



DIGITALISING INTERNATIONAL DEVELOPMENT FOR INCLUSIVE SOCIETIES

ANNUAL REPORT 2018
spidercenter.org

ANNUAL REPORT

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MESSAGE FROM THE DIRECTOR

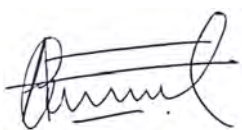
It has been another year full of exciting opportunities to promote the use of Information and Communication Technologies (ICTs), also referred to as digital solutions in this report, at the cutting edge of sustainable International Development.

This report emphasises the important role that inclusion plays in the Digitalisation of International Development. During 2018, we paid special attention to those who are at risk of being left behind by the global technological advances. Over decades of engagement in International Development, SPIDER has learnt that there is a particular lack of access to the benefits reaped by technological solutions among some marginalised population groups – due perhaps to personal characteristics such as gender, disability, educational attainment, age or sexuality. To this end, SPIDER has actively engaged its partners to focus on the needs of these marginalised population groups, and initiated a number of projects that directly address the needs of some of these groups over the past year – a trend we intend to maintain in the future.

Our network of actors in the Digitalisation of International Development has grown and our project portfolio is spread across Africa, South East Asia and South America. The work was again underpinned by research supporting implementation which ensured evidence and needs-based approach to project implementation.

SPIDER was also actively engaged with other funders in Digitalisation of International Development to ensure collaboration, maximise synergies and minimise fragmentation of digital development initiatives in partner countries. SPIDER is one of the organisations that forged the Digital Investment Principles. The Digital Investment Principles website is hosted by SPIDER.

SPIDER is very grateful to Sida and all our other partners that helped deliver the exciting results reported herein. We look forward to further fruitful collaborations as we work towards a more equitable world where benefits of digital solutions are accessible to all wherever they live whenever they need them.



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Director



SPIDER STAFF



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SPIDER BOARD



Ulf Pehrsson
Board Chair



Judith Owigar



Rodrigo Garay



Susanne Guidetti



Laura Hosman

Development Partnerships

In 2018, SPIDER had over 200 partners, 116 projects and worked in 23 countries. SPIDER will continue to work towards a future where access to the benefits of Digital Development is inclusive and determined by needs rather than one's location, age, gender or socioeconomic capabilities - a world where technology is not a luxury for a few but a means to better well-being for all.

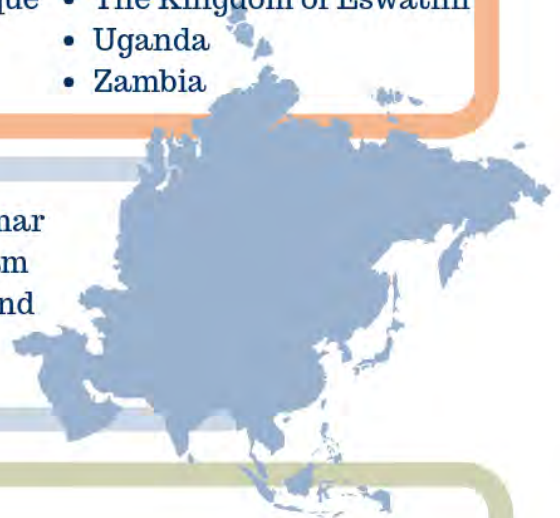
SPIDER COUNTRIES



- Botswana
- Liberia
- Rwanda
- Burundi
- Malawi
- Tanzania
- Ethiopia
- Mozambique
- The Kingdom of Eswatini
- Kenya
- Namibia
- Uganda
- Lesotho
- Nigeria
- Zambia



- Bangladesh
- Myanmar
- Cambodia
- Vietnam
- Laos
- Thailand



- Bolivia

SPIDER 2018 IN NUMBERS

Social media followers



1,452



2,324

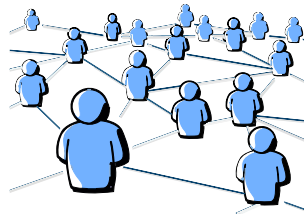


240



43

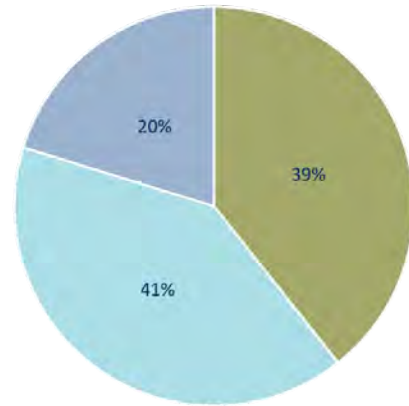
4 Networks



3 digital editions

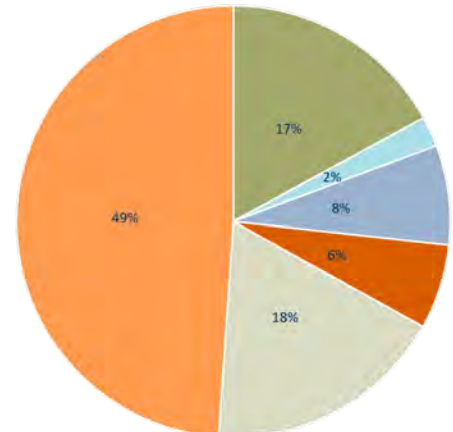


Research projects funding composition per thematic area



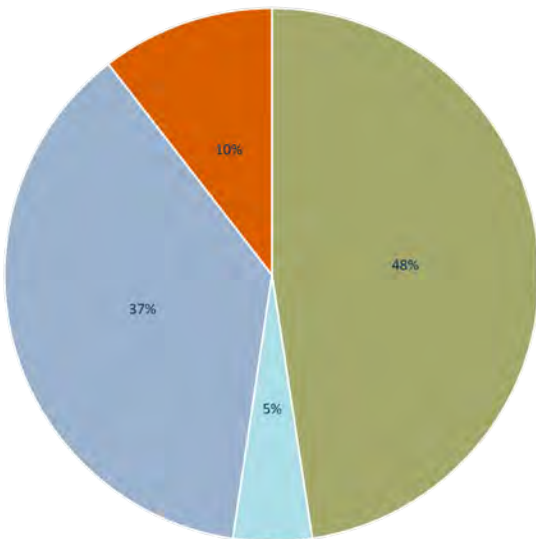
■ Transparency ■ Education ■ Health

Bi-lateral programme Funding composition



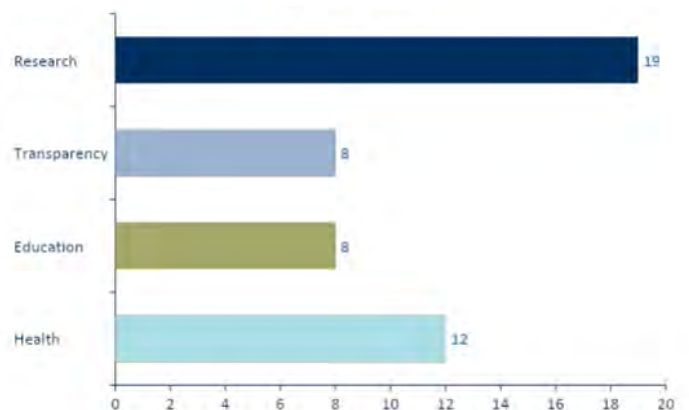
■ UMSA ■ UMS ■ UDSM ■ MUHAS ■ Costech ■ Makerere University

SPIDER fund composition (Total budget 31,5 MSEK)



■ Sida core funding ■ SU cofunding ■ ICT Regulation - Policy and Practice ■ Bi-lateral programmes

Projects per Core programme



Research on projects starting in Q4 2018 begins in 2019

SUMMARY OF KEY RESULTS

The Education programme had 8 projects that enabled 16,204 students to access quality education. It also supported vocational training of 1,508 women and men, pedagogic training of 754 teachers and training of NUMBER researchers and 280 librarians on open access policy. These results contribute to the attainment of SDG 4.1, 4.3, 4.4 and 4.c.

The Health and Wellbeing programme supported 12 digital health projects that tackled communicable and non-communicable diseases, maternal and child health and strengthening of health care systems. The supported projects ensured inclusion by directly addressing the health needs of marginalised groups such as the sexual minority, disabled and young people. The above results contributed to SDG 3, 5, 10 and 17.

The Transparency and Accountability (T&A) programme supported 8 projects and mainly worked towards attaining SDG 16.6 (develop effective, accountable and transparent institutions at all levels). This was done through supporting

organisations that collect, aggregate, disseminate and use Open Data in digital and machine readable formats.

The supported T&A projects documented and made information freely available to the public. The programme also supported the training of journalists on aspects of accountability reporting.

The Research programme supported bi-lateral sub-programmes and 19 implementation projects through planning and delivering baselines, real-time result follow up and by conducting evaluations and impact assessments. We ensure that marginalised voices are heard and included in interventions. The programme contributed to the attainment of SDG 9.5, 12.a and 17.6 by enabling research investment, capacity, and cooperation among partners.

SPIDER also managed four networks, and an International Training Programme (ITP) which provided training to 51 regulators from 15 countries.

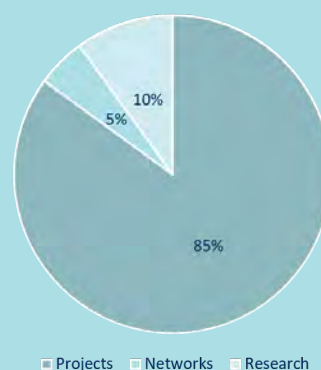
Development Programmes

SPIDER manages various programmes, each of them supporting a number of projects and networks. The programmes include SPIDER core programmes (Health & Wellbeing, Transparency & Accountability, Education & Learning, and Research), bi-lateral sub-programmes and an International Training programme for ICT Regulators. To accomplish a larger scale change, collaboration and learning, SPIDER manages, coordinates and disseminates results from these programmes. Highlights from programmes and networks managed in 2018 are captured below.

HEALTH AND WELLBEING

The focus of the Health and Wellbeing Programme in 2018 was to strengthen Digital Health (DH) systems for Universal Health Coverage (UHC). This was done through global networks, projects and research to achieve increased capacity and sustainable investment into DH systems.

Health & Well-being
(total budget: 3.0 MSEK)



As a result of an open call, four new health projects became part of the existing Health and Wellbeing Programme, which all use human centered technology to systemise processes for better health outcomes. SPIDER intensified its role among global funders for digital investment into sustainable digital health systems through application of the Digital Investment Principles.

Results at a glance

2018 was a year of strengthening our networks and showing the value that SPIDER adds to the DH field and to the achievement of Sustainable Development Goals (SDGs). Some of the new projects in 2018 focused on supporting minorities in refugees camps. SPIDER also contributed to the International Telecommunication Union (ITU) and World Health Organisation (WHO) Afro leadership training in Digital Health.

3 GOOD HEALTH AND WELL-BEING



The programme met targets in making health content available as well as providing training to health staff in the use of technology for patient management, showing how digital tools simplify health data management and decision making. Training given also increased the understanding of digital health inclusiveness and equitable health challenges.



SPIDER and iReady partners in Mozambique at a workshop in 2018

- Two SPIDER workshops were delivered to partners and collaborators in Burundi and Mozambique to improve collaboration and understanding of digital health.
- SPIDER was part of the Donor Principle group that developed and launched the Digital Investment Principles.
- Two SPIDER digital health projects in Bangladesh and Ethiopia focused on mobilising frontline health workers through digital capacity development. Outcomes of these projects have informed the roll-out of some of the digital health solutions at national level. Results and impact models were presented by SPIDER partner mPower at ICT4D conference in Lusaka and at the #IT-Impact seminar in Kista, Sweden.
- A needs assessment among SPIDER digital health network members was carried out to plan network resource development that can be widely shared with partners and collaborators.

ALL HEALTH AND WELLBEING PROJECTS IN 2018

- Digital African Health Library (Institute of Family Medicine of Kenya)
- Mobile Health for Improved Maternal and Child Health Services Utilization (AMREF Health Africa - Ethiopia)
- iReady Burundy (International HIV/AIDS Alliance*)
- iReady Mozambique (international HIV/AIDS Alliance*)
- Digital Health Information and Services in Rwanda (Babylon and Viamo, Rwanda)
- mCARE in Bangladesh (mPower Social Enterprise Ltd)
- Zambia eHealth Need Assessment for Community Health Workers (mPower Social Enterprise Ltd)
- Telehealth for Cervical Cancer Screening in Uganda (Uganda Cancer Institute)
- Facilitating Adolescent Health Education and Human Rights Abuse Reporting through Mobile Devices in the Rohingya camps of Bangladesh (mPower Social Enterprise Ltd)
- SPIDER ICT for Health & Wellbeing Network 2018/2019 (mPower Social Enterprise Ltd)
- Digital Vouchers and Improved Messaging for Adolescent-friendly Contraceptive Services (Maisha Meds Kenya)
- Data for Action: Improving Quality of Care for Women and People with Disabilities (CCBRT Tanzania)

*Frontline AIDS since 14 February 2019

Selected Projects

iReady Mozambique

Partner organisation: International HIV/AIDS Alliance and REPSSI Mozambique.

iReady Mozambique is one of two projects that gives young people and sexual minorities living with HIV the possibility to use digital tools to access information on sexual and reproductive health and rights (SRHR). SPIDER delivered a workshop in Mozambique as part of its capacity building effort on SRHR issues. A similar workshop was held in Burundi by the iReady Burundi Project. The seminar in Mozambique hosted over 20 organisations and public partners.

Prior to the workshop, a needs assessment was conducted and the findings clearly indicated that information on sexual health is already digitalised but young people lack access to safe/non-discriminatory services, and more than this they lack the appropriate psychosocial support.

The project now seeks to map available services and extend support to young people and adolescents living with HIV and improve partnerships for building a service-system for the iReady movement.

Digital African Health Library

Partner organisation: Institute of Family Medicine of Kenya.

Digital African Health Library (DAHL) is a point-of-care health information resource designed to empower the end users, especially nurses and clinical/health officers with full access to online materials so they can improve care for patients. It is a platform for lifelong learning.

The implementation of DAHL project was successful. Health information resource mobilisation is progressing. Six out of eight sub-categories of health information resources were implemented. The DAHL application was made valuable through upgrades and enhancements of user interface.

A localised payment option for those who need access to DAHL is now functional in Kenya through PesaPal payments and will be extended to Uganda and Zambia in future. The project is at the closing stage and the solution is available for institutions and individual users in East Africa through user subscription.

Mobile Health for Improved Maternal and Child Health Services Utilisation

Partner organisation: AMREF Health Africa - Ethiopia.

Maternal and infant death rates are high due to the low level of skilled attendance at delivery which in turn is influenced by the low antenatal care service utilisation.

AMREF Health Africa - Ethiopia has implemented a mobile health information system with the aim of improving uptake of existing ante-natal care (ANC) and post-natal care services (PNC). Early detection and registering of pregnant mothers increased from 60% to 82% during project implementation.

Provision of ANC1 services increased from 60% to 91%, ANC4 services increased from 33% to 68%, facility



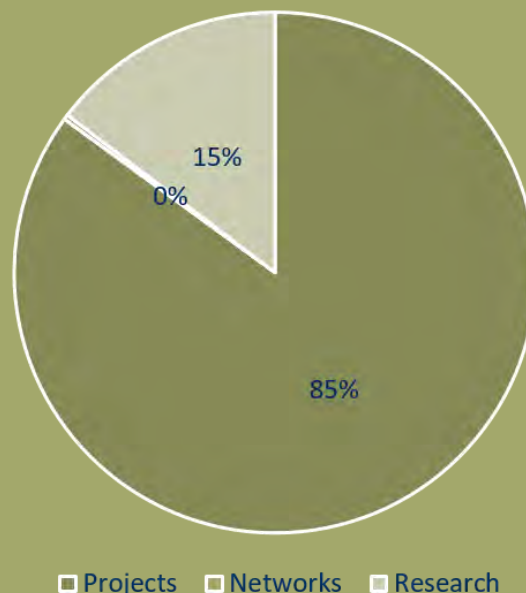
AMREF Health Africa visit to SPIDER in 2018

delivery services saw an increase from 53% to 79%. Home deliveries/births declined from 47% to 21%, PNC service increased from 20% to 52%. The project was extended to mid 2019.

EDUCATION AND LEARNING

The programme is responsive to the needs of key groups and is currently working with four groups by reducing gaps in literacy and numeracy among students at primary and secondary level through teacher training pedagogy using digital platforms. The programme is also equipping poor rural communities with in-demand employable skills through digital platforms. Lastly, tertiary institutions are supported to adopt appropriate policies to enhance free and scientific open access journals.

Education & Learning
(total budget 4MSEK)



The programme supported 8 projects, with 4 focusing on student centric learning in primary and secondary schools by training teachers in pedagogy and creating and using digital content. The 5th project is providing students and researchers at 33 tertiary institution access to Open Education Resources while the 6th project focuses on inclusion for deaf people by creating digital content to be integrated in schools and other public service providers. The 7th and 8th projects are on vocational skills, where the key groups are learning new skills through ICTs.



Results at a glance

In 2018, the programme contributed to SDG 4.1 by enabling 16204 students from 72 institutions of learning, (33 universities, 6 primary, 33 secondary schools) in Bolivia, Kenya, Uganda, and Tanzania to access quality education.

Among the challenges, are girls and women's lack of empowerment and access to education in primary, secondary, tertiary, vocational schools and refugee camps. The programme addressed these gaps by including the key groups in the design of the digital content and by following the Principles for Digital Development.

- The vocational skills projects contributed to SDG 4.3 and 4.4, with vocational training of youth (1408), widows (8), widowers (2), women and men in Rwanda and Zambia. The key groups benefited from being trained in employable skills by forming financial saving cooperatives and in the process increased their social and financial capital.
- Research administrators and managers, researchers, PhD students and 280 librarians were trained on open access policy and how to manage open access journals. SPIDERS work with tertiary institutions transformed the 33 universities on how students and researchers access and share knowledge at

their own institutions and others. By moving publications from print form to electronic, it enabled more people to access the information.

- 754 teachers received pedagogic teacher training and learned how to integrate ICTs into their curriculum. This is a contribution to SDG 4.c. State schools in Bolivia benefited from the teacher training in digital skills that equipped the teachers with the knowledge to use the digital teaching platforms deployed by the Ministry of Education. For example, the KUA platform which focuses on geography and mathematics equalises the competitive advantage that private schools have and is now accessible in the state schools that SPIDER supported. The teacher training in pedagogical skills in the refugee camps, in Nakivale in Uganda and Nyarugusu in Tanzania resulted in teachers creating digital content and using it in the classrooms.

ALL EDUCATION AND LEARNING PROJECTS IN 2018

- Open Access Policy Development in Kenya, Tanzania and Uganda to Make More Digital Content Available (EIFL - Electronic Information for Libraries)
- Let Us Learn to Teach Using ICTs (Fundacion La Paz)
- Digitalising the Ugandan Sign Language (UNAD - Uganda National Association of the Deaf)
- Enhancing Early Grade Literacy and Numeracy Using Digital Content among Primary Schools in Refugee-Villages in Nyarugusu Camp, Kigoma Tanzania (University of Dodoma)
- Mathematics and Language through the use of ICT4D in the Municipality of Uncia, Northern Potosi, Bolivia (World Vision Bolivia)
- E-Learning and Multimedia Technology for Mathematics and Basic Health Education in Nakivale Refugee Camp (Mbarara University of Science and Technology)
- Children and Women Headed Households in Self Help Programs (Ndola Nutrition Organisation)
- iRebero Smart Community: Driving Employability and Self-Sufficiency through an ICT Ecosystem Model (Sangwa Job Training Center)

Selected projects

Children and women headed households in self help project in Zambia

Partner organisation: Ndola Nutrition Organisation.

The project provided agricultural training to participants from women- and children-headed households in the Copperbelt province of Zambia.

By December 2018, 893 women from women headed households had been trained in growing soybeans.

765 women and 117 children from child headed households were trained in smallholder chicken rearing. Women, girls and indirect key groups were actively engaged in poultry and

soybeans production. The training sessions were conducted through tailored digital content produced by the Ndola Nutrition Organisation and through YouTube videos. A total of six agricultural cooperatives were created and a memorandum of understanding was signed between the poultry cooperatives, the federation of soybean and Nashi organics.

Once the soybeans are harvested, Nashi organics has the first option to buy the produce. A dry spell affected the project catchment communities and affected the yield of soybeans.

Zambian women trained in chicken rearing and soybean production





EIFL project participants at repository training

Open Access Policy Development in Kenya, Tanzania and Uganda to make more digital content available

Partner organisation: EIFL.

The project works towards adaptation and implementation of Open Access (OA) policies at institutional and national level in East Africa.

In 2018, this project was scaled from 16 universities to 34; in Kenya (14), Tanzania (13) and Uganda (7) resulting into 13.34% increase in digital content (21,565 research outputs).

Most of the universities were affected by the institutional research ecosystems which affected the actual number of research outputs and delayed the Open Access (OA) policy uptake. The strategies undertaken by EIFL and consortia members was to lobby for better infrastructure and provide consultation and mentoring to improve institutional repositories.

In 2018, 13 OA policies were adopted in Kenya, 6 in Tanzania and 3 in Uganda. Another 21 OA policies were drafted, discussed and compared to the initial target of 16 OA policies. By the time of writing this report the EIFL team and the consortia were discussing how to involve more Universities from the Region.

E-Learning and multimedia technology for mathematics and basic health education in Nakivale Refugee Camp, Uganda

Partner organisation: Mbarara University of Science and Technology.

The project is strategically incorporate ICT into the teaching and learning of mathematics and basic health education in disadvantaged schools in Nakivale refugee camp, in rural southwestern Uganda. This project is the second one carried out in a refugee camp within the education programme and has a high student:teacher ratio. It started with a needs assessment to explore the readiness of the teachers and learners to implement the project.

The needs assesement revealed that teachers lacked access to modern teaching resources, computers and the Internet, and high rates of computer illiteracy.

The project provides teacher training. 20 teachers and 12 peer educators were trained in basic computer skills, Internet usage and use of an e-learning portal with digital content in mathematics and basic health. The e-learning portal was customised based on the needs of the teachers and students. Multimedia videos were recorded and used in the portal but are also available offline in portable DVD players. 1052 students in 5 primary schools and 400 secondary school students had access to the digital content.

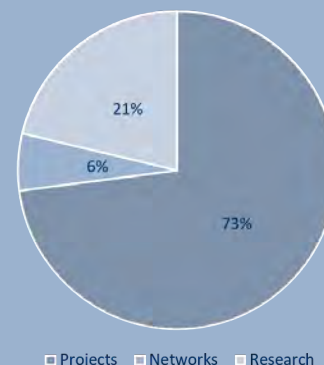
e-Learning in one of the Nakivale Refugee schools, Uganda



TRANSPARENCY AND ACCOUNTABILITY

Open, reliable and impartial digital information about key sectors and industries is the foundation of transparency, decisions and informed organisational and individual action. SPIDER does not focus only on the data itself but on the needs and capabilities of end users.

Transparency & Accountability
(total budget 2,7MSEK)



The transparency and accountability programme focuses on establishing long term collaborations between organisations who create and share data and information and various user groups ranging from citizens, CSOs, NGOs, journalists and media houses, and local and national government actors.



Results at a glance

SPIDER partners shared 192 datasets and articles that attracted over 438 472 page views and 28 231 downloads of datasets and meta data across South East Asia. Partners continued to build collaborations with data users among NGOs, CSOs, citizens, journalists and local government. Partners also made significant progress with local and national authorities in key development processes. Open Development Cambodia developed a collaboration with the Ministry of Planning to support the latter in the Voluntary National Review of the SDGs. Phandeeyar established a collaboration with a working group on extractive industries.

ALL TRANSPARENCY AND ACCOUNTABILITY PROJECTS IN 2018

- Media for Transparency and Accountability Uganda (Collaboration on International ICT Policy for East and Southern Africa)
- Public Awareness of and Engagement in Government Services (East-West Management Institute, Inc., Open Development Cambodia)
- Open Data to Monitor the SDGs in the Mekong Region (East-West Management Institute, Inc.)
- ICT4D Solutions Incubator Cambodia (InSTEDD iLabs South East Asia)
- Using Open Data to Enhance the Quality of Public Service Delivery (Open Development Cambodia, STAR Kampuchea, Cambodia Center for Independent Media)
- Strengthening Effective and Efficient use of ICTs and Women's Socio-economic Empowerment to Promote Accountability and Transparency for Improved Service Delivery (Women of Uganda Network)
- Open Development Myanmar (Phandeeyar)



Selected Projects

ICT4D Solutions Incubator Cambodia

Partner Organisation: InSTEDD iLabs South East Asia (InSTEDD).

The project allows Cambodian NGOs and CSOs to explore how technology can support their work. Based on the needs and ideas of CSOs InSTEDD prototypes, incubates and pilots solutions that focus on concrete local problems faced by various groups.

In 2018 InSTEDD successfully prototyped, piloted and launched a career counselling app (Trey Visay) as a digital complement to the work carried out by counsellors. The app supports secondary school students in thinking about their futures and careers in a systematic and informed manner. The app can also support teachers and counselors in motivating youth to stay in school and find an appropriate career path.

InSTEDD has held several ideation events with Cambodian small scale farmers to identify areas where technology can be of use. By the time of writing this report, the project was piloting a soil testing kit that would enable farmers to ascertain the levels of a number of agricultural chemicals to help farmers to treat their land correctly.



Coding class at InSTEDD iLab,
Cambodia

Open Development Initiative

Partner Organisations: East-West Management Institute, Inc. (EWMI), Open Development Cambodia (ODC), Phandeeyar.

SPIDER supports six different Open Data platforms that collect, compile, clean, update and share information about various industries and spheres. The open source platform was initially developed by EWMI in 2013 for ODC. From there the work and approach spread. Platforms were established and running in Cambodia, Laos, Myanmar, Thailand, Vietnam and a regional platform for Mekong was created. During 2018 EWMI carried out a platform upgrade to achieve better cataloguing with increased data discoverability between partners to search, mix and match and better visualisations. During 2018 all of the partner organisations met for the first time in Yangon, Myanmar to share experiences.

Phandeeyar held several intensive data cleaning sessions that enabled an extended partner, the Myanmar Alliance for Transparency and Accountability, to successfully petition the government and private companies to disclose critical data about revenues from the natural resources sector.



Training of trainers at InsTEDD iLab, Cambodia

Using Open Data to Enhance the Quality of Public Service Delivery

Partner Organisations: STAR Kampuchea (SK), Cambodian Center for Independent Media (CCIM) and Open Development Cambodia (ODC)

ODC was the first organisation to develop and use the open data platform and has worked with data contributors and users since 2013. During 2018 the ODC team published and updated major sections of the website “Services delivery at health center”, “Public transportation”, and “Electricity license coverage”. ODC collaborated with CCIM who use radio to raise awareness and engage duty bearers and service providers in dialogue with citizens, and SK worked closely with grass root communities, public service providers and local government.

The three organisations supported the Implementation of the Social Accountability Framework. During 2018 the project held 4 forums for citizens and duty bearers where 22 issues were brought to the attention of the local accountability committees and 13 of these were resolved.

CCIM radio station VoD aired 32 radio shows related to the project. The radio station was put off the air and as result it started broadcasting on Facebook. The transmission reached a smaller and different audience than originally intended.



Open Data Network meeting in Yangon

RESEARCH PROGRAMME

Research is integrated throughout the implementation of every SPIDER funded digital development project to ensure that initiatives are based on accurate and locally contextualised evidence to make sure that initiatives are beneficiary centred.

In 2018, the research programme supported implementations of 19 SPIDER projects. The research programme also works towards supporting other programme areas with needs assessments, baseline studies and impact assessments. The planning of projects, the follow up on implementation of project activities, and the evaluation of results were all informed by research.

Results at a glance

- Research supporting implementation has enabled marginalised voices to be heard and included in interventions.
- SPIDER digital development projects were evidence based, well documented and were shared with stakeholders.
- The programme strengthened capacity building. Researchers are locally-based and recruited from local research institutions.
- The involvement of local researchers in digital development empowered researchers to address development challenges and to leverage on their local knowledge whilst solving those challenges.
- The research programme managed and coordinated the IPID network. Four research activities were implemented in 2018.
- Exchange of best research and implementation practices among researchers and research institutions occurred through research collaborations.

ALL RESEARCH PROJECTS IN 2018

- ICT4D Solution Incubator Cambodia (Monitoring and Evaluation Association)
- Digital Uganda Sign Language Project (Uganda National Association for the Deaf)
- mCare (Brac University, Bangladesh)
- Let's Learn to Teach the Use of ICT (Fundacion La Paz)
- Digital African Health Libraries (INFA-MED)
- Open Data to Monitor the SDGs in Lower Mekong Region-EWMI (World Wide Web Foundation, Indonesia)
- iReady Mozambique (Academia Mozambique)
- Public Awareness of and Engagement in Government Service Delivery (ODC)
- Strengthening Effective and Efficient Use of ICTs and Women's Socio-economic Empowerment to Promote Accountability and Transparency for Improved Service Delivery in Eastern and Northern Uganda (Uganda Technology & Management University)
- Open Access Policy Development in Kenya, Tanzania and Uganda to Make More Digital Content Available (Intellipro)
- Enhancing Early Grade Literacy and Numeracy Using Digital Content among Primary Schools in Refugee-Villages in Nyarugusu Camp, Kigoma Tanzania (Dodoma University)
- Mathematics and Language through the use of ICT4D in the Municipality of Uncia, Northern Potosi, Bolivia (University Catholic Bolivia)
- Media for Transparency and Accountability Uganda (CIPESA)
- E-Learning and Multimedia Technology for Mathematics and Basic Health Education in Nakivale Refugee Camp, Uganda (Kampala International University)
- iReady Burundi (APTS - Association pour la Promotion des Sciences et Technologies)
- Mobile Health for Improved Maternal and Child Health Services Utilisation (AMREF Health Africa - Ethiopia)
- Children and Women Headed Households in Self-help Program (University of Copperbelt)
- ICT4Public Accountability (Afritech)
- Improving the Delivery of Public Services through the Use of ICT (ODC)



Selected Projects

Mobile Health for Improved Maternal and Child Health Services Utilisation.

Research partner: AMREF Health Africa Ethiopia.

AMREF Ethiopia has been implementing mobile health solutions to improve and increase access to maternal and child health services.

One of their mHealth pilot projects supported by SPIDER is implemented in the North Shoa zones of Ethiopia's Amhara Region. SPIDER funded research was carried out in the project area to study how the mobile health solutions have impacted the lives of health care receivers and providers. The baseline study shows varying experiences both positive and negative for mothers, midwives, health extension

workers and other users. For example, text messaging is preferred for accountability and feedback purposes.

Although mobile health services were perceived to be useful, challenges including poor network coverage, language barriers and communication errors from the mHealth information system were experienced. The research findings were shared with the project implementers to inform further the implementation of the project.



Ethiopian expectant mother on a KAREZA (a traditional ambulance). Image: AMREF.

E-learning projects in refugee camps.

Research partners: University of Dodoma and Mbarara University.

In 2018 SPIDER supported two e-learning projects in refugee camps, one in Nakivale refugee camp in Uganda and another in Nyarugusu refugee camp in Tanzania. Poor infrastructure facilities and hygiene conditions, numbers of teachers and the constant movements of refugees are some of the factors which affect learners' access to education services in these camps.

In 2018 SPIDER worked with Kampala International University to study how ICT can be incorporated into the teaching and learning of mathematics and basic health education. The research carried out a baseline in five primary schools and one secondary school. The findings from the baseline study were shared with the implementation team to inform project interventions.

Similarly, in Nyarugusu refugee camp SPIDER collaborated with University of Dodoma to use research in providing feedback to the project on how ICTs can be used to improve early grade literacy and numeracy.

The research carried out in the camp school was not only instrumental in terms of revising the school curricula and the methods of teaching, but also helped to identify the education challenges and needs of students and teachers. These findings have been shared with different stakeholders.



Researcher with students and teachers in Nyarugusu refugee camp, Tanzania

Public Awareness of and Engagement in Government Service Delivery.

Research Partner: Open Development Cambodia.

Research supporting implementation found that promoting the Open Development Cambodia (ODC) platform needs to go beyond Facebook and live events. ODC has now developed additional promotional material such as wristbands and has gone further with a QR code for the ODC website.

There are plans for the website to incorporate video services in order to increase engagement. Resources on the platform were limited, for example there was a restricted use of health services and government procurement processes. Marketing the platform will now go beyond to delineate the various information services available for access.

The baseline study found that most access to the ODC platform was done via mobile devices. ODC is considering developing a mobile app to improve user experience. As a step in that direction, ODC promotional teams now use mobile devices when presenting the ODC platform at public events.



ODC team in Phnom Penh, Cambodia

Digital African Health Library

Research partner: Institute of Family Medicine of Kenya.

The first objective of the Research Supporting Implementation was to establish the extent to which smartphone access to information on medical issues and clinical decisions can influence self-reported change in the practice of Kenyan residents training in family medicine.

A study of Kabarak University family medicine residents found that they reported significant changes in their planning for care patients due to increased information availability.

- The plan for care reported significant upward growth due to the availability of information.
- The change in care in relation to the clinical outcome of the patient also reported improvement.
- Half of the clinicians in the sample, reported that the availability of resources on the Smart Phone allowed immediate responses to patient questions at the point of care.

The second objective focused on compiling an audit of the relative frequency of use of existing DAHL resources.

This audit provided information on the instances of use for each of the resources in DAHL by all the subscribers in Africa. The following resources were frequently consulted:

- Comprehensive Advanced Life Support – an emergency skills manual.
- Oxford Hand books.
- The Kenya clinical guidelines.
- The British National Formulary.



Open Data to Monitor the SDGs in the Lower Mekong Region

Research partner: World Wide Web Foundation – Indonesia

Research supporting implementation focused on challenges and risks associated with the open data movement in the Mekong region. The study found that the open data movement was in its infancy in the region.

The study relied on a PEST analysis to explore the political, economic, socio-cultural, and technological condition of in-country and cross-border data sharing practices that may support the practices in Cambodia, Laos, Myanmar, Thailand and Vietnam.

An analysis of each country's open data readiness showed varied laws and efforts informing each country's approach to open data. This also means that open data maturity is at different stages. With the exception of Thailand, civil society organisations drive

the open data growth in the countries. Most risks associated with open data can be categorised as:

- Legal risks – with copyright violations in light of missing licensing information and data misuse.
- Technical risks – data hacking and virus malware are prevalent, including low data quality as a result of format of presentation, duplicated data or reliability of the data sources.

The absence of legal and administrative frameworks related to data sharing between countries in the Lower Mekong region as well as the differences in the regulations concerning copyright and licensing issues have adverse impacts on cross-border data sharing.

The Open Data Mekong partners will work with the research findings and the recommendations to mitigate the risks associated with open data.



iReady Mozambique

Research partner: Academia Mozambique.

The project's baseline sought to understand the information needs of the adolescents and young persons living with HIV, and through which digital channels they would like to receive the information.

The 98 interviewees of the baseline study fall into the age brackets: 10-14, 15-19, 20-24. All research participants lived in poor communities and those above the age of 15 belong to self-support groups and associations and were living with HIV.

Some of the girls, aged 15-24, have dropped out of school and are single parents. They travelled to the interview sites with their babies and have been attending evening classes since dropping out of school.

Their everyday life challenges are:

- Family was the major source of stigma because parents and other family members rejected young adults who had become parents while having no job prospects and were living with HIV.
- Sexuality is not openly discussed in public or private. Young people who identified as homosexual did not know who to talk to or where to find information.
- Poor psychosocial support with mostly unqualified and unfriendly staff was discussed.
- The need for vocational training and employability skills that would address the socioeconomic vulnerability experienced.

The interviewees use WhatsApp and Facebook but use these social media sites sparingly to save costs. Therefore sharable downloadable offline content should be considered.

BI-LATERAL PROGRAMMES

In coordinating five different bi-lateral sub-programme partnerships, SPIDER is in a unique position to facilitate South-South knowledge exchange and digital solutions in addition to the cooperation with Stockholm University and other institutions in Sweden. The bi-lateral sub-programmes are coordinated within SPIDER's research programme.

The University bi-lateral programmes that are part of SPIDER's portfolio work with Information Technology (IT) infrastructure development and expansion, systems development and maintenance, and capacity building of IT personnel at partner universities. SPIDER is strategically placed at the Department of Computer and Systems Sciences (DSV) at Stockholm University to coordinate the exchange of expertise and knowledge between IT units at the partner institutions and Stockholm University.

Results at a glance

- SPIDER supported the initiation of Bolivia's national universities scientific communication network.
- SPIDER facilitated benchmarking visits to Sweden for Makerere University in Uganda and Tanzania Commission for Science and Technology (COSTECH). The visits focused on research communication and capacity-building through use of ICT.

Bi-lateral projects in 2018

● **Muhimbili University of Health and Allied Sciences (MUHAS)**

Muhimbili University of Health and Allied Sciences: Strengthening a Stronger MUHAS in Supporting Research and Innovation is a bi-lateral partnership with the Directorate of Library Services and the Directorate of ICT at MUHAS. In 2018, the project focus was to integrate six management information systems (MIS) with a single sign-on for staff and students. SPIDER and MUHAS continue to work on this activity. The project expects to increase usage of integrated MIS by 30% for students and 50% for staff by June 2020. The Directorate of Library services has created a facility for those who are deaf and hard of hearing to have access to the digital resources in the library.

● UDSM

Strengthening Research Management at UDSM (University of Dar es Salaam) is a bi-lateral partnership with the office of the Director of Research and Publication. In 2018, the focus of this project was on implementing an open source solution (RIMS - Research Information Management System) shared by the bi-lateral partner Universidad Mayor De San Andrés (UMSA). The manuals developed for the RIMS are being translated from Spanish to English as integrating the RIMS into the work processes at UDSM continues.



UDSM - Business School

● COSTECH



COSTECH Staff during their visit to Sweden

The Tanzania Commission for Science and Technology (COSTECH) is a bi-lateral partnership with the Directorate of Knowledge Management focusing on activities involving Research Communication. SPIDER is also supporting a Research Management sub-programme that focuses on managing and promoting research integrity in Tanzania's R&D institutions.

In 2018 part of the project work, including development of the digital library, research management system, research repository and website restructuring was completed and the systems are now available for use. COSTECH's visibility in social media has increased thanks to those improvements. A number of knowledge products are shared through social media.



The Tanzania Commission for Science and Technology (COSTECH) building in Dar Es Saalam, Tanzania

● UMSA

The partnership with *Universidad Mayor de San Andrés* (UMSA) in Bolivia was extended during 2018 as UMSA and Sida were working on a new programme phase. During the extended period, SPIDER and UMSA have worked towards (a) improving research management and research communication, (b) identifying gaps in these areas for the next phase, (c) developing a new research management master programme, and (d) developing an official research career path.

A study week in Stockholm to benchmark research communication and research management was made.



UMSA-UMSS students

● Makerere University



COCIS & DICTS staff at DSV

The bi-lateral programme with *Makerere University* in Uganda focuses on integrating ICT-Based support in Research, teaching and innovations. SPIDER worked with the College of Computing and Information Sciences (COCIS) and the Directorate for ICT support (DICTS). In 2018, Makerere recruited 28 students to study a masters in computer and systems sciences. When they graduate some of them will be recruited to DICT to contribute to the staff pool. Three senior researchers from DSV travelled to Makerere to hold lectures on systems integration.

In November 2018, colleagues from DICTS and COCIS came to Stockholm for a visit to benchmark the systems and services the IT management team at DSV has implemented to support teaching, learning and research at the department. A key interest was how open source has been harnessed to support the university functions.

ICT REGULATION - POLICY AND PRACTICE

This international training programme (ITP) builds capacity of regulators by (a) providing training and supporting participants from ICT regulatory authorities, and (b) training representatives from regional regulatory organisations. The participants are guided to implement their change initiatives, and the regional organisations are equipped to harmonise successful initiatives and sustain results.

The programme supports strategic regulatory development in three regions in Africa. The cornerstones are the change initiatives that each participant implements while receiving training and regional support in the programme. Each change initiative is selected by the senior management of the regulatory authority. The programme rounds run twice a year, with training in Sweden in May and November/December and a regional follow-up phase 4 months into the implementation of change initiatives.

The selection of participating countries is made through dialogue with the regional regulatory organisations WATRA (for West Africa), CRASA (Southern Africa) and EACO (East Africa) following these criteria:

- Out of the 25 participants in each round, 15 participants should come from Sida partner countries and the remaining 10 participants are selected from countries proposed by the regional regulatory organisations.
- Participants for the rounds with training in Sweden in May, should come from countries within the WATRA and EACO regions. The participants for the rounds with training in Sweden in November/December, should come from the CRASA region.
- Participating organisations selects strategic projects as change initiatives that can be developed over several rounds.

Results at a glance

- 19 change initiatives were started by 25 participants in the programme round 2018A coming from 9 countries.
- 10 change initiatives were started by 25 participants in the programme round 2018B coming from 6 countries.
- 12 change initiatives were completed from the programme round 2017A.
- 24 change initiatives were completed by the programme round 2017B.
- In 2018A 6 out of 25 participants were women, and in 2018B 11 out of 25 participants were women. Gender-balanced groups are encouraged in the selection of participants.
- 4 staff from regional regulatory organisations were trained in 2018A.
- 2 staff from regional regulatory organisations were trained in 2018B.

Selected projects

Round 2017A, Country: Kenya

A change initiative that focused on the deployment of broadband services was implemented in rural Kenya and had a positive impact on society. The change initiative was characterised by innovative methods of overcoming resistance by operators to move into what is often perceived as non-profitable areas. A toolbox consisting of various incentives such as direct subsidies, waiver of licence fees, collaboration with government agencies to provide access to sites and electricity, cooperation with local entrepreneurs as well as time limited exclusivity to protect investment has been developed. So far more than 70 sites have been deployed and implementation of the project continues.

Participants from Southern Africa in the Regulator Programme Round 2018B



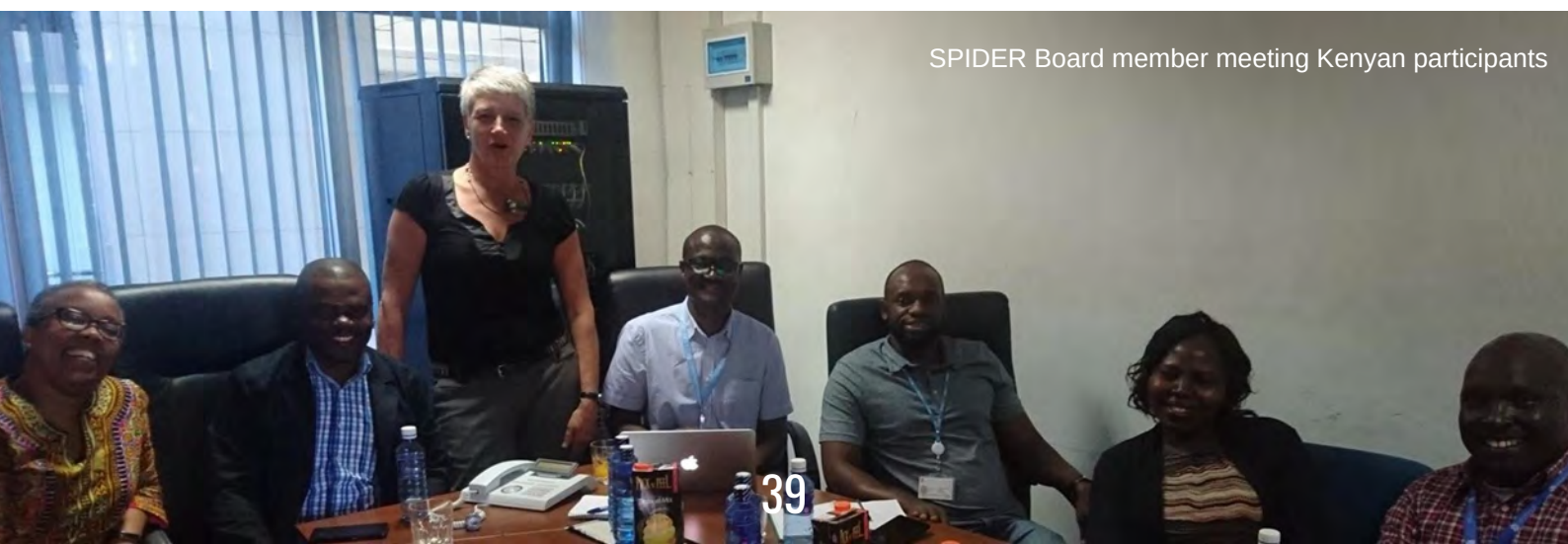
Round 2017A, Country: Uganda

A change initiative on the protection of underground infrastructure in Uganda, led by female participants from the national regulatory authority (Uganda Communication Commission), was successfully implemented and is up and running. In many countries, the problem with damaged infrastructure when digging is common and often leads to high costs for both society and telecommunications operators. With input from the web-based planning service for diggers “Ledningskollen” in Sweden and by benchmarking many other countries, a system adapted to local conditions in Uganda was developed. All major stakeholders such as the roads authority, suppliers of water and electricity and telecommunications operators have joined the initiative. The impact of the project is still to be seen but when the Swedish system was introduced damage to infrastructure was reduced by around 70%.

For information on the project, visit:
<https://www.ucc.co.ug/uccinfrastructure/>

Round 2017B, Country: Namibia

Another change initiative is the introduction of regulations in the field of competition in Namibia. This initiative is likely to have a positive impact on society and increase benefits for consumers and operators in the communications industry. Increased competition is a healthy component of any well-functioning industry and a major step forward in creating a vibrant telecommunication industry has now been taken. The initiative was well prepared and supported by the management of Namibia regulatory authority before it was further developed in the programme. New regulations are now in force and will assist the regulatory authority to steer the industry in the right direction.



SPIDER Board member meeting Kenyan participants

NETWORKS

SPIDER creates, contributes and maintains a number of networks in digital development. The networks include a myriad of experts, spheres of influence and origin. SPIDER fosters inclusion and equity and actively engages communities who are most affected by disparities and poverty.

Networks have been central in SPIDER's work since the very beginning and have been growing and developing into one of SPIDER's strongest capacities. In 2018, SPIDER has supported partner driven networks and also co-networked with partners in different events and settings.

SPIDER SUPPORTED NETWORKS

ICT4D Cambodia Network

Continues to build collaborations between Cambodian NGOs, CSOs, tech projects and organisations, and various levels of government. In a complex development setting, with many diverse actors and organisations the network provides an arena where different actors can meet. During 2018 the network held 5 sectorial network meetings focused on health, education and social advocacy.

The network has a total of 39 members of which 31 have participated in 10 different capacity building events and workshops. The Ministry of Post and Telecommunications (MPTC) suggested signing an MoU to build the relationship and collaboration with the network.

SPIDER Education Network

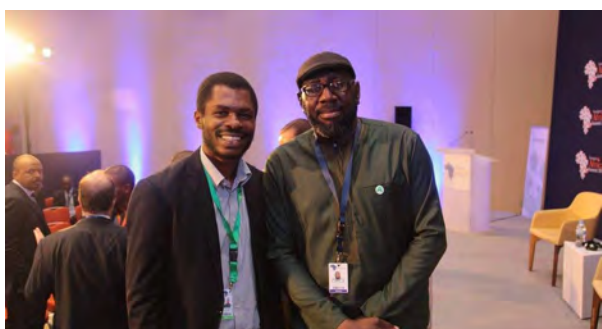
SPIDER is a Steering Committee Member of the Mobiles for Development Symposium, started by USAID and the World Bank. At the symposium SPIDER promoted the network and collaboration model as a path to achieving the SDGs and specifically outcomes in teacher training and students accessing ICT based learning. An example of this is when SPIDER provided UNAD the chance to attend the Mobiles for Development Symposium where they were introduced to World Bank and USAID. This facilitated the funding of a vocational skills project in where deaf youth were trained in various skills and matched with future employers.

ICT4Health & Wellbeing Network

This network carried out a needs assessment to identify needs and gaps as well as opportunities to make use of available expertise that can contribute to accessible resources in Digital Health. Besides SPIDER partners, the network also engaged other actors such as the African Alliance on Digital Health Networks to plan for a webinar series on Digital Health in 2019.

The ICT4SI Network

SPIDER sponsored the participation of the network lead at the Forum on Internet Freedom in Africa, #FIFAfrica18 in Accra. ICT4SI continued engagements with public organisations, companies, researchers and tech enthusiasts.



ICT4SI and ADHA at Transform Africa Summit 2018

IPID Network

IPID is the International Network for Postgraduate Students in the area of ICT4D (ICT for Development). The network has enabled collaboration between young and senior researchers through network meetings that piggyback on international conferences within the field of ICT4D, and local and regional network chapters that target local and regional researchers working with ICT for development.

In 2018 IPID organised two doctoral workshops and a seminar for ICT4D graduate students, researchers and practitioners. IPID also distributed 24 newsletters to registered network members.



IPID ICT4D Seminar at DSV-Stockholm University

ADDING VALUE TO DIGITALISING DEVELOPMENT

SPIDER has made contributions to digitalising development beyond planned work within core programmes. Our ways of working have led to unexpected outcomes.

SPIDER has been one of the leading actors in promoting Digital Investment Principles in order to support donors to health systems, as it is essential and urgent that donors' investments align with the partner countries' digital health strategies. This is necessary to enable countries to pursue an integrated approach to strengthening health systems, enhancing and extending the delivery of quality health services and improving data (and the capacity to use it) to improve health outcomes.

At the launch of The Digital Investment Principles or Donor Alignment Principles in Digital Health in October 2018, 33 organisations endorsed the principles. SPIDER hosts the website <https://digitalinvestmentprinciples.org> and has led events where the principles were discussed and promoted.

SPIDER facilitated a meeting between Uganda Communications Commission (UCC) partners from ICT Regulation - Policy and Practice Programme and Uganda National Association of the Deaf (UNAD). This resulted in UCC issuing a final notice to television broadcasters to have Sign Language translations by December 31st 2018, or have their licence revoked. The result is that almost all television broadcasters have Sign Language translation.

UNAD Retweeted

SPIDER @Spidercenter · 17 Oct 2018
We could not be prouder of SPIDER partners @unadeaf and UCC!
#SignLanguage #Uganda #ICT4D #DigitalisingEquality #ICT4Edu

This follows our rigorous engagement with UCC and Ministry of Information & National Guidance - Uganda that included a round-table meeting held on 11th April where we came up with a joint communique whose key focus was on ensuring accessible access to information for Deaf persons in Uganda.

Special thanks to our partners SPIDER Makda Abraham, Caroline Wamala Larsson, Edgar Nsheega for the support that facilitated this engagements.

#Dignity4EveryDeafUgandan

Eroku Simoni Prince, Caroline Wamala Larsson, Edgar Nsheega and SPIDER

Tweet about UCC's action

ADDING VALUE TO DIGITALISING DEVELOPMENT

SPIDER was glad to recommend and join partners COSTECH and mPower SE at the special meeting on Artificial Intelligence for Digital Health in Low and Middle Income Countries, hosted by Wilton Park in the UK. The information shared informs future guidelines on the topic and SPIDER emphasised the importance of localised leadership and support to innovative ecosystems and infrastructure in developing regions.

SPIDER participated in the Swedish Nigerian Innovation Day on 4 December arranged by the Embassy of Sweden and Business Sweden in Lagos, Nigeria. The purpose was to share Swedish innovation ICT solutions and SPIDER presented how ICT4D can contribute to poverty reduction. The ICT4SI Network was invited by SPIDER and were able to share their work. The ICT4SI Network members continue work despite lacking funding and members were able to participate at events hosted by the Embassy of Sweden.

PARTICIPATION IN 2018

23
EVENTS

SPIDER is a knowledge driven organisation that disseminates research and knowledge in different forums to support partner organisations, the international development sector and the national strategies of partner countries.

SPIDER has worked extensively to disseminate results and knowledge during the year through global, regional and national events. The vast range of participation stretches from arranging lectures, workshops and conferences through to participating as panelists and moderators at such events.



SPIDER's IPID network members at Uganda museum, Kampala, during Mobile M4D Conference in 2018

EVENTS IN 2018

LECTURES BY SPIDER TEAM

- SPIDER gave a lecture on inclusive education at Kampala International University, Uganda.
- A lecture on Digital Health was given at the Health Informatics programme at KI/DSV. The lecture led to a number of meetings with programme students to help guide their future research.
- SPIDER gives lectures on gender and ICT in the ICT Regulation - Policy and Practice Programme.
- SPIDER gives recurring lectures for Swedish Patent and Registration Office as well as Swedish Agricultural Sciences University.

TRAININGS

- SPIDER was part of the trainers team at the capacity building training organised by ITU in collaboration with WHO Africa in Lesotho. The training brought together representatives from health, telecommunication and ICT ministries in ten African countries.

Prof. Richard Heeks presenting at ICT4D Seminar organised by SPIDER



EVENTS IN 2018

WORKSHOPS

SPIDER participated in the following workshops during 2018:

- IPID open ICT4D Research Seminar on Academic Writing. The seminar targeted university post-graduate students and researchers and it was held on 6 November at the Department of Computer and Systems Sciences (DSV), Stockholm University.
- Conducted two workshops in two health projects, iREADY Burundi and iREADY Mozambique. The workshops were organised after the initial needs assessment was made available to help guide the review of project plans prior to implementation.
- Was part of two workshops at Wilton Park, Steyning, UK, one on Artificial Intelligence and Global Health 27-29 June, and the other on Digital Health Investments 3-5 December.
- New Technologies and SRHR, International AIDS Conference, 26 July.
- Donor Principles for Country Data System Investments - Digital Health Donor Convening, Santa Cruz, USA, 22-25 January.
- Led a workshop at Sida's Development talks, Stockholm 14 February. The workshop was about lessons learned on digitalising reporting.
- Organised the IT-IMPACT seminar on 22 October at DSV Stockholm University. At this workshop mPower CEO Mridul Chowdhury presented models and products that are developed to promote inclusion of people living in poverty through innovative models and human-centred technology. The recording from the event is available on SPIDER's homepage.
- Supported the meeting of our partners in Open Development Mekong in March to formulate a common strategy and discuss common challenges.

EVENTS IN 2018

CONFERENCES

- African conference for Human Computer Interaction (AfricHI) 3-7 December in Windhoek, Namibia.
- International Conference on Mobile for Development (M4D), 16-17 November in Kampala, Uganda.
- 5th International Conference on Technologies for Development, 27-29 June at the SwissTech Convention Center in Lausanne, Switzerland. SPIDER organised a session where research partners shared experiences of doing real-time research.
- World Summit on the Information Society (WSIS) Forum 19-23 March in Geneva, Switzerland. SPIDER was invited as a panellist.
- Ugandan Sign language symposium 19 September in Mbale, Uganda.
- ICT4D conference 8-10 May in Lusaka, Zambia. SPIDER supported a partner organisation to hold a workshop on the use of digital technologies for maternal and child health.
- International AIDS Conference 23 - 27 July in Amsterdam, the Netherlands.
- Internet Governance Forum (IGF) 12 - 14 November in Paris, France.
- World Health Summit 27 -29 October in Berlin, Germany SPIDER was part of the launch committee for the Digital Investment Principles.
- Forum on Internet Freedom in Africa, 26-28 September in Accra, Ghana.
- RightsCon on Human Rights in the digital age 16 - 18 May in Toronto, Canada.
- High Level Political Forum on SDGs 9 - 18 July in New York USA. Two SPIDER project partners presented on Open Data in Thailand and Cambodia.
- ITU Plenipotentiary Conference 29 October - 16 November in Dubai, United Arab Emirates.

EVENTS IN 2018

PANELS AND MODERATION

SPIDER staff were panelists at the following events:

- Postgraduate symposium at International Conference on Mobile for Development (M4D).
- African conference for Human Computer Interaction (AfricHI 2018) doctoral consortium.
- The World Summit on the Information Society (WSIS 2018) - Innovation Track.

SPIDER staff were moderators at the following events:

- Moderator at “New Technologies” IAS International AIDS Conference, in Amsterdam, the Netherlands, 26 July.
- Moderated two sessions at E-learning Africa in Kigali, Rwanda 26-28 September. Two SPIDER education and learning programme partners presented their work.
- Moderated two session on teacher training and accessible digital content at the 8th Annual mEducation Alliance Symposium in Washington DC, USA, 6-8 November
- Moderated a session at Tech4Dev Conference, 27-29 June in Lausanne, Switzerland.



2018

FINANCIAL REPORT

T&A	SEK
Personnel	874,656
Overhead	380,858
Projects	2,002,994
Networks	159,255
Research	583,597
TOTAL SUM	4,001,359

E&L	SEK
<i>Personnel</i>	770,859
<i>Overhead</i>	340,521
<i>Projects</i>	3,484,260
<i>Networks</i>	12,991
<i>Research</i>	600,002
TOTAL SUM	5,208,634

H&W	SEK
Personnel	783,610
Overhead	346,376
Projects	2,700,000
Networks	139
Research	300,050
TOTAL SUM	4,130,175

CROSS CUTTING	SEK
Personnel	1,731,552
Overhead	730,810
Rent	305,124
Audit	90,000
Programme Evaluation	100,000
Events	40,840
Networks	201,956
Communication	33,320
Misc	14,013
Travel	677,551
Board	40 738
TOTAL SUM	3,247,615

DSV CO-FUNDING	SEK
Personnel	982,064
Overhead	432,108
Misc	23,667
TOTAL SUM	1,437,838
TOTAL SUM	18,743,910



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FOR INCLUSIVE SOCIETIES

ANNUAL REPORT 2018