INFORMATION IN ACTION
Celebrating Research Advocacy Champions

Contents

FOREWORD

The free exchange of ideas in the creation of knowledge is essential to addressing many of the challenges facing our world today. As a practising librarian I am very aware of the vital role that libraries play in the dissemination and preservation of knowledge for current and future generations. As current Chair of Reseach4Life I am equally aware that scholarly communications, and the supporting work of libraries, are often impeded by global economic factors creating information gaps between high and low income countries.

INASP and Research4Life over the past two decades have partnered to close these information gaps by providing free or low cost access to scholarly content, and facilitating outreach and training. Regardless of whether you live in a high or low-income country, or participate in INASP or Research4Life sponsored initiatives, advocacy to support research capacity in your institution is a key skill to nurture, whether you are a researcher, practitioner, student or librarian.

The stories contained in this publication of librarians and researchers successfully advocating up through their organizations are inspirational and revelatory, demonstrating many ways in which upstream advocacy has improved institutional research capacity and indeed the health, educational, environmental, social or economic wellbeing of an entire neighborhood or country.

As INASP celebrates its 25th anniversary this year, we have been reflecting on the difference that access to research and knowledge makes to development, and on the role of Southern partners in advocating for local research.

We believe that strong research and knowledge systems around the world are essential for bringing Southern knowledge to bear on global and local challenges. Last year saw the start of the implementation of the Sustainable Development Goals, which cover many crucial issues for the world today. Issues such as ensuring food security, addressing the effects of climate change, tackling major health problems and understanding the world today are hugely dependent on good research, carried out by local researchers and sustainable beyond outside support.

It has been a privilege to work with librarians, library consortia, scholarly publishers and like-minded organizations such as Research4Life to enable access to the information needed for researchers to do their job and make a difference in their local contexts and in global scholarship.

The case studies in this booklet give a small snapshot of the ways that access to research information and successful advocacy for effectively using that information are making a difference to individuals, institutions and their countries and why it is important to champion access. We look forward to continuing to see these projects develop, along with Research4Life and other partners, over the coming years.

Daniel Dollar
Chair of Research4Life
Associate University Librarian for Collections, Preservation, and Digital Scholarship
Yale University Library

Julie Brittain
Executive Director
INASP

INTRODUCTION

In 2016, Research4Life and INASP launched a competition to celebrate the critical role of advocacy in research and got a resounding response. More than 150 stories rolled in from researchers, doctors and librarians across the developing world. Many of them shared the hurdles they had overcome to boost leadership support for peer reviewed resources and for evidence-based policies based on that critical information. These include resources to improve access, infrastructure and funding, all of which contribute to improved evidence-based health care, agriculture and environmental policies. Our premise is that access can only be truly sustainable if leaders 'upstream' of doctors, researchers and librarians are fully supportive of this need.

So how did we do it? We worked closely with a distinguished, international panel of 10 judges and were able to ask some tough questions. We wanted to know how participants went about their lobbying, to understand what kind of evidence they marshalled to support their case, as well as the challenging moments when they encountered resistance along the way before ultimately succeeding. Making choices was not easy, but our judges soon identified two frontrunners both of whose stories would make inspiring case studies to share with our communities.

Alice Matimba, whose multidisciplinary team successfully advocated for a health policy that has transformed the care and treatment offered to patients diagnosed with diabetic retinopathy and other eye complications.

Mary Acanit, whose management team successfully advocated for the connection of Kyambogo University to the Research and Education Network for Uganda (RENU), which aims to connect all Ugandan universities, colleges and research institutions via an affordable country-wide high speed network backbone for cheaper & faster access to global research resources.

To celebrate their work, our winners were invited to attend both the 2017 Publishers for Development conference organized by INASP and the annual Research4Life Partners' General Meeting in Oxford to share their insights and on-the-ground feedback with us.

But there were many more excellent advocacy stories. In total, we collected and curated seven of the most impactful case studies. One of these came from Dinah Baidoo, an assistant librarian at Ashesi University College in Berekuso, Ghana who received an honorable mention for her work in effectively advocating the need for e-resources nationally, internationally and within her own institution.

We hope that Alice, Mary and Dinah's stories help to underscore and celebrate the need for advocacy champions in research. Their work—and those of all of our contributors— has been essential in helping to carve out a broad base of support in their institutions for improved evidence based health care, agriculture and environmental policies as well as basic research in their countries.

Ylann Schemm
Chair of the Research4Life Communications and Marketing Team
Elsevier Foundation Director

Alice Matimba
A Call to Action

Alice Matimba, PhD is a senior lecturer at the Department of Clinical Pharmacology, College of Health Sciences, University of Zimbabwe. She is one of two winners of the Research4Life/INASP advocacy competition.

Gaining access to Research4Life equipped Dr. Alice Matimba and her team with up-to-date and reliable information to advocate for a policy of investment in the advanced technology and services needed to tackle the burden of diabetes in Zimbabwe.

In Zimbabwe, diabetic patients don't usually have their eyes checked for retinopathy, the most common cause of vision loss among people with diabetes. "It was not hard to sense the distress of an ophthalmologist who took care of people with diabetic eye disease who present when it is too late to save their eyesight," Alice Matimba explained. She shared her story of how her team started to take action and address the many alarming knock on health effects of diabetes—in particular blindness which can be prevented if diagnosed and treated in time.

Alice described a letter an ophthalmologist received from the mother of a teenager who was about to take written exams to qualify for university and whose vision was failing because of diabetic retinopathy. "As a past student, often reading many hours a day as I pursued my degree, I understood why the family was desperate for help. The ophthalmologist was not optimistic; he knew the best outcomes came when treatment began before vision loss had already occurred," Alice Matimba added.

With her extensive experience in molecular biology, Alice was keen to understand the regional prevalence of diabetes and conduct relevant research in genetic sciences. But instead of complex genetic causes, she discovered that diabetes was aggravated by limited awareness, late diagnosis, and poor management. "There was an urgent need to develop timely interventions with a far-reaching impact at low cost," she exclaimed. However, research in Zimbabwe on non-communicable diseases such diabetes remains inadequate with limited resources and access to reliable information and technology.

"It frustrated me that the current and projected prevalence of diabetes and associated complications were based largely on anecdotal evidence and limited translational approaches. Most case reports which are used to develop research are from several years back and yet technology is moving fast" she explained.

She knew that in order to conduct relevant research into effective interventions using advanced technologies, a systematic collection of data was needed--in short, an up-to-date and a reliable information platform. Her team explored appropriate interventions by using well-curated information in digital databases which provided baseline evidence of emerging technological solutions.

Portability of handheld ophthalmoscope for eye screening

"Thanks to Research4Life for providing digital access to evidence-based scientific information, we were finally capable of doing a review of the literature which confirmed our hypothesis. It enabled flexibility of research ideas which would lead to solutions. We were able to find the best literature suited for our needs"

The team established telemedicine as a cheaper and faster way to develop solutions for diabetes eye care. With this in mind, her team took a further step to pilot a tele-ophthalmology clinic for diabetes patients at the major hospitals in Harare, the capital city of Zimbabwe.

Together with her team, she advocated for policies that would improve the health of diabetes patients and developed strategies that would deliver more effective diabetes management and research capacity. As the Principal Investigator for the Zimbabwe Diabetic Foot Project and the Zimbabwe Diabetic Retinopathy Telemedicine Project (ZRTP), she has witnessed the impact of her work and successfully lobbied her institutions to strengthen capacity for research and generate evidence for improving diabetes policy and tele-ophthalmology treatments by the health authorities. The data collected in her programs are shared with the Ministry of Health and will be used to develop additional policies for diabetes care in Zimbabwe. Since 2015, impressive progress has been made by alleviating waiting lists, travel and consultation costs and ophthalmology visits with over 1000 patients screened and equipped with the information they need to reduce the risk of diabetes complications. "If the goal of the ZRTP was to innovate, explore and answer research questions that would improve the life and health of people with diabetes, we are well on our way to success," she declared.

Mary Acanit Advocating for Technology

Mary Acanit is an Assistant Librarian at Kyambogo University Library Services in Kampala, Uganda. She is currently finishing her master's degree in information science at Makerere University. She is one of two winners of the Research4Life/INASP Advocacy Competition.

Mary Acanit comes from a large family. Born and raised in a small village in northern Uganda, she is the fifth of seven siblings. As a young girl she used to follow her older sister to school and still remembers walking along dirt paths looking in awe at the nature all around her. Mary always had a particular interest in the scientific world and excelled greatly in chemistry and biology. She was always the best in her class.

Despite financial constraints, her father encouraged her to pursue her dreams and supported her when she enrolled at the University of Makerere. Law studies was her first career choice, but she changed her mind as she filled in the unversity application, ticking the "Information Sciences" box. It was a discipline she had never heard of but the word "Science" caught her attention. Today, more than 10 years later and about to graduate with her MA, Mary realizes that Information Sciences was the best choice she could have made.

As an Assistant Librarian in charge of the ICT services at Kyambogo University Library Services in Kampala, Mary coordinates all ICT-related activities in the library ranging from maintaining the hardware and software to administering the library catalog system, managing the institutional repository, identifying the most useful e-resources and much more.

As she puts it:

"The role of the library in an academic institution can not be underestimated. Libraries play a central role in research through acquiring and making accessible research information to the academic community. Libraries also go out of their way to forecast the information needs of their communities"

What Mary enjoys most however, is organizing and conducting training in Information literacy and digitization. Tapping the extensive Research4Life resources —and the resources available through INASP's access initiative via the Ugandan library consortium CUUL— over the past few years, Mary has trained the staff at more than 10 libraries at Kyambogo University.

"I was part of the library management team that lobbied for the connection of Kyambogo University to RENU, the Research and Education Network for Uganda. With this achieved, I was able to obtain a budget that allowed us to network three out of our four library service

Mary Acanit at Kyambogo University Library

centres, which included providing each one with wireless internet access. Without this, I wouldn't have been able to conduct the trainings"

Mary has been tenacious in her work to advocate for better resources and support for the university library. She knows that digital information is vital for students and the research staff so her work reaches far beyond her own university's doors:

"I have represented Kyambogo University at the Consortium of Uganda University Libraries, contributing ideas that have been adopted for inclusion into institutional and national library policies e.g joining RENU, e-resource licensing, vice chancellor's forum, open access policy development, among others."

The Kyambogo University library is keen to evolve from more traditional modes of operation to adopt new and emerging technologies. What's needed for this however, is a reliable infrastructure. Thanks to the work of Mary and her team, the construction of a "state of the art library with virtual capabilities" and an ICT-based library with a seating capacity of over 500 users, is no longer a dream and soon both the students and researchers will have a space with the resources they need to build an evidence-based future.

Dinah Baidoo
Accessing Digital Resources

Dinah Baidoo is an assistant librarian at Ashesi University College in Berekuso, Ghana. Dinah is also a member of the "advocacy/marketing of eResources" sub-committee of the Consortium of Academic and Research Libraries in Ghana (CARLIGH). She received an honorable mention for the Research4Life/INASP advocacy competition.

With an increasingly digital mind-set becoming the norm for both classroom practice and personal study throughout the world, the supply, use and support of digital resources have become an essential focus for librarians. Dinah Baidoo, an assistant librarian at Ashesi University College in Berekuso, Ghana, discusses the importance of having access to digital resources in order to deliver content to students and researchers in a form most suited to their diverse and changing needs.

"Having access to digital resources means that students have access to a large amount of information across a range of topics" she remarked, focusing on the value that digital resources can bring to people at *"the click of a button"*. However, *"the prohibitive cost of subscribing to some electronic resources"* is a big barrier that prevents access to some needed electronic resources in the Sciences, Engineering and Mathematics. For the Ashesi library, having access to these electronic resources is a high priority to support teaching, learning and research.

To provide an indication of usage and value, Dinah explored the impact that having access to SAGE Knowledge —an online platform for social science books, reference, and video content that the Ashesi library won access to as part of the 2016 Research4Life/INASP Advocacy Competition— has had on both the library and the students. In a recent survey conducted by the library, 65 out of 197 respondents —or 33%— were said to have accessed the SAGE Knowledge/ebooks which were made available in January 2017.

But although these are positive initial numbers, Dinah is keen to increase the access and use of both this and a much wider range of resources, which she believes are key to research engagement, development and practice. In fact, she told us that recently "three students fed back to the library how their success in achieving a grade A in their term paper was as a result of the digital resources available in the library."

As Dinah also pointed out, a large part of the success of students' engagement with digital and their use of the resources, depends on the relationship between the students and the librarians. The role of the librarian has changed dramatically over the years. They are expected to not only source and provide these resources, but to also effectively train faculty, students and staff, and market the resources internally. Training forges a valuable relationship between students and librarians while also demonstrating the pivotal role of the librarian to the larger faculty audiences.

Ashesi library e-resources training dubbed 'Stop Searching, Start Finding' in 2016

Reflecting on a conversation that she had with a student around the impact of having access to digital research resources, she heard both how *"useful the digital resources are"* but also that the value was not *"realized until his senior year, when he started work on his thesis"*. This, Dinah remarks, highlights the tough challenge and responsibility of the librarian community –

"*it is even more apparent now and crucial [in this digital age] that the library takes urgent steps in supporting students and making them understand the value of these resources, from the outset.*"

With the increasing development of digital resources, librarians play a critical role in ensuring that students are not only well equipped to deal with these resources, but also that the resources themselves are the most important and most up to date ones available.
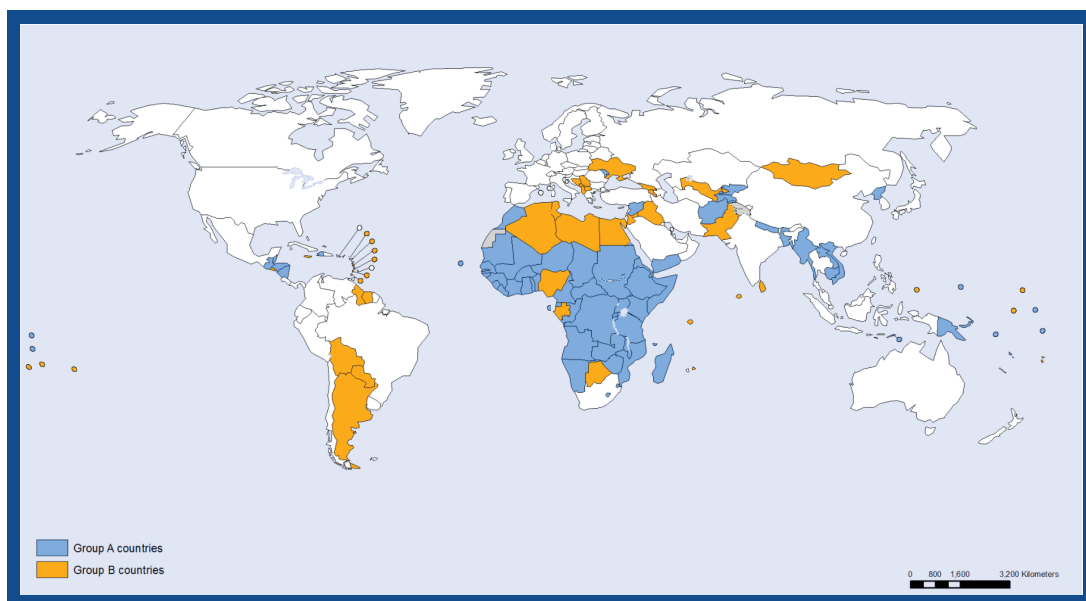
Research4Life is the collective name for the four programmes –Hinari, AGORA, OARE and ARDI– that provide developing countries with free or low cost access to academic and professional peer-reviewed content online.

research4life

🌐 **115**
countries eligible to register

More than

🏛 **8300**
registered institutions

Group A countries
Group B countries

0   800   1,600   3,200 Kilometers

Up to
79,000
resources available

➡

📚 **62,000** **e-books**

📖 **19,000** **Journals**

👥 **185** **Publisher Partners**

H inari
Research for **Health**

The Access to Research for Health programme, led by the World Health Organization (WHO), was launched in July 2001. It includes some 65,000 biomedical and related social science information resources from 165 publisher partners.

www.who.int/hinari

OARE
Research in the **Environment**

The Online Access to Research in the Environment programme, led by the United Nations Environment Programme (UNEP), was launched in October 2006. It includes 30,000 journals and other resources in environmental science literature from 80 publisher partners.

www.unep.org/oare

AGORA
Research in Agriculture

The Access to Global Online Research in Agriculture programme, led by the Food and Agriculture Organization (FAO) was launched in October 2003. It includes up to 28,000 agriculture, food, fisheries and related sciences information resources from 85 publisher partners.
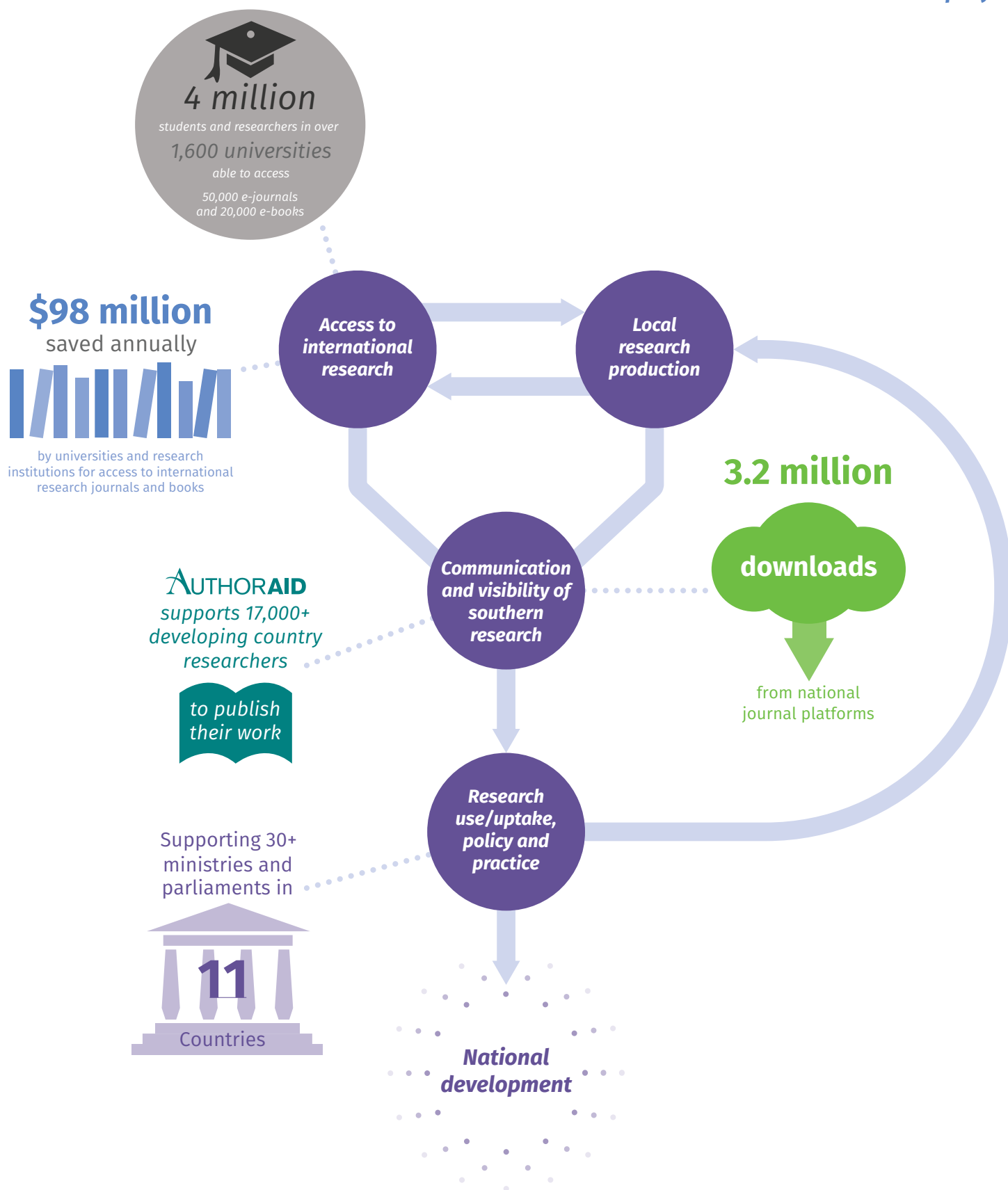
www.fao.org/agora

ARDI
Research for Innovation

The Access to Research for Development and Innovation programme, led by the World Intellectual Property Organization (WIPO), was launched in July 2009. It includes 27,000 journals and other resources on innovation from 25 publisher partners.

www.wipo.int/ardi

Research in health, agriculture and the environment is better informed when it is based on the most recent, high quality and relevant scientific knowledge. Research4Life applies this, delivering knowledge to the world's poorest countries.

2017 figures

INASP supports individuals and institutions to **produce, share** and **use** research and knowledge, to transform lives.

www.inasp.info

4 million
students and researchers in over
1,600 universities
able to access
50,000 e-journals
and 20,000 e-books

$98 million
saved annually

by universities and research
institutions for access to international
research journals and books

**Access to
international
research**

**Local
research
production**

3.2 million

downloads

from national
journal platforms

AUTHORAID
*supports 17,000+
developing country
researchers*

*to publish
their work*

**Communication
and visibility of
southern
research**

Supporting 30+
ministries and
parliaments in

11
Countries

**Research
use/uptake,
policy and
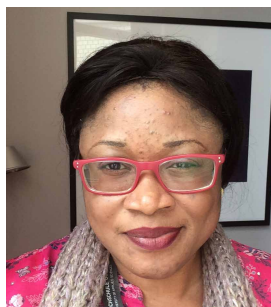practice**

**National
development**

*INASP promotes equity by actively addressing the needs of both men and women
across all our work and addressing issues of power within the research and
knowledge system.*

2016 figures

Enitome Bafor
To go Beyond Research

Dr. Enitome E. Bafor is a senior lecturer at the Department of Pharmacology & Toxicology, University of Benin, Nigeria.

Enitome Bafor has faced many hurdles during her research career: from developing a unique application for a metabolomic-pharmacology model to more recently tackling gender issues. As an early career researcher with a broad range of interests, she was hampered by a lack of research funding and equipment, up-to-date scientific literature, and technological infrastructure .
"It was often daunting, trying to make effective changes," she said. However, her passions have encouraged her to persist:

"I have had the opportunity to [..] gain membership into reputable international societies, and have been privileged to author several original scholarly research contributions in my field. However, many other researchers in Nigeria are yet to get hold of […] these opportunities. I became determined to assist in the search for solutions and opportunities for others as well, though I often received resistance rather than answers in most situations."

Early in her career, Enitome received a Role Model Award from her students for her unique style of teaching and mentorship. She is passionate about getting her students involved in scientific research and showing them how research can do great things for society. She encouraged her students to conduct research and tap scientific

literature from Research4Life. Not surprisingly, this left a significant impression on both her students and even their parents. She has gone on to found special award initiatives at her university to encourage women in their scientific careers.

"Considering my achievements so far as a young senior lecturer, a wife and a mother, I am motivated to accomplish more and inspire my mentees and students. Being a woman does not stop me."

Enitome knows that her path has not always been easy. While many urge her to slow down, she continues to advocate fiercely with university administrators for up-to-date scientific information access—and the importance of using electronic resources in fields such as chemistry.

"It has really been a struggle but I am grateful knowing that my efforts […] are being recognized. It makes me try even harder," she stated. She has also become a driving force encouraging fellow researchers to apply for funding and

Dr. Enitome Bafor and her research colleagues

strive for excellence, *"I made an average of over 10 research grant applications in the past years, most of them have been unsuccessful, but I believe there are successes ahead as I do not intend to give up,"* she added. In making her grant applications, she regularly accessed literature through Research4life, which significantly contributed to the strength of her applications. In 2016, Enitome successfully received funding from The World Academy of Sciences (TWAS-COMSTECH) for research equipment.

She explained her mission to go beyond the boundaries of her own field: *"As a researcher in my institution and country, I intend to fully establish a research group and develop beneficial collaboration networks, contribute to policy and decision-making as they affect reproductive health in my country, contribute to the development and mentoring of younger colleagues in my field, and continue to advocate for research development and use of Research4life in my institution,"* she explained.

Rosemary Thiongo Journey to Knowledge

Rosemary Thiongo is a librarian at the Faculty of Sciences of the Aga Khan University in Nairobi, Kenya.

Rosemary Thiongo bought her first ever car in order to visit the library. At the time, she was working full-time as a librarian and studying Library & Information Studies in Nairobi. Her course taught manual operational concepts – focusing on catalogue cards rather than VPNs.

Rosemary understood the power of digital even then. She had heard of an online course based in South Africa called Library Information Technology. But she had no access to the internet at home.

So she asked her university library if, after her full day's work, she could stay late to work on the online course. For two or three hours after each work day, Rosemary would sit alone in the library, learning about exciting technological advances in information studies.

It meant coming home late at night, so public transport wasn't an option. And so Rosemary bought her first car.

In her role as Librarian for Aga Khan University in Nairobi, Rosemary uses technology every day. Aga Khan University is a medical institution, and she knows the challenges that this presents.

"I feel that we are dealing with the lives of other human beings", she says. "That makes it so important that they have access to the latest information."

Making sure that the nurses and doctors have that access means that Rosemary needs to advocate. Her secret to successful advocacy: get the evidence.

So how does she do it? Rosemary is in continuous communication with her users, setting up suggestion boxes, regular orientation sessions and online surveys. She has also automated the library's usage tracking system, to understand how, when and which resources in the library are most used. This means that when she advocates for change, she knows that the users are behind her.

This evidence base has allowed her to work for user-focused change in the library. Rosemary heads the Marketing and Promotion working group, and is also passionate about reaching out to the community.

"I never felt that librarianship was about sitting in a room and waiting for users to come to you", she says. "I always wanted to reach out."

Rosemary (left) at Aga Khan Library Open Days

Many of her improvements have focused on access to the library. Based on user input, Rosemary has made the case for expanding opening hours, video orientation options and regular newsletters. She has even ensured that computers are available outside the library, so that students have the 24-hour access that she never did.

These technological advances have been supported through competitions. Aga Khan University has won funding through several national library competitions, including for best academic library and best overall library. In addition, they have also received electronic resources support from INASP via the KLISC consortium.
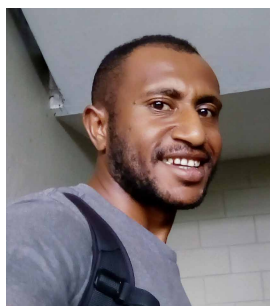
When asked about her biggest achievement, Rosemary points to the first virtual portal network at Aga Khan University. As one of the principal supporters of the network, Rosemary had the opportunity to name it. She chose Search, Access, Find And Retrieve Information, or SAFARI. Safari is the Swahili word for journey.

And nobody needs to buy a car to get there.

Lui Phillip Kame Knowledge is Power

Lui Philip Kame is Technical Services Librarian at the PNG University of Natural Resource and Environment in Port Moresby, Papua New Guinea.

Lui Philip Kame believes in giving people power by giving them information. "I decided to become a librarian because I wanted to be involved in the empowerment of my country's people," he says of his role at PNG University of Natural Resource and Environment in Port Moresby, Papua New Guinea.

"I want to empower people by making the right information available at the right time and easily accessible by those who need it."

This is a common theme among librarians – knowledge leading to power leading to success. And Lui's advocacy work pays testament to his belief. Before he had the power to change his library for the better, he had to acquire knowledge.

When Lui joined the university, the Library operated on a desktop-based stand alone library management system. All the work was offline, delivered by people working in parallel. Lui became quickly aware of systemic flaws.

"There were instances of inconsistency in records," he remembers, "due to the fact that records needed to be copied to removable storage devices, and transferred from one PC to the other." Records were lost, information was duplicated inconsistently, files were corrupted. But at the time, internet speeds were unreliable, and so a fully online database was impractical.

Lui knew things could be better. But he also knew that he needed to learn more in order to make it happen.

"I have to give credit to my employer," Lui says of the training programme that changed his career. PNG University of Natural Resource and Environment is a government institution, with research interests in agriculture, fisheries, climate change and forestry.

The Head Librarian at the university allowed him time to attend specialized training in Web2.0 technology, information management and social media.

The training empowered him to develop a solution himself: a mini-ICT networking system that provides online services for the library to complement its traditional over-the-counter services.

His training not only gave him the knowledge to deliver this networking system, with the help of IT staff and his fellow librarians. It also empowered

Lui (left) during a library training

him to advocate for it. He was listened to within his institution, because of the fact that he had been trained. Knowledge led to power, power led to change.

His system allowed library staff to work more efficiently, knowing that they were all working from the same data. It also gave academic staff and students access to the information they needed, whenever they needed it.

"I am proud that the students and staff are benefiting. They are now able to access information anywhere and anytime," Lui says.

In support of the new system, the library has also registered as a user at HINARI, OARE, AGORA and ARDI. Lui also used the infrastructure of social media to support his solutions, adding Facebook, Twitter and Google+ accounts to reach out to the library's stakeholders.

Lui is proud to mention that Papua New Guinea is "home to over 800 languages and cultures," incredible diversity in a country of less than eight million people. In improving his own knowledge, Lui was able to make knowledge easier to access for thousands of his fellow citizens.

Mario Heredia
The Global Community

Mario Heredia is a doctoral researcher at the Centre for Environmental and Marine Studies (CESAM) of the University of Aveiro in Portugal.

When researchers are working for a country they love, they can do amazing things. When they are backed up by a global community, anything is possible.

Mario Heredia is a proud Ecuadorean, but the story of how he advocated for change in his country reaches out across the whole world.

After initially studying for an engineering degree, he was working for an oil company. From there, he received a two-year full scholarship from an Ecuadorean government progamme, which allowed him to travel to Portugal. "My supervisor had to have quite an open mind, to leave me alone on another continent!" he remembers.

His time in Portugal changed everything. "They have universities that are 700 or 800 years old. They were older than the recent history of Ecuador." The new environment, and the facilities and infrastructure that were available to researchers, made Mario look at academia differently.

"Before I went to Portugal, the word 'professor' had an incomplete meaning for me," says Mario. "I thought it just meant, 'lecturer'. But when I came to Portugal, I realized that being a professor was actually about producing research,

creating knowledge and guiding others to create knowledge too."

He says with a smile, "It made me think, 'I would like to be a professor.'"

His time overseas also made him think of the people who had put him there. "I feel like I owe a debt to my country. To the tax-payers, whose money was spent on sending me to Portugal. And the best way to pay my debt was to use my education in aid of social change and sustainability."

In his PhD and beyond, he was determined that his work would benefit Ecuador and the surrounding countries. "I love South America. I've spent a lot of time in Peru, Colombia and Venezuela, and the people are so kind."

His area of expertise is biomass technology, and how it can be used to improve agriculture. This work particularly benefits small enterprises, often owned by indigenous Andean Ecuadoreans. Mario leaves his Quito home for weeks at a time, to go into the mountains and learn more from them.

This method is known in South America as Participative Action Research. "It's quite a

Work of an indigenous community in the andean region during Mario's research activities

romantic concept", says Mario. "Researchers should be with the people before they go to the laboratory. It requires respect from researchers to communities. Using ancestral knowledge alongside scientific knowledge."

Mario learned about the community's needs, their supply chains, their decision making process, so that his biomass research would work for them. But there was a problem. The research infrastructure that he had experienced in Portugal simply did not exist in Ecuador.

"I found a lot of constraints", Mario says. These constraints sent Mario to find new solutions. And for this, he went to the Open Source community.

"It was like an alternative reality", he says, "where people actually believe that they can do whatever they want." In Open Source, Mario found access to the information, software and code he needed to create a research platform. But he also found a community.

"It makes you feel that you are not alone," he

says. "Researchers come together from all over the world."

This international community helped Mario to develop his platform at a fraction of its usual cost.

He saw his research achieve publication in top scientific journals, which in turn allowed him to advocate on national policy.

His research contributed to the Ecuadorian government's decision to re-direct the money currently spent on subsidies to fossil fuels, in favour of sustainable methods.

Mario still lives in Ecuador, still travels regularly to stay with Andean communities, and provides his own experience and expertise to others in the great global community that helped him to make change in his country.

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