, scraped and polished; to which a fine piece of quartz has been fixed at one end. It is notable as one of very few surviving composite tools, its fabrication attesting to the level of technological skill of human beings at the time in manipulating materials for their use. The purpose of the object may have been as a fine cutting tool.

But what has made the Ishango Bone an object of interest around the world is that the handle is notched on three sides with columns containing a total of 168 parallel lines, arranged in groups. Analysis of the arrangements has indicated that they were used for some arithmetical purpose.

Significance of the Ishango Bone

At its simplest, in addition to its function as a tool the Ishango Bone might have been used as a 'tally' or 'counting' stick – a way of recording the numbers of objects that were owned or were being traded. There are many examples known of such sticks.

But analysis of the groupings of lines shows that they form patterns that seem to have a more complex purpose. It was de Heinzelin's hypothesis²

that the groups of lines represented numbers and that the bone was proof of advanced mathematics, unprecedented for such an early period.

Within the three columns of notches there are patterns that appear to demonstrate knowledge of mathematical properties and relationships. The left hand column (Figure 1) includes all the prime numbers between 10 and 20; the central column has three examples of a number and its double (3-6; 4-8; 5-10) as well as two other numbers that do not fit this pattern (5-7). The purpose of the right column seems to be more complex: Pletser and de Huylebrouck³ have argued that the object was, in fact, a slide rule allowing complex calculations to be undertaken – which would make the Ishango Bone the world's oldest form of computer⁴. Another theory is that the markings on the Bone may have been used as a form of six-month lunar calendar.⁵

Despite some scepticism⁶ about the precise purpose for which it was used, the Ishango Bone is widely acknowledged to attest to the practice of arithmetic at this stage in human history, more than 20,000 years ago. It survives as an enduring symbol of mankind's intellectual progress⁷.

In 2007 an international conference took place in Brussels on the Ishango Bone⁸. Considered a symbol of the birth of science in the world, an artist's impression of the Bone was subsequently fabricated as 7-meter high fibreglass replica, unveiled in 2010 and now exhibited at RBINS, Brussels⁹.

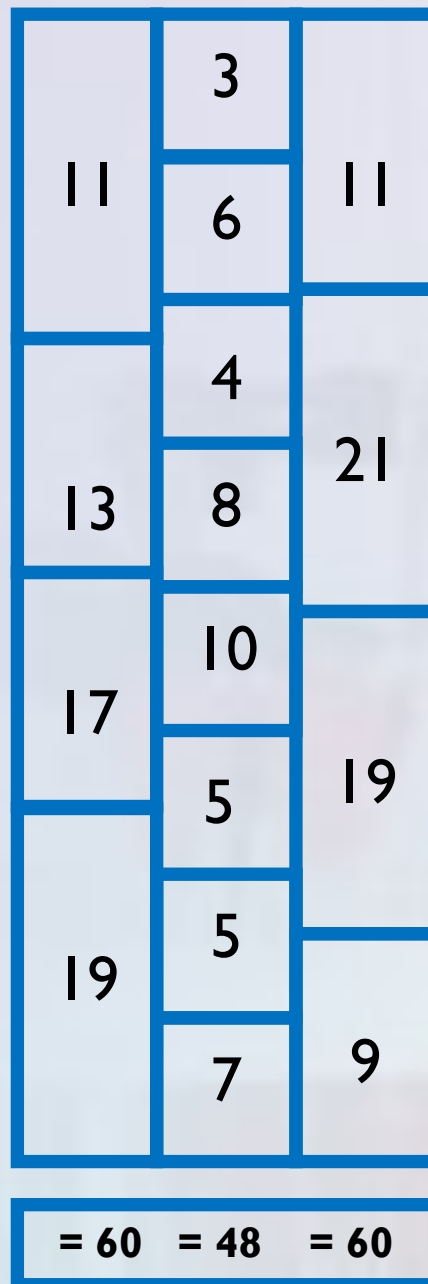


Figure 1. Photo of one face of the Ishango bone and diagram depicting the numbers and groupings of parallel lines in columns on three of the faces

Continue on page 11

The Ishango bone - Symbol of humankind's intellectual progress from the heart of Africa

continued from page 10

The Ishango Bone and the Africa Academy of Sciences

In 2014, the International Organization for Chemical Sciences in Development (IOCD) was asked to help in a project to make copies of the Ishango Bone which would be displayed in different places as a symbol of early science in Africa. IOCD was delighted to assist and worked in close liaison with a number of partners in the project, including the African Academy of Sciences (AAS), Nairobi, the International Institute of Theoretical Physics, Trieste, RBINS, UNESCO, Vitro Laser Solutions UG, Germany and Prof. Malik Maaza of the University of South Africa.

As 2015 was the UN International Year of Light and Light-based Technologies¹⁰, it was thought to be a fitting way to mark this by creating a 21st century version of the prehistoric original using glass and light to display the Bone's unique character.

With IOCD's facilitation, the RBINS museum provided a 3D scan of the Bone to use in making replicas. Vitro Laser Solutions UG, a German glass fabrication company, was commissioned to make two sets of replicas. In a 2D impression, the representation of the Ishango Bone is a 1.5 m tall, 0.5 m wide plate of glass in which the enlarged image of two faces of the original has been engraved using a laser beam. The refractive index of the glass allows special light effects to be created inside the plate by LED sources located at an edge and powdered by sunlight. In a 3D version, an enlarged solid image is laser-engraved in a 20 cm tall glass block.

IOCD is proud to be in official collaboration with the African Academy of Sciences, with which a Memorandum of Understanding was signed in 2012. One of the replicas of the Ishango Bone was presented¹¹ to AAS on 10 September 2015 and will be on permanent display at the AAS headquarters in Nairobi.

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About the authors



Prof. Stephen Matlin is Head of Strategic Development at IOCD. He is an Adjunct Professor in the Institute for Global Health Innovation at Imperial College London and a Senior Fellow in the Global Health Programme at the Graduate Institute, Geneva.



Prof Alain Krief is Executive Director of IOCD, an international NGO created by UNESCO in 1981 and headquartered in Belgium. He is Emeritus Professor of Organic Chemistry in the University of Namur, Belgium.



Prof Philippe Lambin is Treasurer of IOCD and Professor of Physics in the University of Namur, Belgium.

Prof Youdeowei awarded International Plant Protection Award of Distinction, IPPAD



Receiving the IPPAD Award from President of International Association of Plant Protection Sciences IAPPS, Prof Geoff Norton, Berlin Germany - Monday 24 August 2015

AAS Fellow Prof Anthony Youdeowei was awarded the International Plant Protection Award of Distinction, IPPAD, at the Plant Protection Congress in Berlin on 24 August 2015. He was one of 6 winners. He received this high recognition for "for his significant contributions to global plant protection and food security through his professional activities at AfricaRice (former WARDA), FAO, World Bank, *icipe* and universities in Nigeria, Ghana and Kenya.

The purpose of the International Plant Protection Award of Distinction is to honour those who have made significant contributions to plant protection on an international basis and who otherwise have served with distinction in advancing the cause of the plant protection sciences.

Prof. Anthony Youdeowei is an International Consultant for African Agricultural Research and Rural Development, Former Director of Training and Communications of West Africa Rice Development Association (WARDA), Abidjan, Côte d'Ivoire.

Prof Youdeowei expressed his deepest pleasure, and profound gratitude to the Governing Board, International Association of Plant Protection Sciences, for the award. He acknowledged, with gratitude, the opportunities and environments provided for his professional work in plant protection by AfricaRice (formally WARDA); the Food and Agriculture Organization of the United Nations, FAO; and the International Centre of Insect Physiology and Ecology, *icipe*.

AAS staff visit Wellcome Trust

From November 23 to December 4, 2015, nine members of AAS staff from the African Academy of Sciences visited the Wellcome Trust in London for a Grants Management and Finance Training programme. This training programme builds on in-house support the team have been receiving in Nairobi to successfully manage its strategic partnership schemes.



Group picture of AAS staff with some of the Grants Management Team at Wellcome Trust

ered expertly by the Wellcome Trust staff, there were other informal meetings where the AAS team had opportunity to learn more.

Alphonsus Neba made a presentation on AAS and AESA at a Wellcome Trust Grants Management departmental meeting. This was a great time for the wider Grants Management Team at Wellcome Trust to meet the AAS team and hear of progress

with AAS and AESA.

The AAS staff from the grants management team that visited London are Suscan Gichoga (Grants Officer), Olivia Osula (Programmes Assistant), Evelyn Gitau (Programme Manager, Grand Challenges Africa), Benjamin Gyampoh (Programme Manager, CIRCLE), Alphonsus Neba (Programme Manager, DELTAS) and Josephine Karuri (Monitoring and Evaluation Manager)



Grants Management training session at Wellcome Trust

It was a very pleasant two weeks of hands-on learning and sharing experiences. The AAS team is highly grateful to Wellcome Trust for facilitating this training. Special appreciation to Simon Kay, Harriet Hall, Nidhee Jadeja, Sophie Mathewson, Emma Ralph, Frankie Stone, Robert Coutts and the entire Wellcome Trust team.

The purpose of the Grants Management training programme was to provide AAS programme staff with:

1. Knowledge of good practice in grants management.
2. Theoretical and practical understanding of making and managing grants.
3. Share principles of grant management
4. Empower AESA staff to develop relevant policies and processes relevant to African context.

The finance team from AAS were Isabel Imbuye (Grants Accountant), Hannah Ngugi (Finance and Administration Manager) and Anne Kimari (Chief Operations Officer). The purpose of the Finance training programme was to provide AAS programme staff with:

1. An overview of the Trust's finance processes.
2. Share principles of finance

management.

3. Understand the AESA specific challenges and discuss possible solutions.
4. Empower AESA staff to review their existing financial policies and processes relevant to African context.

Over 35 staff from the Wellcome Trust staff contributed to the training programme in topics that ranged from risk management to peer review to funding partnerships.

It was a really positive experience for both the Wellcome Trust and AAS staff .

Beyond the formal training that was deliv-

Both the African Academy of Sciences and the Wellcome Trust believe that the training provided the AAS team and the experiences shared by staff of the two organisations has provided helpful perspectives and the necessary skills to forge their path forward and ensure successful implementation and management of programmes on the AESA platform.



AAS and Wellcome Trust collaboration will see AESA soar high

BOTSWANA ACADEMY OF SCIENCE (BAS) LAUNCHED

The Botswana Academy of Science (BAS) was launched on 10th November 2015 at Mokolodi Nature Reserve in Gaborone by the Minister of Infrastructure, Science and Technology Mr Nonfo Molefhi. BAS is an organisation that would represent science and scholarship in Botswana and the aim is to generate evidence-based solutions to national problems that will benefit society. The academy is established on the premise that scientific knowledge and scientific progress are vital to advance human welfare and development. BAS will also contribute in critical areas such as the National Development Plans (NDPs), long term national vision, districts and urban development plans, as well as initiatives such as knowledge economy and citizen economic empowerment. Some of the objectives of the BAS are: to recognise, support and promote excellence in scientific research and service performed by Botswana Scientists, to promote contacts among Botswana scientists and with the world scientific community as well as to strengthen the global position and role of scientific research performed by Botswana scientists.



Botswana's Minister of Infrastructure, Science and Technology, Mr Nonfo Molefhi. Photo Credit: BITRI

and mission of the BAS.

In his launch remarks the Minister said "This marks a milestone, in our scientific advancement, as Botswana. Academies of Science are reported to bring many benefits in countries where they exist world-wide. They provide independent and objective advice on matters related to science and technology. I am therefore, hopeful that the Botswana Academy of Science will contribute to guiding scientific focus and to impact the lives of our people, enhance our economy, manage and optimize benefits from our environment and resources, as well as linking us globally as a country".

Mr Molefhi also said it is gratifying that in such a short space of time after the re-establishment of the Research, Science and Technology sub sector High-level Consultative Committee whose role is to specifically give issues related to this sub-sector the attention it deserves, the BAS is launched. "It is my expectation that the fragmentation and silo approach to research will be greatly reduced, and instead we shall experience a more mission focused approach as espoused in the Botswana National Research Science and Technology Plan".

The Minister said even though some countries have established their science academies by an Act of Parliament, Botswana could not do so now due to the current focus on establishing requisite structures for coordinating research, science and technology nationally.



Prof Modisi, Chair of BAS giving an overview of the formation of BAS. Photo Credit: BITRI

BAS is currently being overseen by a committee comprising scientists from the University of Botswana, the Botswana Institute for Technology Research and Innovation, the Botswana International University of Science and Technology and the Department of Research Science and Technology until its Governing Council (GC) is elected in the first quarter of 2016. The leaders will be inaugurated at the African Academy of Sciences General Assembly that will be held in Botswana in June 2016. The GC will also help to shape the vision

"However, we believe that the services that will be provided by the Botswana Academy of Science to government will become so essential to facilitate our Parliament and we hope in future, government will have a more committal stance based on their unique role" he said.

Prof Nelson Torto, BITRI CEO and Fellow of the AAS said this about the importance of having an academy in Botswana "The academy will deal with difficult issues that relate to S&T as well as the arts in Botswana. It will enable Botswana to leverage expertise from other academies to drive agendas that other countries have already addressed. It will also allow Botswana to be part of the international network as an academy presents an entry pass to some of the organisations and networks. It will also help promote and place science at the centre of Botswana's development."

He further added that "the presence of the Minister of Infrastructure Science and technology for Botswana and the President of the Academy of Sciences of South Africa demonstrated the local buy-in from the science host ministry in Botswana as well as international approval, support and validation from a much older academy in Africa."

The guest speaker during the launch was Prof Daya Reddy, President of the Academy of Science of South Africa (ASSAf) and a Professor in the Department of Mathematics & Applied Mathematics at the University of Cape Town. He presented on the topic "Establishing an Academy of Science: Experiences from ASSAf" and shared some of the many national projects that ASSAf has been involved in.



Prof Daya Reddy, President of ASSAf. Photo Credit: BITRI

Zika Virus Factsheet

Key facts

- Zika virus disease is caused by a virus transmitted by *Aedes* mosquitoes.
- People with Zika virus disease usually have symptoms that can include mild fever, skin rashes, conjunctivitis, muscle and joint pain, malaise or headache. These symptoms normally last for 2-7 days.
- There is no specific treatment or vaccine currently available.
- The best form of prevention is protection against mosquito bites.
- The virus is known to circulate in Africa, the Americas, Asia and the Pacific.

Introduction

Zika virus is an emerging mosquito-borne virus that was first identified in Uganda in 1947 in rhesus monkeys through a monitoring network of sylvatic yellow fever. It was subsequently identified in humans in 1952 in Uganda and the United Republic of Tanzania. Outbreaks of Zika virus disease have been recorded in Africa, the Americas, Asia and the Pacific.

- Genre: Flavivirus
- Vector: *Aedes* mosquitoes (which usually bite during the morning and late afternoon/evening hours)
- Reservoir: Unknown

Signs and Symptoms

The incubation period (the time from exposure to symptoms) of Zika virus disease is not clear, but is likely to be a few days. The symptoms are similar to other arbovirus infections such as dengue, and include fever, skin rashes, conjunctivitis, muscle and joint pain, malaise, and headache. These symptoms are usually mild and last for 2-7 days.

Potential complications of Zika virus disease

During large outbreaks in French Polynesia and Brazil in 2013 and 2015 respectively, national health authorities reported potential neurological and auto-immune complications of Zika virus disease. Recently in Brazil, local health authorities have observed an increase in Guillain-Barré syndrome which coincided with Zika virus infections in the general public, as well as an increase

in babies born with microcephaly in northeast Brazil. Agencies investigating the Zika outbreaks are finding an increasing body of evidence about the link between Zika virus and microcephaly. However, more investigation is needed to better understand the relationship between microcephaly in babies and the Zika virus. Other potential causes are also being investigated.

Transmission

Zika virus is transmitted to people through the bite of an infected mosquito from the *Aedes* genus, mainly *Aedes aegypti* in tropical regions. This is the same mosquito that transmits dengue, chikungunya and yellow fever. Zika virus disease outbreaks were reported for the first time from the Pacific in 2007 and 2013 (Yap and French Polynesia, respectively), and in 2015 from the Americas (Brazil and Colombia) and Africa (Cape Verde). In addition, more than 13 countries in the Americas have reported sporadic Zika virus infections indicating rapid geographic expansion of Zika virus.

Diagnosis

Infection with Zika virus may be suspected based on symptoms and recent history (e.g. residence or travel to an area where Zika virus is known to be present). Zika virus diagnosis can only be confirmed by laboratory testing for the presence of Zika virus RNA in the blood or other body fluids, such as urine or saliva.

Prevention

Mosquitoes and their breeding sites pose a significant risk factor for Zika virus infection. Prevention and control relies on reducing mosquitoes through source reduction (removal and modification of breeding sites) and reducing contact between mosquitoes and people. This can be done by using insect repellent; wearing clothes (preferably light-coloured) that cover as much of the body as possible; using physical barriers such as screens, closed doors and windows; and sleeping under mosquito nets. It is also important to empty, clean or cover containers that can hold water such as buckets, flower pots or tyres, so that places where mosquitoes can breed are removed.

Special attention and help should be given to those who may not be able to protect themselves adequately, such as young children, the sick or elderly. During outbreaks, health authorities may advise that spraying of insecticides be carried out. Insecticides recommended by the WHO Pesticide Evaluation Scheme may also be used as larvicides to treat relatively large water containers. Travellers should take the basic precautions described above to protect themselves from mosquito bites.

Treatment

Zika virus disease is usually relatively mild and requires no specific treatment. People sick with Zika virus should get plenty of rest, drink enough fluids, and treat pain and fever with common medicines. If symptoms worsen, they should seek medical care and advice. There is currently no vaccine available.

WHO response

WHO is supporting countries to control Zika virus disease through:

- Define and prioritize research into Zika virus disease by convening experts and partners.
- Enhance surveillance of Zika virus and potential complications.
- Strengthen capacity in risk communication to help countries meet their commitments under the International Health Regulations.
- Provide training on clinical management, diagnosis and vector control including through a number of WHO Collaborating Centres.
- Strengthen the capacity of laboratories to detect the virus.
- Support health authorities to implement vector control strategies aimed at reducing *Aedes* mosquito populations such as providing larvicide to treat standing water sites that cannot be treated in other ways, such as cleaning, emptying, and covering them.
- Prepare recommendations for clinical care and follow-up of people with Zika virus, in collaboration with experts and other health agencies.

Source:

<http://www.who.int/mediacentre/factsheets/zika/en/>

New Staff Join AAS



Aliou Awe

Aliou Awe is Good Financial Grant Practices. Prior to joining AAS, he was Director of Internal Audit and Business Development for sub-Saharan Africa at Global Voice Group SA, South African. He has extensive financial operation management working as CFO, Head of financial control and Support Specialist at Ecobank Gambia and Guaranty Trust Bank Gambia and Bank of America (formerly Nations Bank). He also has auditing experience working as an Audit Senior at Deloitte which exposed him to varied audit assignment of clients from difference industries.

He is a Fellow of The Association of Certified Accountants (FCCA) and an MBA candidate of the University of Liverpool.



Evelyn Namubiru – Mwaura

Evelyn is AAS Strategy and Policy Manager. She will be responsible for supporting the development of an overarching strategy to accelerate scientific excellence in Africa and ensuring that the direction of the scientific research agenda meets the strategic aims of AAS.

Evelyn has over 17 years of experience in policy analysis and international development. She has worked with AGRA, the World Bank, UN-REDD, UNDP-GEF, International Forestry Resources and Institutions (IFRI) and Makerere University.

Evelyn holds a Joint PhD in Public Policy from Indiana University. She is also currently the Vice President of African Association of Agricultural Economists.



Evelyn Gitau

Evelyn Gitau has joined the African Academy of Sciences as Programme Manager. Evelyn is responsible for the implementation of the Bill and Melinda Gates Foundation supported Grand Challenges Africa initiative, in which the Alliance for Accelerating Excellence in Sciences in Africa (AESA) is a partner.

Gitau holds a PhD in life sciences from the United Kingdom's Open University. She has over 10 years' experience in medical research.

In 2015, she was appointed fellow of the Next Einstein Forum where she acts as an ambassador for the development of Science, Technology, Engineering and Mathematics (STEM) in Africa.



Joel Salano

Joel joins AAS as the ICT administrator. He will be responsible for AAS IT systems and manage IT vendors to meet the agreed Service Level Agreements.

Joel has over 2 years' experience working with Kenya Airways where he has been a tier two Technical Support Engineer and Help Desk Analyst, his skills and experience are in information system support, security, networks and server support, troubleshooting, installations, and configuration.

Joel is hold a Bachelor Of Science in Computer Science from JKUAT, he is a Cisco Certified Network Associate and currently undertaking a Microsoft Certified System Engineer certification.



Emmanuel Odongo

Emmanuel Odongo has joined the AAS secretariat as the Procurement Officer. He has over 5years' experience in Procurement management, Finance and administration. He holds a Bachelor of Business Administration (Hons) from Limkokwing University of Creative Technology and Diploma in Accounting (ICM). He is currently pursuing Masters of Arts in Monitoring and Evaluation at Daystar University.



Serah Githinji

Serah N. Githinji has joined AAS as Administrative Assistant under the Grand Challenges Africa Programme. She has 10 years of experience using exceptional communication and leadership skills to coach, manage, and motivate diverse professionals in challenging environments. She has excellent human resource skills and ability to ensure effective office management.



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Opportunities

Call for MUII-plus Grants

The Makerere University – UVRI Centre of Excellence for Infection and Immunity Research and Training (MUII-plus) is calling for applications to MUII-plus Grants, February 2016.

Infectious diseases still represent a major health burden in Africa. HIV, malaria and tuberculosis are still major killers. Neglected infectious diseases cause extensive illness and misery. Emerging and re-emerging infectious diseases threaten the fabric of society. Vaccines, improved diagnostics and improved interventions are greatly needed for most of these conditions. However, the transition to urban living and changing lifestyles mean that exposure to infections is changing and the so-called “non-communicable” diseases (NCDs) – such as cancer, diabetes, high blood pressure, stroke – are becoming major concerns in our societies. There are important infection-NCD links: infections may be casual agents (as in some cancers) or may modulate immune responses and even protect against inflammatory diseases (such as asthma). At the same time, human genetic studies promise new insights into immunobiology because genetic variability in Africa is so high, and pathogen genomics contributes understanding of biology and transmission. MUII-plus is interested in supporting research in these important areas.

MUII-plus funding opportunities are directed at two goals. First, to support training and career development for potential and emerging African leaders in Infection and Immunity research. Second, to support Infection and Immunity researchers at all levels in Uganda to undertake world-class

research by providing grants which support collaborative initiatives and short-term technical and professional training.

Applications for funding through MUII-plus should propose research which (i) is based in Uganda, (ii) has a clear link to Makerere University or to the Uganda Virus Research Institute and (iii) involves translational science, linking epidemiological or clinical studies to laboratory investigations, or to bioinformatics and computational analyses. African scientists of any nationality are welcome to apply but the work must be based in Uganda.

Applications that promote collaborations between Makerere and UVRI, and with other partners in Uganda, are encouraged, as are collaborations with world-leading regional and international research partners. Potential applicants who would like help in identifying suitable collaborations are encouraged to contact the secretariat through the Programme Manager for support.

Co-funding from a second source is encouraged where this is available and will enhance the research or training opportunity.

Candidates should submit their applications using the forms provided www.muui.org.ug

Further enquiries may be directed to the Programme Manager, Dr Damian Rutazaana (drutazaana@uvri.go.ug) or Administrator, Mr Moses Kizza (mkizza@uvri.go.ug; moses.kizza@mrcuganda.org).

Initiative to Develop African Research Leaders (IDeAL)

Up to 5 fellowships are available for African mid-career postdoctoral researchers. These fellowships, which will be funded under the Initiative to Develop African Research Leaders (IDeAL), will provide an opportunity for the African researchers to develop their own research program within KEMRI-Wellcome Trust Research Programme (KWTRP) with stints at collaborating international institutions.

Deadline for application is 20th February 2016. For further information and application please visit the Postdoctoral Researchers’ portal at <http://www.kemri-wellcome.org/index.php/en/capacitystrengthening>. Please note that only online applications will be accepted. If you have any queries please contact IDeAL director – iddir@kemri-wellcome.org