research and knowledge at the heart of development

inasp

How can we strengthen research and knowledge systems in the Global South?

Reflections from INASP's five-year SRKS programme

Contents

1 Executive summary

Between 2013 and 2018, DFID and Sida funded INASP's Strengthening Research and Knowledge Systems (SRKS) programme. SRKS worked at individual, organizational and national levels in the Global South to support research and knowledge systems. Central to the programme were the principles of high-quality capacity development; sustainability; local leadership; adaptability; partnership; gender equity; and learning.

> *Southern-led organizational change and adaptive learning are important for strengthening research and knowledge systems in low- and middle-income countries. We observed how targeted interventions, in response to contextual understanding and working with local partners, can be effective. The programme demonstrated the potential of online learning, even where resources are constrained, and emphasized the value of paying greater attention to redressing inequities of opportunity within research systems, particularly with gender.*

This report shares key achievements and learning from the programme that will be used to inform future INASP work. We appreciate the generous support from DFID and Sida, and their continued commitment to strengthening Southern research systems.

Major achievements of the programme

SRKS was fundamentally a capacity-development programme. It aimed to ensure that Southern partners could provide key services to their local research systems – at organizational or national level – beyond the end of the programme. SRKS was successful in:

Improving access to online research and the capacity of partner countries to secure and manage access

Improving visibility and strengthening quality of locally produced research

Supporting early-career researchers to develop their scientific writing and communication skills

In addition, during the course of the SRKS programme we were able to:

Develop a learning framework based on improved understanding of which capacity development approaches support greater local ownership, agency and sustainability

Use blended and online learning courses to enable greater participation by disadvantaged groups

Lay foundations for future work by identifying the potential to bring the learning and expertise of INASP and our partners to strengthen research systems in more difficult contexts

Programme limitations

Sustainability was a key concern throughout the SRKS programme, but achieving sustainability is challenging and some projects and partnerships are more successful than others. SRKS explored many approaches to enable individuals and institutions to independently and sustainably work towards their desired changes

SRKS in figures

23,000 researchers, librarians, journal editors, network engineers and other professionals have been supported to improve their knowledge and skills through over 300 workshops and learning events in 40 countries. 48% of those trained have been women.

4 million students and researchers in over 1700 universities able to access 50,000 e-journals and 20,000 e-books

$307 million saved by universities and research institutions for access to international research content

2400+ librarians (50% women) in 19 countries, trained in digital library management

10 national library consortia are now negotiating directly with publishers for access to research information

32,200 articles published by 390 Southern journals (96% open access) on five national publishing platforms

580 journal managers and editors (40% women) trained in journal publishing

Over 900 journals evaluated using the Journal Publishing Practices and Standards framework

17,000+ researchers from 175 countries connected to the AuthorAID network

18,800 researchers (50% female) trained in research communication skills via AuthorAID online courses

beyond the life of the programme, but we recognize that we didn't fully achieve this in all cases.

Limitations to sustainability arose for a range of reasons, some of which we SRKS was able to adapt to and some which were outside the scope of the programme or INASP's resources:

- There were long-standing commitments from previous programmes to partners in over 20 countries, which we continued to build on during SRKS. However, this breadth presented challenges in devoting sufficient time and resources to each partner, and tailoring our approach to each set of needs and circumstances.
- For some partners, the pace of change was too fast and they struggled to consolidate their capacity and make the organizational shifts required. In some cases, we have had to make a responsible exit, where partners were not fully ready to take on new responsibilities and where we were unable to provide the support needed.
- Although framed as a 'research and knowledge systems' programme, SRKS was composed of a series of smaller projects, working in different countries, according to partner need and demand. While we achieved demonstrable impacts within projects, this, coupled with the number of countries we worked with, limited impact at the programme level.

We addressed the breadth of SRKS during the course of the programme, by being clearer about 'readiness' and by focusing efforts on fewer countries and partners, in some cases, making difficult decisions to suspend work where partners were not ready. In future we may need to be readier to make difficult decisions to stop providing support and re-invest programme resources elsewhere.

Learning and reflections

Addressing the missing link: Strong research systems depend on national infrastructure but key parts of the system are often overlooked

- Across the sector, there is widespread recognition that strong research systems are important. While many programmes focus on training individuals, supporting research institutions or strengthening national funding and policy bodies, fewer support critical but less often neglected parts of the system - such as national library consortia and local publishing mechanisms. These sustain access to research information and support the communication of Southern research.
- In supporting these networks and institutions, we need to go beyond technical skills, to strengthening organizational capacity and effectiveness, enabling them to play stronger roles nationally. SRKS built on prior programmes and many aspects of its work are being continued in new programmes; developing national systems is a long-term endeavour.

Context-sensitive, online approaches provide flexible, scalable support to enable learning

- Appropriately designed online courses can be successful in low resource environments and provide a powerful tool for reaching a wider group of people and enabling them to play their part in global research and knowledge systems.

Targeted investments and modest interventions can be effective in strengthening research and knowledge systems

- Targeted investments can have impact when they respond to windows of opportunity, are supported by local leadership and enabled by strong partnerships and connections to wider networks.

Addressing gender barriers and other inequities is vital to ensure full participation in creating knowledge and solving development challenges

- Challenging power systems, and addressing inequities within research systems are crucial to ensure that these systems create knowledge that enables inclusive, just and sustainable development.

- It is also important to use approaches that are designed for specific needs. For example, we found that the flexibility of online learning was attractive for many women and for researchers who are displaced or unable to travel.

Adaptive learning enables appropriate response to emerging partner needs and changing contexts

- An iterative and adaptive approach to programme management enables a team to respond to new information and emerging learning, or to changing contexts and need. Doing so can help projects to achieve additional impact. Some funder requirements, as well as aspects of our initial programme design, prevented us from being as adaptive as we would have liked.
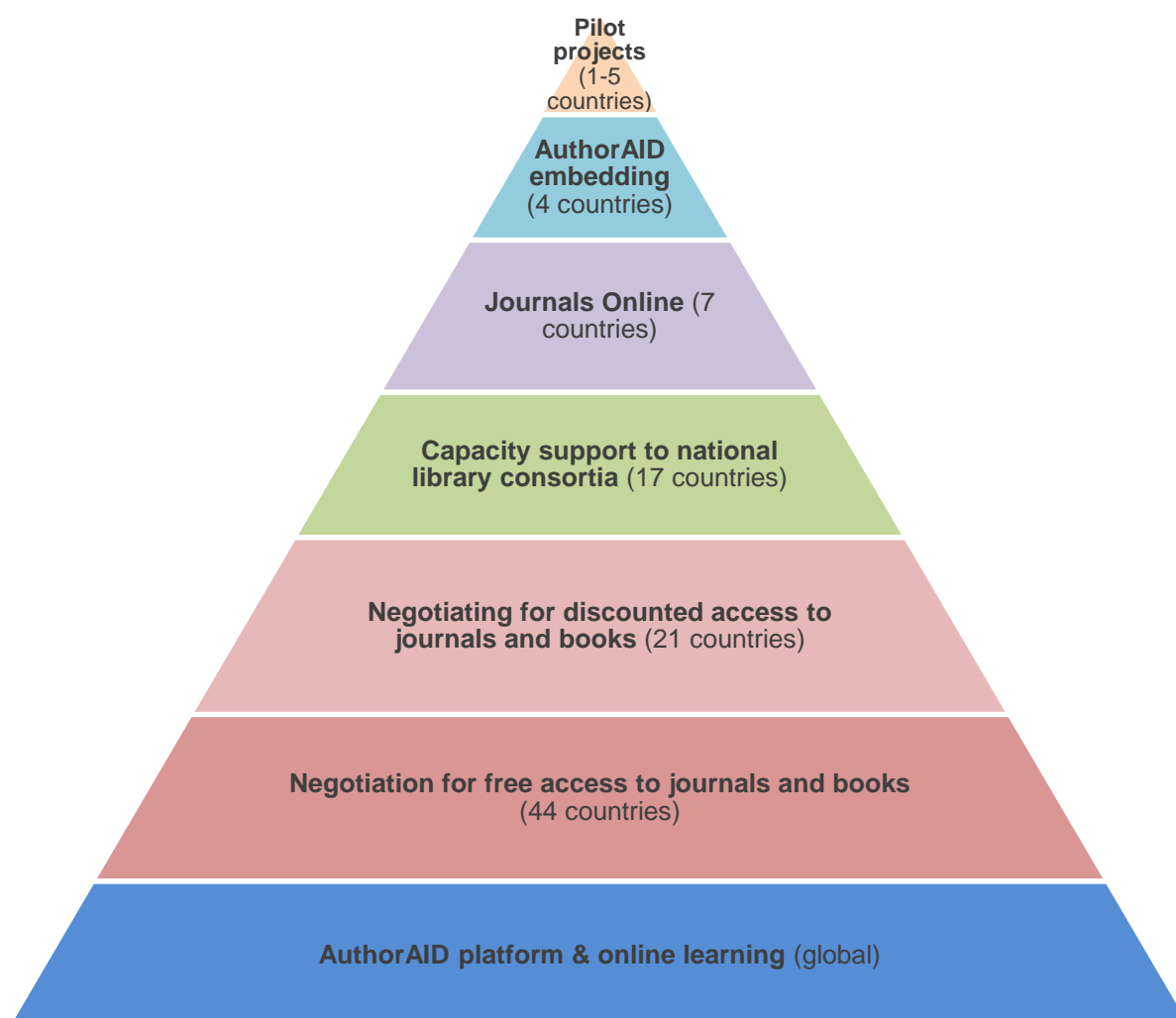
2 Programme overview

Between April 2013 and March 2018, INASP's Strengthening Research and Knowledge Systems (SRKS) programme worked at the individual, organizational and national levels to strengthen research and knowledge systems. SRKS was a £10 million, five-year programme funded by the Department for International Development (DFID) and the Swedish International Development Agency (Sida).

The programme's intended impact was that *research knowledge contributes to economic and social development.* This was designed to be achieved through the outcome of *increased sustainable access to and production of research literature in INASP-supported countries.*

SRKS was structured as a set of 'global' or multi-country services, and a series of smaller projects through which we worked in fewer countries. Over the duration of the programme, 23,000 researchers, librarians, journal editors, network engineers and other professionals supporting research have been supported to improve their knowledge and skills through over 300 workshops and learning events in 40 countries. 48% of those trained have been women.

From the outset we emphasized sustainability, aiming both to handover several services, developed under earlier programmes, to national partners, and to support partners to embed training within organizational staff development programmes.

Pilot projects (1-5 countries)

AuthorAID embedding (4 countries)

Journals Online (7 countries)

Capacity support to national library consortia (17 countries)

Negotiating for discounted access to journals and books (21 countries)

Negotiation for free access to journals and books (44 countries)

AuthorAID platform & online learning (global)

3   Key activities and achievements

Improving access to online research and strengthening the capacity of partner countries to secure and manage access in the future

We negotiated national licences with over 50 academic publishers to secure discounted or free access to scientific books and journals for up to 67 countries: 44 countries had access to collections at no charge; of these 22 countries had further access to additional collections at more affordable subscription rates.

- *The programme saved approximately £307 million and provided access to over 50,000 journals and 20,000 books to 1,700 organizations. We estimate that this reached up to 4 million academics and students.*

In 22 countries, we worked with national library consortia or equivalent bodies to provide more in-depth support, to enable them to strengthen their organizational capacity, and to provide skills training programmes to their members. This aimed to ensure that access to research could be managed locally – including negotiating directly with publishers – and librarians can in turn support researchers and students.

- *10 national library consortia or equivalent bodies are now negotiating directly with publishers on behalf of universities and research institutes.*
- *Over 2400 librarians and information professionals in 19 countries were trained in different aspects of digital library management. Just under half were women.*

Increasing the quality and visibility of locally produced research

Through our Journals Online project we have worked with teams in seven countries (Bangladesh, Nepal, Mongolia, Sri Lanka, El Salvador, Honduras, Nicaragua) to develop locally-led online publishing platforms, and to enable them to run and manage these locally. These platforms, managed by national science academies and university networks now host 390 journals.

- *In seven countries, national science agencies or regional networks are managing journal publishing platforms and supporting local editors and journals*
- *390 journals are now being published on the five Journals Online platforms covering research in seven countries in Asia and Latin America. Over 32,200 new articles were published during the programme, over 96% are open access.*

> *"We got more viewers for our journal after we put it online. Many people call and tell me that they have read the articles online and comment about the articles. So much circulation would not have been possible with only hard copies."*
> Journal editor, who described in a blog post the changes seen since putting his journal on the NepJOL platform

We worked with journal platform managers and individual journal editors to increase the quality of their publishing processes.

- *580 journal managers and editors were trained in publishing processes, 40% of whom were women.*
- *We linked the journals and Journals Online platforms to services such as Kudos (helps editors to promote their journals and increase readership), ORCID (a digital identifier for*

distinguish a researcher and author) and [Think. Check. Submit.](helps authors to choose the right journal for their work) and enabled them to pilot the [iThenticate](plagiarism checker.

To support and demonstrate publishing quality, in collaboration with African Journals Online, we [developed and launched] Journal Publishing Practices and Standards (JPPS), a new framework to assess the publishing standards of journals (www.journalquality.info). This provides a comprehensive framework against which journals are independently assessed for the quality of their publishing processes. The assessment translates into a star rating, to guide readers and authors about the publishing quality of the journal.

The framework also supports journal editors and publishing teams in developing countries to raise their awareness and understanding of internationally accepted best practice and publishing standards, as well as a clear process through which they can improve their practices.

- *390 journals from five Journals Online platforms have been assessed and their 'Journal Publishing Practices and Standards' levels displayed on the journal homepages.*
- *In the first assessment, 30 of these journals were awarded two-star status and over 50 were awarded one star.*

"We are very delighted to get a two-star ranking. We will definitely work on the suggestions made by you to get even higher rankings." – Journal editor

Through INASP's AuthorAID project we supported early-career researchers to develop scientific writing and communication skills. Our online platform (www.authoraid.info) hosts a global network of researchers, provides a series of online courses in research writing, and offers a mentoring service enabling early-career researchers to seek support from experienced academics and editors. Online courses were run as Massive Open Online Courses or MOOCs, providing introductions to research writing or grant proposal writing, covering all disciplines, and also as small, intensive courses focused on a specific thematic area.

We also worked with nine universities, research institutes and professional associations in four countries – Ghana, Tanzania, Sri Lanka and Vietnam – to develop and run their own in-house training programmes, building on and adapting AuthorAID's face-to-face and online training courses, and incorporating writing clubs and mentoring.

- *18,800 researchers participated in our AuthorAID online courses. 50% have been women.*
- *Our six research-writing MOOCs (in English and Spanish) held during SRKS averaged 3,000 participants and seen average completion rates of 58%, which compares to typical MOOC completion rates of 5-13%.*
- *The AuthorAID platform has grown from a membership of 7,800 at the beginning of SRKS to a network of over 17,000 researchers from over 175 countries across the world.*

WRITING CLUBS IN UNIVERSITY OF COLOMBO, SRI LANKA

INASP supported the Faculty of Medicine in the University of Colombo initially to run locally-tailored workshops on research writing and mentoring. However, the team in the faculty realized that there needed to be something more to support their academics in finishing off their writing projects after the workshops. Writing clubs bring together all the pieces of the research-writing programme. They underpin and consolidate the learning from the workshops and provide an opportunity for the participants to receive mentoring support (not only by more senior academics but also by like-minded peers). They also act as a practical exercise in finalizing a paper by creating the time and space for focusing on writing. The writing clubs are held over a period of four months, with monthly face-to-face meetings to allow the participants to progress the writing of their papers during that period. The clubs are run by someone with a certain amount of experience and at least three publications, and who has committed to devoting their time to supporting young researchers in their writing. They also include younger mentors known as 'junior mentors' who learn from the senior mentor and develop their own skills with the aim of one day running their own writing club, supporting sustainability.

- *Over 500 mentors have registered on the AuthorAID platform to provide support to early career researchers.*
- *The platform and network, which encompasses online courses, supported by a network of guest facilitators, a network of mentors, and a lively discussion group has become an active community of practice, managed by INASP but driven largely led by its members.*
- *In four countries, nine universities and research institutes are now delivering their own in-house training in research writing to research staff and students.*
- *The 2017 AuthorAID Impact Study found that 85% of respondents reported that AuthorAID had a positive effect on their understanding of the publishing process and 56% reported that the project helped them to publish.*

Piloting new work and sharing lessons learnt from the programme with internal and external stakeholders

Alongside the core programme strands, we introduced a series of pilot projects to explore how to address other needs that had been identified, and to bring our learning to two new countries.

Campus IT networks

We strengthened university IT networks, working with National Research and Education Networks in Uganda, Tanzania and Zambia to train university IT engineers, and provide hands-on training and troubleshooting under the guidance of experienced network engineers. NREN engineers trained over 200 campus engineers and 30 'direct engineering assistance' missions were undertaken. Universities noted improvements in the speed of networks as a result: Accessing and contributing to global research: the problem of the last kilometre.

"Our campus network has tremendously improved in terms of speed; availability [of Wi-Fi access] is more reliable and provides us with stable public IPs which ensure stable access with the publishers. E-journal articles and e-books are downloaded faster but … as the network has improved, so has the number of users." – Campus librarian

Library and information science curricula

We strengthened the postgraduate degree programmes in five library schools so that librarians graduate with digital library-management skills (Ethiopia, Kenya, Malawi, Tanzania, Zambia). The pilot was ended in Year 3, following some successes but a recognition that it would take a larger investment of time and resources to achieve deeper change. INASP pilot helps African universities enhance postgraduate librarian courses

Academic publishing in Tanzania

Responding to a growing demand in Tanzania to 'go digital', the project conducted training and workshops for commercial and university publishers in topics such as Digital Publishing and Marketing and Communication. Strengthening Indigenous Academic and Digital Publishing in Tanzania

Strengthening research in Sierra Leone and the Somali regions

We worked with new partners in Sierra Leone and the Somali regions to identify what could be done to strengthen the foundations for research and to provide initial support. In Sierra Leone we focused on access to research information, including training for librarians and support to the nascent academic IT consortium, and research writing and publishing skills for researchers. In Somalia we focused on support to women researchers, also including support in research writing. Capacity development in 'harder to reach' places.

Gender support to universities and research institutes

From Year 4, we began a modest strand of work to enable universities and research institutions to analyse and address gender barriers and gaps. We supported partners in Ghana, Tanzania and Somalia to initiate gender mainstreaming processes, and ran an open grant call to award funding for other women researchers to present gender-focused work at conferences or to run gender sensitization events within their institutions. Evaluation of partner-implemented gender activities.

4 Approaches and reflections

Organizational and system change for sustainable development

SRKS was fundamentally a capacity development programme. It aimed to ensure that Southern partners could provide key services to their local research systems – at organizational or national level – beyond the end of the programme.

Central to the programme was the aim of handing over several services that had been developed by INASP during prior programmes to local partners, so that they were locally led and sustained. National bodies, universities and research institutes are now independently managing key research services in 15 countries – from providing access to essential journals via stronger national library consortia to science agencies managing national research publishing platforms.

We sought to continually improve our understanding of which approaches to capacity development worked well, to meet which needs, and to think carefully about how achievements could be sustained beyond the end of the programme. In the process, we have made some significant shifts in our thinking and in the ways in which we work.

From individual to organizational capacity

Supporting individual skills development and capacity at the organizational level has enabled partners to take over the running of key services – and taught us more about supporting organizational level change

- From the outset of the SRKS programme, we worked with partners to establish multi-year plans, and moved from a more 'responsive mode' of training and support, determined by annual requests and plans, to a more strategic and forward-looking approach, with responsibilities invested in national level organizations or networks.
- As the programme developed, we recognized that we needed to move further in this direction. Technical skills and knowledge were essential for partners to take responsibility for key services – from providing access to online journals to managing national publishing platforms. However, long-term sustainability depends on organizational level capacity, to develop strategies, manage teams, access local funding and build their profile and relationships at a national level.
- Working with the Journals Online (JOL) management teams, we moved from providing technical skills support in how to run an online journal platform, to supporting them to address the organizational and management aspects of the work, including fundraising, communications and staffing.
- We recognized that library consortia needed to strengthen capacity at an organizational level if they were to negotiate with publishers and manage access on behalf of their member universities and research institutes. We developed and revised a tool to enable consortia to

assess their own capacity, and identified ways in which skills-development activities could connect better to operational structures or working groups. African library consortia reflected on some of these developments in December 2015. Through our subsequent 'Leading in the Library' initiative, we worked with library consortia in Ghana, Kenya, Uganda and Zimbabwe to explore and strengthen aspects of leadership, strategic management and advocacy.

- Although we made a progressive shift towards supporting capacity at the organizational level, arguably we did not begin this early enough.

A learner-centred approach

We have sought to continually improve training quality and produce guidance for partners to ensure training is effective in helping skills development, knowledge sharing and confidence.

- In both our face-to-face and online training we focused on adult pedagogy and the quality, relevance and adaptability of materials. We considered the way in which training events are organized to ensure the right people are in the room, with the necessary prior knowledge, a commitment to learn, and support from their managers to ensure that they can take that learning into practice.

We moved from a general participatory approach to training towards a more consistent learner-centred methodology.

- A learner-centred approach means that what is learnt, and how, is shaped by the needs, capacities and interests of the learners themselves. Although it can improve learning – and thus capacity development – outcomes, practical limitations and cultural and social preferences mean that partners – trainers and participants – may not be comfortable with the demands this places on them.
- We have refined our approach to fit the capacities of trainers, cultures and contexts. While we strive towards a fully learner-centred practice, we encourage as a minimum a more participative, contextualized learner-centred approach.
- We developed a set of principles that emphasize an active, responsive, reflective and realistic approach to learning and training. We also worked with experienced trainers drawn from our partners to build skills in learner-centred approaches, and incorporated Training of Trainers sessions into many of our workshops.
- To encourage flexibility and adaptability we developed a toolkit format for key training materials. This supports trainers to make the necessary adjustments to local contexts and to the existing knowledge, skills level and learning needs of the participants. Examples include our Gender Mainstreaming in Higher Education Toolkit, and the AuthorAID Training of Trainers Toolkit and AuthorAID Research Writing Toolkit.

We developed a 'Learning and Capacity Development Guiding Framework' to help staff and partners make better decisions

- We recognized that a training workshop alone is unlikely to facilitate sustained learning and change, and, even where training is important, much greater attention needs to be focused on the quality of the learning experience. This has led us to develop a range of different approaches during the programme.
- These have been synthesized into a 'guiding framework' for capacity development across levels of individual, organizational, inter-personal and environmental or system-level change.
- This framework demonstrates how our interventions develop capacity progressively, with each stage building on an earlier stage, and in complementary ways. It allows us to be clear on the purpose of our interventions, and provides a strong foundation for future work.

Combining different approaches to support greater local ownership, agency and sustainability

- In the AuthorAID project, we have worked with partners to adapt materials and approaches to enable research-writing training to be embedded within their institutions. Together we have developed a blended approach that incorporates online and face-to-face components, supplemented by local mentoring support or writing clubs.
- In our work with library consortia we have used regional events to foster supportive peer networks, incorporated Training of Trainers approaches within workshops to enable participants to train other colleagues, and to reinforce complicated content. Face-to-face training has also been complemented by online courses, either by providing preparatory sessions or as follow-on refresher courses.

Online learning to provide flexible, scalable support

MOOCs developed and run in SRKS have supported thousands of learners and achieved high completion rates

We have significantly developed and expanded our online training during SRKS, and developed our own expertise and that of partners and associates. We developed our approaches and capability to scale through our AuthorAID massive open online courses (MOOCs) in research writing. A 2017 paper reflects on what we learnt about creating a successful MOOC for academics in low-resource settings and in a journal article.

> *"I got Reviewer's Comments for my Abstract submission to a recognized international conference after this course: 'best I have seen to date'. [The abstract] was accepted without correction, which was my first experience [of this] in my life."*
> Sri Lankan academic and AuthorAID MOOC participant

- In addition to the research-writing MOOCs, we developed professional online courses for librarians and journal editors, in copyright and licensing of online information; monitoring and evaluating usage for librarians; and publishing quality for journal editors.
- We have also improved our course design processes and standards using a Learning Design approach. This involves a learning designer, content developer and 'critical friends' from the target audience working together to develop the course outline and create storyboards, and uses a tool developed by the UCL Knowledge Lab.

The flexibility of our online courses has allowed has allowed for greater engagement by disadvantaged groups.

- Online courses, and particularly our MOOCs, have enabled us to reach a greater number of participants across many countries, including those affected by conflict or otherwise harder to reach, as well as some refugee academics. Our MOOCs have included participants from Sierra Leone, Somalia, Yemen, Iraq, Afghanistan, Syria and Palestine. This gave us useful insight for our pilot projects in Sierra Leone and Somalia.

> *"The online course has positively affected almost every aspect of my academic life. The effect is particularly visible in my research writing, information sharing, networking and supervision of students' projects."*
> Academic in Ghana and AuthorAID MOOC participant

- They have also allowed participants flexibility in when and how they study, which many have welcomed, particularly women. We also responded to the feedback received – such as ensuring that submission dates for assessed activities do not disadvantage women who have family responsibilities.
- In addition to large-scale courses, we have run a series of intensive courses in partnership with Pure Earth, for researchers in environmental health. These have enabled a small cohort of researchers to ready a specific manuscript for subsequent publication, with support from specialists in the field.

Online courses have encouraged peer learning and connected learning to 'doing' in the work place

- Courses have been designed to recognize that participants may be at different stages of readiness and have varying needs. Our new course, 'Editorial processes for journal editors' provides modular, personalized learning pathways that allow editors to pick the modules they would like to study.
- Online study has also allowed participants to integrate learning into their day-to-day work more effectively. This is important given that 70% of adult learning takes place in the workplace. For some courses, course several members from the same university were encouraged to enrol, in order to build peer-learning groups, increasing their ability to apply learning within their workplace.
- We have sought to use courses to create a community of learners, by involving guest facilitators, developed structured and facilitated forums, and encouraging participants to interact with each other as they study.
- The 2017 AuthorAID Impact Study found that the three online approaches to support research writing – Massive Open Online Courses (MOOCs), subject-specific intensive courses, and online mentoring – were useful to researchers at different stages of their research career.

We have designed for low-bandwidth environments to ensure accessibility and enabled mobile learning

- We use the open-source Moodle learning platform for our courses, which is accessible to partners, and is often the platform they themselves use. We have also used the open source eXeLearning application to create interactive text-based content that can be downloaded for study offline. This can be particularly useful for participants experiencing interrupted connectivity or who are working in the field.
- We have aimed to develop engaging and interactive learning activities, using discussion forums, multiple choice quizzes, peer assessment activities and surveys. Gradually, we have added more visual elements, including videos. We have kept those elements optional to ensure they do not reduce the accessibility of courses.
- In response to growing smartphone usage in partner countries, in 2017 we adjusted courses to allow participants to study using the Moodle mobile app.

We have handed over courses to partners, and supported them to run them with increasing confidence and reduced dependence on INASP

- Running our online courses with facilitators and moderators drawn from our partners and networks has helped to build their skills to facilitate their own online courses. We have now created a team of INASP Star Facilitators, who have offered to continue facilitating courses beyond SRKS.
- We have also developed a two-week online course for institutions looking to develop their own online learning. The course helps train staff in online course moderation and facilitation techniques.
- We have supported universities and research institutions in Tanzania, Sri Lanka and Vietnam to adapt the AuthorAID scientific writing course and incorporate it into their own in-house training programme.
- Nevertheless, online learning interventions have not always proved successful. CSIR in Ghana struggled to run the online course which was introduced through the AuthorAID embedding partnership. Further needs analysis at the beginning of the partnership might have identified some of the obstacles encountered, and the technological and behavioural shifts that would need to be addressed.

Addressing the barriers that prevent women from playing a full role in research and knowledge systems

The original SRKS programme did not incorporate a focus on gender mainstreaming but over the course of the programme we recognized the importance of developing a clear understanding of the needs of women. We developed a new stream of work in 2015, which was added to the programme.

We approached gender at two levels: Firstly, by supporting women researchers and academics at individual and institutional level; secondly by applying a gender lens to SRKS as a whole, by commissioning two independent consultants to carry out an audit of all of our programme work. We have published an internal evaluation of gender activities undertaken by partners, with INASP support.

Using INASP's own funds, we then undertook an organizational gender audit.

Supporting locally led-initiatives and piloting new work on gender has achieved local change and enabled learning

- We have supported partners in Ghana, Tanzania and Somalia to begin gender mainstreaming processes within their institutions and to provide support to women in research and leadership. We have also provided grants to enable grantees to investigate gender issues within their own institutions.
- Three female academics at the University of Dodoma initiated a gender mainstreaming programme within the institution. They also inspired two other institutions we work with to embark on gender mainstreaming by presenting on their work at meetings and through the video, Why not me? Why not us?.
- This partnership led us to co-develop a Gender Mainstreaming for Higher Education Toolkit with the University of Dodoma.

- The toolkit was used to support the Open University of Tanzania and the Council for Scientific and Industrial Research in Ghana to initiate a similar process.

By involving men and women and securing the support of senior leadership, partners have made gender mainstreaming an inclusive and open process

- The Gender Mainstreaming in Higher Education Toolkit is designed so that men and women can be sensitized and actively take part in the mainstreaming process, recognizing that men can support and promote gender equality in both professional and personal spheres.
- Partners have demonstrated the importance of involving stakeholders from different disciplines and roles within the organization, to create a collective institutional platform.
- The University of Dodoma brought together academic and administrative staff, students, and senior leadership in discussions as part of their gender mainstreaming process. This brought in different perspectives, experience and knowledge, created a sense of shared responsibility and ensured the mainstreaming process was understood throughout the institution.
- We supported the Somali Institute for Development Research and Analysis (SIDRA) to initiate gender-focused work. SIDRA held 'knowledge exchange' events to bring together academics, researchers, students, civil society representatives and government officials to debate and discuss the challenges faced by women in research and academia. A policy brief and conference summary have been published.

Partners have sometimes found it advantageous to hold women-only events to enable experiences to be shared

- The University of Dodoma chose to hold its first workshop with 26 female academics, before embarking on the bigger task of sensitization among staff and students. The team found this initial workshop was an important space for women to come together, to reflect and share their professional and personal experience of discrimination and inequality and to consider how they could respond to the inevitable challenges that would arise during the process.

LONG-TERM COMMITMENT TO GENDER EQUITY

In Tanzania, Dr Mariam Hamisi's passion for supporting girls to achieve their potential started when she herself was in secondary school. She took the time to inspire younger girls in her school and in Girl Guides. She continued with that outreach into schools once she went to university to study to be a biologist, and now, in a senior academic position, she is part of a dynamic team at the University of Dodoma (UDOM) working to mainstream gender within their institution. "In African countries, most women don't manage to go up to higher or tertiary education. I count myself as a privileged woman, so I have to assist ladies so that they can learn from me," she explains.

Mariam is one of the team at the University of Dodoma that INASP has been working with on gender mainstreaming within that institution and also the development of the Gender Mainstreaming in Higher Education Toolkit (www.inasp.info/gendertoolkit).

Strengthening capacity in more difficult places

Alongside our core programme activities, in many cases working with existing partners or in countries where we had worked for many years, we identified the potential to bring the learning and expertise of INASP and our partners to strengthen research systems in more difficult contexts – where systems were fragmented or weaker, as a result of prior or on-going conflict.

Our pilot projects in Sierra Leone and Somalia gave us the chance to try out targeted interventions with relatively low resources

- Through desk research, commissioned studies, scoping visits and round table events and our online courses we investigated needs and mapped the system in both countries.

Iterative project development has enable us to manage risk and progressively increase our understanding of needs and country contexts

- In both the Somali regions and Sierra Leone our ability to travel to the country to work directly with partners was restricted, due to the Ebola outbreak in Sierra Leone and the security and kidnapping risks in Somalia.
- In both countries, new needs emerged as the project and other initiatives developed. Though regular discussion with partners, we identified and supported project activities incrementally, re-assessing needs and adjusting activities to test promising new areas of work or respond to new opportunities.
- This also allowed us to build mutual trust and confidence, enabling INASP to understand how well partners could manage funds, or at what pace the project could proceed.
- Our initial workplan in Sierra Leone evolved from a series of workshops on accessing and using online literature, to include interventions addressing local research publishing needs, and ICT systems.
- In Somalia the first 'knowledge exchange' event led to the development of a policy paper and training support for female researchers. We have also been able to support SIDRA with Moodle access and training for online facilitators, and guidance on the development of a research journal.
- Nevertheless, our 'feeling our way forward' approach has meant we have not always been clear about the scope of the work with immediate partners, thus limiting their ability to provide clear messages to their wider institutions or leadership, and resulting in some uncertainty at the end of the programme.

Working with business

In our work to support researchers and research institutions, we have leveraged and developed our relationships with private sector organizations who provide services to research and publishing.

Working with the private sector have enabled us to secure substantial discounts and considerable value for money for the programme.

It has also provided opportunities for encouraging publishers to use responsible business practices in developing countries.

ADAPTING AND USING TECHNOLOGY TO ADDRESS CHANGING CONTEXT

The Ebola outbreak during the period of this project highlighted to INASP the importance of developing our resources for distance learning and remote support – if staff, trainers and facilitators couldn't travel to the country, and in-country participants could not come together safely, there was a need for alternative solutions. The AuthorAID courses were adapted to address this need. Researchers were able to download a training component and then take that home to study when movement was restricted. In parallel, partners in country looked at ways to support their students and universities around the country developed resources to support students remotely.

- Our aim has been to influence from within the conversation, by maintaining good and constructive relationships with publishers, as well as recognizing that, until a transition to openly accessible research, and a more equitable global research system, is achieved, Southern partners still depend on affordable access to subscription journals. We have nevertheless promoted open access to partners and engaged in wider discussions.
  - In response to publishers seeking to develop new business in the South we developed a series of 'Principles for Responsible Engagement' – consulting publishers and library consortia – to encourage better business practices and foster a shared commitment. We used our Publishers for Development forum to both secure continued engagement and support from publishers, push for better practices, and enable partners to build their own relationships and present their own needs.

- Nevertheless, it has proven difficult to achieve significant influence, and we may not have been outspoken enough about the problems.

Building partnerships and networks

By bringing partners together through country and regional meetings we have encouraged the exchange of ideas, sought to emphasize local leadership, and aimed to foster the development of relationships to encourage future peer support.

- We have worked with the more experienced library consortia to provide peer support to less experienced consortia. A mentoring relationship has enabled members if the Kenyan Library and Information Services Consortium to support their Ethiopian colleagues. We have also brought the strongest consortia from Ghana, Kenya, Uganda and Zimbabwe to learn together, including at major publishing events.
- Experienced Associates from Ghana and Kenya have supported consortia directly, drawing on local knowledge and expertise to solve problems based on lessons learnt locally, in similar institutional environments and with constrained resources, rather than looking to solutions developed in Northern systems.
- AuthorAID partner meetings have enabled partners to share their approaches to establishing scientific writing courses, and to discuss the challenges encountered and how these might be overcome. Some trainers are now supporting colleagues at other institutions.
- Meetings of the Journals Online management teams in South Asia and Latin America have allowed the country teams to meet each other and to learn and share experiences about common challenges.
- The AuthorAID network has grown to become both a valuable network and provided further support to our 'embedding' partners.

Using knowledge and evaluation to improve what we do

We have continued to develop and refine our Monitoring, Evaluation and Learning (MEL) strategy over the course of the programme.

As well as monitoring progress against our indicators, we have used internal evaluations and both formal and informal learning sessions to guide iterative changes to the programme activities.

- We have used our MEL tools and frameworks to support INASP staff and partners to collect and use meaningful data, enabling teams to learn and adapt approaches.
- A series of internal reviews conducted during the programme, as well as end-of-programme internal evaluations, have enabled us to reflect, learn and adapt, within the programme wherever possible, and provided a foundation for future work. As part of our commitment to share learning with the sector, many of these have been written up and published under our Learning, Reflection and Innovations [publication series](#).
- We also explored different ways of improving our country knowledge, particularly to understand the dynamics of research and knowledge systems, and to map the landscape of which our project work was part. A series of country studies and country scoping or learning visits were undertaken, and these were used to stimulate further discussion and reflection during programme team meeting.

5 Stepping back – lessons for programme design and management

A programme at this scale, involving some 48 partner organizations, relationships with over 50 academic publishers and service providers, countless individuals, and with substantive project work in 24 countries, in addition to those accessing support through grants or through online services, has not been without its challenges. Many of these challenges are common to several partners and programme activities, some are unique.

We took the decision at the end of our previous programme PERI and the beginning of SRKS to responsibly exit from long-standing relationships with partners and to hand over services that we had been running, on behalf of countries, for up to 10 years.

The biggest challenge was how to manage this handover process in the most effective and responsible way, and ensuring we achieved good value for money in the process.

That challenge was increased by the shared interests of INASP, funders and partners for us to develop new work (for instance gender mainstreaming and working in 'fragile and conflict-affected states'). Because SRKS was funded by an accountable grant, we had a reasonable amount of flexibility to respond to these interests. This flexibility was also encouraged by programme managers at DFID and Sida at different times, because the SRKS programme allowed new streams of work to be explored. However, it also created additional challenges, and in some cases pressures for the team.

The end of a five-year programme, and in this case the end of a 15-year programme of support, merits some deeper reflections. We have sought to learn throughout the programme, but have not always been able to adapt it as we would have liked. Our own internal evaluations, as well as some lessons emerging from the external evaluation undertaken during the final year, have helped to clarify some of these.

Achieving change, and sustaining that change, requires a greater understanding of and investment in influencing key decision makers

- Achieving sustainability is hard. While this is not a new lesson for INASP, it bears repeating. We cannot immediately know how sustainable the programme's achievements will be, or if partners are on the right road. The indications are strong in some countries and with some partners, but we have been less successful in other projects and partnerships. Reflecting on this we can see a number of lessons.
- We need to understand and address the social and political dynamics within which partners work or projects are embedded, and to focus more on people and inter-relationships within national systems and within large organizations, like universities. This is likely to require greater investments on advocacy and influencing work – supporting partners to build their visibility and develop stronger relationships with key decision makers with the research system.
- While we undertook country-level analysis greater investment in these aspects may have been valuable.

Identifying the right partners is critical, as is being able to tailor support to meet their particular needs.

- Due to long-standing commitments from previous programmes, when SRKS began we were supporting partners in over 20 countries. However, it became clear that this was too many for us to devote sufficient time and resources to each partner, and to tailor our approach to each set of needs and circumstances.
- In addition, there is not always a match between an organization with a 'mandate' to provide a service, and an organization that is ready to take that responsibility on and to develop its capacity to do so. It is difficult to balance the desire to support local decision making and local ownership – for example, where an organization has initiated or secured or mandate to provide a service – with a pragmatic assessment of capacity or likelihood of an organization being able to manage and run a key service.

- We have addressed the breadth of SRKS during the course of the programme, by being clearer about 'readiness' and by focusing efforts on fewer countries and partners, in some cases, making difficult decisions to suspend work where partners were not ready.
- In future we may need to be readier to make the difficult decisions to stop providing support and to re-invest programme resources elsewhere.

The pace of change – increased by external factors such as the exploration of developing country markets by northern publishers – has been too fast for some partners

- For some partners the pace of change has been too fast and they have struggled to consolidate their capacity and make the organizational shifts required. The pace of change has been set primarily by external shifts, and notably in the publishing sector where a commercial push in Africa and Asia has created new pressures for local library consortia.
- In some cases, we have had to make a responsible exit, where partners were not fully ready to take on new responsibilities, even though publishers were approaching them, and where we were unable to provide the support needed.

Adapting the programme and responding to emerging learning by changing the support we provided was made difficult by the spending requirements, and particularly the extent to which spending to budget was treated as an aspect of programme performance.

- The programme was funded 70% by DFID and 30% by Sida. As a five-year programme we anticipated that we would be able to vary our spend across the years, rolling money forward if necessary to the following year. However, annual budgets set at the beginning of the programme were fixed in DFID's financial system, and underspending was considered a performance issue.
- This limited our ability to rethink our approaches, to pause activities until partners were ready, or to spend in different ways, because any delays in implementing activities, and spending budgets, led to a greater likelihood of underspending within the year.

6 Conclusions

INASP's Strengthening Research and Knowledge Systems (SRKS) programme, funded by DFID and Sida, produced significant achievements in research and knowledge systems in Africa, Asia and Latin America. It also enabled learning about capacity development of research and knowledge systems, which will be used to inform future work.

Southern-led organizational change and adaptive learning are important for strengthening research and knowledge systems in low- and middle-income countries. We observed how targeted interventions, in response to contextual understanding and working with local partners, can be effective. The programme demonstrated the potential of online learning, even where resources are constrained, and emphasized the value of paying greater attention to redressing inequities of opportunity within research systems, particularly with gender.