BRITISH COUNCIL

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Research

Role of international higher education partnerships in contributing to the sustainable development goals

Appendix to the Final Report for the British Council and Association of Commonwealth Universities

Case studies

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1 EDUFI – Developing Pedagogy for 21st Century Skills in Nepal

Introduction

This case study forms part of the study entitled International Collaboration for the Sustainable Development Goals that is carried out for the British Council by Technopolis Group and its partners. The partnership described in this case study focuses on the long-standing collaboration between Tribhuvan University (TU) in Nepal and JAMK University of Applied Sciences (JAMK) in Finland. In addition, due to the funding secured from the Higher Education Institutions – Institutional Cooperation Instrument (HEI ICI) supported by the Ministry for Foreign Affairs of Finland, two additional higher education institutions (HEIs) are also collaborating in the partnership: The Nepal Open University (NOU) and the Häme University of Applied Sciences (HAMK), Finland.

The HEI ICI is funded by the Finnish Ministry for Foreign Affairs, and it is administered by the Finnish National Agency for Education (Edufi). The programme is aimed at providing support for collaborative activities that focus on enhancing higher education provision in developing countries. The partnerships formed address subject-specific, methodological, education and administrative-capacity building related challenges.[1]

Participating institutions are from Finland – representing the lead partners in the projects – and from developing countries. Due to the recent change in the programme, the size of participating consortia has increased, and the partnerships usually include more than one Finnish higher education institution as well as multiple partners from developing countries. Higher education institutions from developing countries have to be located in the priority countries of Finnish development policy, which currently identifies nine bilateral partner countries.[2]

The partnership structure and implementing model, introduced in the subsequent chapters, were developed for and tailored to the ongoing HEI-ICI funded project, Developing Pedagogy for 21st Century Skills in Nepal. The project and its activities, however, build on joint activities carried out by TU and JAMK in the past.

For the preparation of this case study, desk research and interviews with representatives of JAMK, Tribhuvan University and the HEI ICI manager, Edufi were carried out.

Context to the partnership

The current HEI ICI project started late 2020 and will be running until mid 2024. It is a continuation of past collaborative projects that were undertaken by JAMK and selected other partners with Tribhuvan University. The main objective of the project is to help strengthen the

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[1] For further information on the HEI ICI: https://www.oph.fi/en/programmes/hei-ici-programme
[2] For further information on the priority countries see: https://um.fi/bilateral-partner-countries

capacity of Nepalese higher education to enhance equal access to education through offering digital learning opportunities. The creation and implementation of an open and distance learning programme by the Nepalese partners is accompanied by the development of digital pedagogy programme to help teachers equip with modern pedagogical skills as well as to allow for the needs-based tailoring of the curriculum and the integration of ICT and 21st century skills.

The objective of the project is intentionally well aligned with the national School Sector Development Plan (SSDP) of Nepal 2016-2023 as well as the 2030 Vision of Tribhuvan University. The new constitution of Nepal put renewed emphasis on increasing inclusion and enhancing equity at all levels of education. In addition, Nepal has very high dropout rates for female students and students from minority groups, especially in remote areas. Therefore, the Nepalese Government set objectives to ensure that access to education at all levels must become equitable. To support reaching these objectives, the Nepalese Government also changed the qualification requirements of teachers, and requires Master's degree as minimum level of qualification. These changes pose major challenges for the education system and require a significant upskilling of the teaching workforce.

Overview of the partnership

Recent projects – funded both as part of previous HEI ICI projects as well as through different international donors including Norad's NORHED Programme for example – laid the foundation and helped build some of the necessary infrastructure to carry out online education in Nepal. In addition, the predecessor projects also helped start the modularisation of selected Master's degree programmes and initiate teacher training to help them deliver the curricula online. As part of these projects, JAMK and TU started a collaborative project on distant education already in 2013, and since then have been working together on the topics through different projects to help make TU's distant education offer more systematic.

Therefore, building on these results, the Developing Pedagogy for 21st Century Skills in Nepal project can target delivering on the modern skillset needed through the co-creation of new pedagogical programmes to equip teachers to be able to deliver the open and distant educational courses in a way that allows for the maximum benefit and impact to be reaped by the students.

The partnership brought together for the project builds on the strong collaboration developed over the years by JAMK and TU, and the two partners were joined by the Nepal Open University and HAMK.

JAMK is a highly international higher education institution in Central Finland, and its 8,500 students represent over 70 countries worldwide. JAMK focuses on eight different fields of study and has a School of Professional Teacher Education. The University of Applied Sciences has a strong track record working with HEI ICI projects, as they are coordinating three of the currently ongoing projects.[3] Similarly to JAMK, HAMK offers professional teacher education among its study programmes as well. HAMK is also a University of Applied Sciences and has a student population of about 8,800 from about 65 different countries.[4]

Tribhuvan University[5] is the oldest university in Nepal – established in 1959 – and it is the 12th largest HEI in the world in terms of enrolment. Currently, the TU has around 440,000 students across its campuses. TU is represented by the Open and Distance Education Centre (ODEC) and

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[3] About JAMK: https://www.jamk.fi/en/Home/
[4] About HAMK: https://www.hamk.fi/hame-university-of-applied-sciences/?lang=en
[5] About Tribhuvan University: https://tribhuvan-university.edu.np/page/5_5dd4e523dc74a

the Faculty of Education. The Nepal Open University is the youngest institution in Nepal, as it was established in 2016. NOU is dedicated to distance education provision.

Through the combined expertise available at the four institutions, the project partners are confident that they can deliver on the expected outputs of the project in the coming years. At the core of the activities is the development of a new Master's programme focusing on digital pedagogy and supporting modules and training. The course will be developed through co-creation, then the first cohort of students will enrol in 2022 and complete the one-tear long Master's programme in 2023.

The planned outcomes of the partnership are:[6]

- A newly designed master's programme focusing on digital pedagogy, guidance and counselling, and the development of 21st century skills required of workers in changing societies (equivalent to 36 ECTS)

- A guidance and counselling module, including a face-to-face taught study module and a MOOC designed for teachers and teacher students to promote equity in education, and to prevent dropouts among girls and representatives of excluded (marginalised and disadvantaged) communities. (equivalent to two 3 ECTS courses).

- Increased capacity of TU and NOU to promote integration of ICT and 21st century skills into existing education programmes of all levels of education through workshops and training for educational personnel at provincial and local governments.

Partnership model

The partnership builds on the existing in Memorandum of Understanding between JAMK and TU that was put in place in 2013, which was complemented by additional partnership agreements signed for the specific purpose of the HEI ICI project. While JAMK is the coordinator of the project, and has a dedicated Project Manager in place, there is a particular emphasis put on co-creation and participatory decision making among the partners. Ensuring equity is both a requirement of the HEI ICI programme as well as the shared understanding of the way of working together by the partners engaged.

The project's implementation plan was worked out collaboratively by the partners during a week-long visit of the Nepalese colleagues in Finland when preparing the proposal for the HEI ICI project. This collaborative effort represented a new approach, as in international collaborative project it is still often the case that the partners from the developing countries follow the lead of partners form the Global North. Looking back at this inception phase, it is important to note that the high-level positions of the Nepalese university representatives – the Vice-Chancellor of NOU and the Director of ODEC at TU – were key enabling factors in the successful negotiation of the project both with the Finnish partners and within their home institutions.

The emphasis on co-creation has remained during the project implementation as well, and it is also reflected in the setup of the partnership structure and governance model. There is a Project Board established which is in charge of the overall management of the project. The Project Board is chaired by the Vice Chancellor of NOU. All other partners are represented in the Board, through the Director of ODEC (TU), the deans of the Faculties of Education from both Nepalese HEIs, the Director of the School of Professional Teacher Education (JAMK), the Director of RDI (HAMK) and the dedicated Project Manager from JAMK.

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[6] Source: the 2021 annual report of the project

There is a dedicated project management system in place to support the efficient coordination of the activities and for the collection of necessary information, indicators and data. Annual reporting is coordinated by the Project Manager at JAMK, and the Nepalese partners provide their input to him for incorporation to the project level reporting towards Edufi.

Financial management is carried out by the JAMK, the coordinating institution. While long term the intention is for TU to be able to manage the financial administration of international collaborative projects, currently there are many hurdles that would make for example transferring funds from TU to international partners difficult and complicated. To ensure that lasting institutional capacity is being built, and that the financial reporting adheres to the requirements of the Finnish funders, the partners arranged financial compliance workshops for Nepalese staff and adopted the MFA Finland's Anti-Corruption Handbook for their procedures.

Although there has been a successful initiation of the project so far, there have been some challenges that had to be overcome. Due to the Covid-19 pandemic no physical meetings could take place. This, on the one hand, results in the need for some modification and enhanced flexibility from the partners to undertake the project activities, one the other, it enabled increased and more intense engagement from the partners through the use of online communication channels.

An additional area of concern related to the co-creation of the new Master's curricula. Prior to the pandemic, the views among Nepalese partners about the validity and authenticity of online education were not favourable. This has dramatically changed during the past 18 months, although there is still some room for improvement to detach from the notion of traditional delivery of assessments or exams for example. The whole idea of digital pedagogy is still new, and the project is in its early days.

Curriculum update in Nepal is carried out by engaging local experts who have the necessary expertise for the given subject field to modernise the curricula. For the planned new Master's programme, such expertise was not available locally. Therefore, having the international partnership was key to be able to deliver the desired outputs. The partnership allowed to form teams from among the partners and develop the new curricula iteratively in multiple rounds benefitting from the significant expertise the Finnish partners have in the field of teacher training and online and distance education.

Such collaborative work requires the partners to think similarly about the new curricula, although there are significant cultural differences between Finland and Nepal. The iterative working calls for high levels of transparency in communication, clearly assigned tasks and roles and efficient project management to ensure deliverables on time.

Results achieved and planned for the future

SDGs were central for the development of the initial project proposal and remained high priorities during the implementation of the activities. The project intentionally addressed the SDGs but doing so in a way that they started from what was needed at the university and then they connected those needs-based activities with the SDGs to ensure that there are synergies established. From an administrative point of view, it can be identified and reported on which SDGs are being addressed by the project.

SDG4 – Quality education: the partners are trying to give a new dimension of quality of higher education and set very high levels of targets aiming for 7,000 university faculty members to be trained by integrating ICT as mainstream delivery method of the curricula across different subject fields. The training will be carried out in three cohorts. The programme is co-created

with 18 educators, and they will be the first cohort testing the developed curricula. The second cohort will engage piloting with additional 30 teachers including women and teachers from disadvantaged communities. (cohort 2). The final cohort will be opened for all teacher students (cohort 3). In total, the objective is to train at least 120 teachers of which 30% will be female. Upon successful completion by the cohorts, the courses – at least 11 courses are planned – will be open to other 12 universities and high school teachers.

In addition, SDG5 – Gender equality – will be addressed through guidance and counselling module developed and made available for teachers to help them develop their counselling and guidance competences and ultimately reduce the dropout rates among women from secondary school. Less than 20% of female students graduate from secondary schools, although the enrolment rate is 52%. The developed module and MOOC will be made available to the public. In addition, through the outreach and planned engagement of the Nepalese local governments, and regional Education Training Centres (ETC) across the seven provinces around 350 persons will be trained.

Impact at local level will reach beyond the participating institutions. Although the two Nepalese HEIs are Kathmandu centred, NOU has seven campuses in each of the seven Nepalese regions which facilitates outreach to the remote areas. While it would be difficult to get direct access to schools in the small remote villages, the regional capitals have education campuses that will provide support in disseminating the training and delivering the content locally. The project has already secured the support of the seven regional educational policy making body as a first step towards the implementation in the coming years.

Expected outcome	SDG	Sub-SDG
New curriculum developed for o digital pedagogy, guidance and counselling, and the development of 21st century skills	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Goal 17 - Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
Teachers and teacher education students trained with modern pedagogical skills	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through

Expected outcome	SDG	Sub-SDG
		education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
Increased number of educated girls and disadvantaged communities and reduce dropout rates	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Goal 5 - Achieve gender equality and empower all women and girls	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women
Increased capacity of TU and NOU to promote integration of ICT and 21st century skills into existing education programmes of all levels of education through workshop and training for educational personnel at provincial and local governments.	Goal 17 - Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries 17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

Sustainability, future of the partnership and lessons learnt

Knowing each other and establishing trust are key success factors and prerequisites of sustainable partnerships. Within the partnership maintaining the successful implementation of the project and the collaborative efforts is centred around communication. In order to be successful in any kind of collaboration one has to be open to communicate and see things from more than one perspective. The partnership includes vastly different cultures and being aware that there are differences in opinion and values is of key importance. One has to be willing to listen and learn to understand the others point of view even if differences in the opinions remain.

There are always critical factors that one has no control over – such as the Covid-19 pandemic, or the Nepalese earthquake a few years ago – and these are out of hands. In addition, there are institutional and political aspects and differing agendas that make partnerships challenging. As a general policy, it is key to ensure that a system of risk management as well as options for mitigating them are put in place. For this partnership there is a management review cycle in place, which entails the Board launching a review cycle every year during the Spring. During this cycle, all engaged partners are asked to consider any risks that might affect the planned actions for the following academic year, either negatively or positively. In light of the results of the review cycle, the necessary mitigation actions are put in place with the approval of the Project Board. The engagement of all key stakeholders and partners in this review cycle is an important cornerstone of ensuring participatory decision-making for the partnership.

References and sources of information

Name	Affiliation	Role	Date of interview
Graham Burns	JAMK	Project Manager	18/05/2021
Anne Hämäläinen	EDUFI	EDUFI programme administration	04/06/2010
Kaija Pajala	EDUFI	EDUFI programme administration	04/06/2010
Saara Paavilainen	EDUFI	EDUFI programme administration	04/06/2010
Ganga Ram Gautam, PhD	Open and Distance Education Center (ODEC), Tribhuvan University, Nepal	Associate Professor, English Education, Director of ODEC	19/05/21

2 ERASMUS+ CBHE – Assessing and developing the Research Performance of South-East Asian Universities (REPESEA)

Introduction

This case study is a part of a larger study on the role of higher education partnerships in contributing the Sustainable Development Goals (SDGs) commissioned by the British Council. It considers a project in the Erasmus+ Capacity Building in Higher Education programme, called 'Assessing and developing the Research Performance of South-East Asian Universities' (REPESEA).

This partnership between eleven European and Asian universities ran from 2016 to 2020 with the overall objective of developing transferable research skills and developing a context-sensitive research assessment tool suitable for the SEA academic environment.[7]

The objective of the current case study is to learn about the capacity building activities of REPESEA, their results and how those two have contributed to the United Nations SDGs.

The case study was built over distinct stages: the partnership in question was selected from a wide range of international higher education partnerships mapped at the start of the fieldwork. The following desk research reviewed the partner website with its publications, and additional information provided by its partner and programme universities and funders over videocalls.

Context to the partnership

The rationale of the larger Erasmus+ Capacity Building in Higher Education programme is strengthening the European science and technology community through partnering European scientists with those from around the world. The partnership within this framework, 'Assessing and Improving Research Performance at Southeast Asian Universities' (REPESEA), applies this ethos in the Southeast Asian context from 2016 to 2020.[8] Prior to the partnership, the main form of research assessment in the partner institutions (and in Southeast Asia more generally) was the quantity and quality of works accepted in accredited publications. The complicated nature of this framework as a research assessor was deemed to negatively affect the commitment of researchers and policymakers alike. Moreover, this perspective to research distanced universities from their surrounding societies and thus, hindered the societal impact of research.[9] With this and an emphasis on natural sciences in existing research assessment tools in Southeast Asia, the proposal to develop a new research assessment tool was put forward. Additionally, the partnership addressed the lack of research capacity compared to

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[7] https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/574092-EPP-1-2016-1-SK-EPPKA2-CBHE-JP

[8] https://www.repesea.org/project-info

[9] The System of the Assessment of Impact and Quality of Research (SAIQoR)

teaching capacity in some of the Southeast Asian partner nations.

The REPESEA partnership developed activities which sought to encourage research with a decidedly societal impact to balance out the traditional publication-focused work. In the same spirit, the designers of the REPESEA partnership emphasised the need for researchers to be able to translate their findings appropriately for multiple platforms and stakeholders.

Overview of the partnership

There were eleven higher education institutions from Europe and Southeast Asia involved in REPESEA. As programme universities, the University of Economics in Bratislava and Matej Bel University in Banska Bystrica from Slovakia, the University of Bath from the UK, Warsaw University of Economics from Poland and the University of Clermont Auvergne from France were present. In addition, the University of Gadjah Mada and Universitas Islam Indonesia, Universiti Teknologi MARA and Universiti Teknologi from Malaysia, and International College Burapha University and International College of National Institute of Development Administration from Thailand represented partner institutions.

Seeking out the partners for this initiative happened organically, through pre-existing contacts between the University of Economics in Bratislava, participating Thai Universities and the Universiti Teknologi Malaysia. The partnership was made more attractive still to the Malaysian participants due to a newly introduced performance tool across the country which included securing international grants as a criterion. A certain number of challenges were detected among both European and Southeast Asian partners. This was considered to be due to differences in academic and working cultures which, in turn, somewhat hindered mutual understanding. It was felt that some partners were not sufficiently aware of the opportunities in the European-led programme. Moreover, some challenges were identified in the comprehension of the bureaucratic requirements from ERASMUS+ as a funder; a degree of misunderstanding was detected with submitting a letter of commitment by some partners, and in this process, the Northern partners carried out prevalent support with the adherence to the existing requirements.

The overall aim of the REPESEA partnership is two-fold. It was developing a novel way of assessing research impact that is sensitive to the needs of the environment and communities as well as developing transferable skill-teaching modules. The System of the Assessment of the Impact and Quality of Research (SAIQoR) was designed for the use of researchers, administrators, and policy makers alike. An important feature of this assessment method is its context-sensitivity for it to be applicable across a range of universities (public and private), specialisations and cultural contexts.

The second major aspect of REPESEA was research skill-building delivered in the following thematic modules across all partner universities: Academic writing, Publishing skills, Presentation and communications skills, Evaluating research outputs, researchers and non-academic impact, and Effective use of technology for a successful academic career.

The total timeline of related activities stemmed from the first steering group meeting on the 6th of March 2017 to January 2020, and the trainings in transferable skill modules for partner universities were delivered between the 21st of January and 28th of June 2019. The specific development of SAIQoR took place in four stages. First, existing works of research assessment were examined, followed by workshops for scrutinising and improving those practices. Afterwards, the consortium met to develop appropriate tools. In the fourth stage the Southeast Asian universities piloted the resulting initiatives through assessing the research from selected research units. The results directed subsequent revisions.

The partnership was mainly funded by the European Commission through the ERASMUS+ Capacity Building for Higher Education programme with additional independent funds available for the southern partners.

The funding body, the Education, Audio-visual and Culture Executive Agency (EACEA; a European Commission agency), developed regionally varying priorities. The UN SDGs were not

explicitly addressed in the REPESEA proposal or during the project, as it was not stated as a requirement. A number of SDGs were, nonetheless, deemed to have been impacted as a result.

The planned outcomes of REPESEA could be listed in three main categories. Firstly, REPESEA aimed to develop and implement the System of the Assessment of the Quality and Impact of Research (SAIQoR) at partner higher education institutions in Malaysia, Indonesia and Thailand, specifically. It sought to introduce societal impacts in research priorities to accompany the traditional publication-related criteria. The second objective was to build, deliver and accredit transferable research skill modules at the partner universities and disseminate the results broadly in the Southeast Asian region. Thirdly, developing the cooperation between involved partner and programme universities was an integral part of the project throughout its duration.

Partnership model

In order to oversee the partnership, a steering group was formed which consisted of one representative from each of the eleven partaking institutions with the University of Economics in Bratislava as the lead partner. The steering group met five times through the three-year runtime of the project and was the main decision-making body. Decisions were made with the rule of majority with a second voting possibility, should the initial one yield a draw. Each university would also introduce one administrator. Internal and external quality assurance assessments of all project outputs for sustainability and dissemination was also in place.

The project was implemented at university level. All activities were organised in work packages with the University of Economics in Bratislava responsible for the overall coordination during the partnership (and, thus, the management work package). Steering committee meetings were hosted in turn by all programme and partner universities, while the research skill modules were organised by the Southern partners. At times the project coordinator supported in places, but the events arranged by partners were deemed well-organised.

In developing the module five, Evaluating Research Outputs and Researchers and non-academic impact, one of the steering group members from the University of Bath sadly passed away. This impacted the work on this area by the remaining team responsible for the module. Moreover, after the passing of their representative, the University of Bath left the consortium leading to a shifting of responsibilities. Moreover, the University of Clermont Auvergne underwent institutional restructuring, which also led to shifts in key responsibilities.

Results achieved and planned for the future

Achieved and planned outcomes

The anticipated outcome was ultimately an increased research capacity in the Southeast Asian partner universities as well as exchange of knowledge between all participants. To this end, the modules were delivered and accredited successfully at each partner institution and the System for Assessing Impacts and Quality of Research (SAIQoR) was developed, piloted and adopted by higher education institutions.

As hoped, the project also resulted in an increased recognition of and appreciation for the more applied effect of research, and SAIQoR was further deemed to have better recognition for social sciences where previous research assessment tools have been deemed biased towards STEM disciplines.

Strengthening of partnerships was also considered successful. It was reported that the project provided valuable experience in intercultural working environment preparing partners for further such work post REPESEA. Moreover, the initiative provided visibility for the Southeast Asian partner institutions which resulted in further collaborations between some of the partners.

Contribution to the SDGs

Even though the SDGs were not an explicit focus in the planning of the project, alignment was found in initial objectives as well as reached outcomes. One objective of the partnership from

the start was to build research capacity in partner institutions (SDG4), and women were both involved in and leading the initiative (SDG5). Moreover, rural communities were reached because of infrastructure-building which led to new forms of collaboration between universities and community and industry (SDG9). This outreach activity also enabled access to university recourses for rural communities to whom this was not a reality before, therefore, addressing a source of spatial inequality (SDG10). Finally, REPESEA as a whole gave way to, and prepared its participants for further inter-cultural partnerships (SDG17).

The table below provides an overview of links between the expected outcomes of REPESEA and the SDG (and their sub-SDG) targets.

Expected Outcome	SDG	Sub-SDG
Self-contained modules on transferable research skills delivered at partner universities.	Goal 4 – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.4 – By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Increased amounts of women leaders in academic initiatives.	Goal 5 – Achieve gender equality and empower all women and girls	5.5 – Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
Outreach activities in the form of collaborations with the industry in rural areas; increased emphasis on societal impact in research assessment.	Goal 9 – Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation	9.5 – Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.
Increased access to university resources and services because of an outreach initiative.	Goal 10 – Reduce inequality within and among countries	10.2 – By 2030 empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.
Impactful international partnership influencing further partnerships in the field of research and development.	Goal17 – Strengthen the means of implementation and revitalise the global partnership for sustainable development.	17.16 – Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, particularly in developing countries.

Benefits for the partners and impact on the external environment (including at a local level)

The partnership ended up widening the scope of similar projects for Malaysian and Indonesian partners after its end. Involved academics were invited to join other partnerships and spoke about REPESEA at other institutions.

Moreover, the project resulted in new capacity and infrastructure which, in turn, enabled new opportunities to reach out to community. Piloting SAIQoR opened talks on how universities can impact local industry, created collaboration with local businesses and provided community experience for the academics. In Thailand, building research capacity addressed the relative lack of research institutions compared to the overall amount of higher education institutes in the country. The partnership was also found useful for Northern and Southern universities alike in providing a range of soft skills. Systematically, soft research skills (such as time management and communication skills) were introduced to the Southern partner doctoral students and in

curricula in early research trainings. For the Northern programme universities, the partnership was an invaluable eye-opener to other cultures. REPESEA provided Northern partners with new knowledge of the kind of cooperation and resources available to their Southern partners.

Sustainability, future of the partnership and lesson learnt

The REPESEA partnership was considered a single project with a hard end. However, sustainability of the outcomes was seen particularly through sustaining the created concepts and in further collaborations and partnerships.

For instance, several MoUs were signed (e.g. between the Universiti Teknologi MARA and the University of Economics in Bratislava and as well as between Universiti Teknologi MARA and International College of NIDA). Additionally, University of Economics in Bratislava carries out programmes and student exchanges with the Thai partners from REPESEA.

Further collaborations between Southern partners also developed because of the contacts and raised awareness from the partnership. It was also noted that the Covid-19 pandemic has temporarily impacted possibilities for additional partner projects, which may be revisited in the future.

The adoption of SAIQoR promoting impactful research assessment as well as the soft skills trainings delivered at the partner universities are to be considered as conceptual legacies from the partnership.

For the future partnerships, REPESEA served as an example on the importance of comprehensive communication between partners. This was the case from the start where administrative differences might have taken place and the first steps of collaboration were still tentative. The agility of the partnership, in turn, was beneficial as a dropping out of a partner and the restructuring of another partner forced the partnership into reshuffling of responsibilities. Moreover, the benefit of familiar partners was seen in the organic gathering of potential partners at the start of the initiative and towards the end as participating academics found further work with relative ease.

Sustainability, future of the partnership and lesson learnt

Documents

- A Measuring Academic Impact of Research at South-East Asian Universities – The System of the Assessment of Impact and Quality of Research (SAIQoR) (URL: https://c2665b9c-ea03-4813-983b-62fe4ecf804f.filesusr.com/ugd/702048_c45d2f0cc76742a4b5d37e649abbee79.pdf)

- The Assessment of Research Quality and Impact in Southeast Asian Countries – Policy Implications (https://www.researchgate.net/publication/339842987_Current_Issues_in_the_Assessment_of_Research_Impact_and_Quality_in_Thailand)

- REPESEA website (https://www.repesea.org/)

- European Commission project card for REPESEA[10]

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[10] Official website at: https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details/#project/574092-EPP-1-2016-1-SK-EPPKA2-CBHE-JP.

Interviews

Name	Affiliation	Role	Date of interview
Professor Anetta Caplanova	University of Economics in Bratislava	Project coordinator	17/05/2021
Dr Rosmini Omar	Universiti Teknologi Malaysia	Steering committee member	28/05/2021
Ms Karolina Garbaliauskaite Ms Stephan Wynants	EACEA (European Commission)	Funding contact person	09/06/2021

3 FCDO – Prepared for Practice

Introduction

This case study documents Prepared for Practice, a five-year (2017 – 2021) project that seeks to strengthen Somaliland's health workforce and contribute to improved health outcomes by improving the quality of higher education delivered to students studying medicine, nursing and midwifery.

The project takes the form of a partnership led by King's Global Health Partnerships (KGHP), a health system strengthening initiative based at King's College London, and involving Tropical Health Education Trust (THET), an INGO focussed on health partnerships; MedicineAfrica, a UK based technology partner; and three Somaliland Universities: Amoud University, University of Hargeisa, and Edna Adan University. The project is part of the UK aid-funded Strategic Partnerships for Higher Education Innovation and Reform (SPHEIR) programme (www.spheir.org.uk), which is designed to catalyse innovative partnerships in low-income countries to improve the performance, governance and influence of higher education systems and institutions.

This case study was developed by King's College London. It is informed by a desk review of internal and externally available project documents, including the project proposal, annual donor reports, governance documents, and monitoring data. It also draws upon a theory of change workshop conducted in May 2021 and interviews conducted with members of the project management team within KGHP, strategic management board, project partners and project participants throughout the project.

Context to the partnership

The King's Somaliland Partnership (KSP) is King's Global Health Partnership's (KGHP) longest running health partnership. Established in 2000 as an initiative between King's College Hospital (KCH) and the Tropical Health Education Trust (THET). the Partnership initially facilitated small groups of UK volunteer clinicians to travel to Somaliland to support the establishment of Somaliland's first maternity hospital, the Edna Adan Hospital, through training health workers and developing hospital treatment protocols.

Over time the Partnership expanded its work to support improvements to teaching quality in higher education institutions. Amoud University and the University of Hargeisa joined the Partnership in 2003 and 2004 respectively, and in 2007, the Partnership secured funding under Foreign, Commonwealth and Development Office's (FCDO) (formally the Department for International Development) 'Health Consortium for the Somali People' programme enabling a 5-year scale up of the Partnership's work on quality education for health professionals and in-service training for health workers. Under this programme, the Partnership focussed on addressing gaps in the delivery of the undergraduate medical education curriculum by supporting the delivery of teaching in areas where there was limited local expertise, such as mental health.

In 2016 a national conference was convened in response to concerns about the quality of medical students entering the health system. The event brought together key health and education stakeholders to identify systemic challenges in the provision of undergraduate medical education. It concluded that a lack of skills-based teaching in clinical settings, limited teaching expertise amongst university faculty, poor national regulation of medical schools, lack

of nationally standardised curriculum and examinations, and limited coordination between ministries of health, education and regulatory bodies, were leading to medical students graduating insufficiently prepared for their roles in the health profession. This paved the way for 'Prepared for Practice', a five-year programme of work that seeks to reform higher education for medical students and address similar challenges in higher education for nursing and midwifery professions.

Overview of the partnership

Prepared for Practice is led by King's Global Health Partnerships (KGHP) in partnership with Tropical Health Education Trust (THET), MedicineAfrica (MA), Amoud University (AU), University of Hargeisa (UoH), and Edna Adan University (EAU). As outlined above, the project built on an existing partnership between the six organisations. In 2016, the Partnership submitted an application to the FCDO Strategic Partnerships for Higher Education and Reform (SPHEIR) Programme, seeking to scale up its work to improve the quality of higher education delivered to health professionals.

King's Global Health Partnerships (KGHP) is an initiative of King's College London, which works with health facilities, academic institutions and governments to strengthen health systems and improve the quality of care in four countries: Somaliland, Sierra Leone, the Democratic Republic of Congo and Zambia. KGHP brings together health, academic and international development expertise from King's College London, the UK's National Health Service (NHS) and its international partners to educate, train and support healthcare workers; strengthen healthcare and training institutions; and enhance national health policies and systems. Using a long-term partnership and volunteering model, the organisation connects UK and Africa health professionals, facilitates skills and knowledge exchange, and mutual learning that contribute to building a stronger health workforce and improved quality of healthcare both internationally and in the UK.

Tropical Health Education Trust (THET) is a UK-based international non-governmental organisation (INGO), which aims to address the challenges of the health worker gap by supporting health partnerships between UK and overseas health institutions such as hospitals, universities and research centres. THET has been working in Somaliland since 2001 and has had office in Hargeisa since 2011.

MedicineAfrica is a UK based not-for-profit organisation that provides technology consultancy for health systems strengthening programmes. Established in 2011, MedicineAfrica developed a bespoke online platform to facilitate the exchange of technical resource and capacity building between the UK and Somaliland health systems.

Amoud University College of Health Sciences is made up of schools of medicine and surgery, nursing and midwifery, dentistry, public health and nutrition, medical laboratory sciences and pharmacy. Prepared for Practice primarily partners with the school of medicine which established the first course for medical students in 2000 and graduated the first doctors in Somaliland's history in 2007. The project also works with the other health faculties.

Edna Adan University nursing and midwifery school. Established in 2003, the University has Somaliland's longest established nursing and midwifery school. Today it delivers training programmes including a three -year Bachelor of Science in midwifery and a four year bachelor of science in nursing. The university also delivers courses in pharmacy, laboratory studies, public health and medicine.

Prepared for Practice is being implemented over a five-year period with a total budget of £4.9m, made up of a £3.1m contribution from FCDO and a £1.8m co-financing contribution.[11] The overall aim of the project is to strengthen the quality of higher education so that nursing, medical and midwifery graduates are prepared for clinical practice and able to contribute to

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[11] The projects' co-financing contribution includes an in-kind contribution from King's Global Health Partnerships and the financial value gained by working through a model in which health professionals from the NHS and educationalists from UK universities volunteer their time on the project.

improved health outcomes. The expected outcomes of the project are: (1) sustained quality of teaching and assessment on undergraduate medical, nursing and midwifery courses at partner universities; (2) an enabling environment for practice-oriented learning at partner universities; and (3) an enabling national environment for quality medical education that is sustainable. Whilst the project goals and outcomes do not directly link to the Sustainable Development Goal (SDG) targets, it contributes to SDGs 3 (Good Health and Wellbeing), 4 (Quality Education) and 17 (Partnerships for the Goals).

The project activities target three levels of the higher education system. The first set of activities (undergraduate workstream) are implemented with undergraduate medical, nursing and midwifery students and aim to ensure that students who graduate from partner institutions during the life of the project have the knowledge, skills, behaviours and practical experience they need to enter the workforce. Activities under this workstream include the delivery of online distance learning courses to supplement locally-delivered curricula; provision of clinical supervision to ensure students have sufficient opportunities to learn and apply their skills in a clinical setting; community health visits to provide students with practical opportunities to learn about public health; and provision of final year written and clinical examinations to ensure that those graduating from universities meet the standard required to safely practice clinically.

The second set of activities (institutional workstream) are implemented with three target higher education institutions to enhance the capacity of teaching faculty and management of institutions, so that the graduates of the future receive high quality higher education. This has included the introduction and delivery of a postgraduate course in Health Professions Education that aims to strengthen the knowledge and skills of health faculty in education practice. Faculty members at partner universities have been able to study a one-year certificate, two-year diploma or three-year masters. Modules include including lesson planning, curriculum design, assessment, clinical supervision and research. A postgraduate certificate has also been delivered in university administration to enable non-academic staff to lead improvements in the administration and management of their institutions.

The third set of activities (policy and regulation workstream) are implemented at national level. The project primarily sought to support the development of a National Medical Education Policy, outlining how government, regulators and universities can collaborate to produce a well-trained medical workforce. Achieving early success in this area, it has gone on to support the implementation of this policy, including the development of a national medical education curriculum; development of national standards for medical, nursing and midwifery schools, and Somaliland's first national assessment of medical schools. Key to the implementation of the medical education policy has been improved coordination between national stakeholders, which has been achieved through the establishment of a medical education taskforce and convening of annual national stakeholder meetings.

The project is delivered by a group of over 100 volunteer health workers and educationalists from the NHS and UK universities, who work with counterparts at Somaliland universities to co-design and co-deliver activities.

Partnership model

Division of responsibilities

A diverse set of partner organisations – a health partnership, three Somaliland universities, an international non-governmental organisation (INGO) and a non-profit technology company – make up the Partnership. The roles and responsibilities reflect the distinctive expertise each partner brings.

KGHP has three main responsibilities: managing the grant, including the relationship with the fund manager, financial management and monitoring, evaluation and learning; leading the Partnership in the delivery of the project outcomes; and co-leading the delivery of the undergraduate and institutional workstreams with Somaliland Universities. Activities delivered under these two workstreams are designed and delivered by UK volunteer health workers and

educationalists that KGHP recruit and manage.

THET has three main roles on the project. Their primary role is to lead the policy workstream and delivery of all associated activities. Alongside this they provide in-country coordination support to the delivery of activities under the institutional and undergraduate workstreams. They also lead programme operations in Somaliland, providing security and logistics in the deployment of UK volunteers to Somaliland.

MedicineAfrica manage the projects' educational learning platform, on which the undergraduate and postgraduate courses to students and faculty at Somaliland universities are delivered.

University of Hargeisa, Amoud University and Edna Adan University are the three main implementation sites of the project. They co-lead the delivery of the undergraduate and faculty workstreams at their universities and support the delivery of the policy and regulation workstream.

This matrix structure below of project delivery, in which all partners are involved in all workstreams, facilitates the identification of synergies between workstreams and ensures that project components are not delivered in silo:

Workstream	KGHP	THET	MA	UOH	EAU	AU
Undergraduate	Lead	Support	Support	Co-lead	Co-lead	Co-lead
Institutional	Lead	Support	Support	Co-lead	Co-lead	Co-lead
Policy and regulation	Support	Lead	N/A	Support	Support	Support

Governance and management

The project is based on a health partnership model which is grounded in a commitment to equal partnership and co-development between UK and Somaliland partners. This commitment is embedded in the project's governance structure which seeks to facilitate shared decision-making across the project. The project is governed by a Strategic Management Board which comprises one senior representative from each of the six partner organisations. The SMB is responsible for overall strategic leadership of the project and ensuring it meets its targets. As the grant holder, KGHP chair and administer the SMB, but voting rights are such that decision-making is weighted in Somaliland, with four representatives from Somaliland (THET Somaliland and the three Somaliland universities) and two representatives from the UK (KGHP and MA).

Drivers and barriers

The effectiveness and sustainability of this long-term partnership is influenced by a number of factors related to the nature and context of the working environment.

Drivers include:

- **Shared vision**: the partnership benefits from a shared vision among partners. This has enabled it to be adaptive to external opportunities and challenges.

- **Long-term**: the long-term nature of the partnership has meant it has existed both with and without grant funding. This has generated trust between partners and required a strategic use of often limited resources. The purpose of pursuing grant funding has been to take the partnerships' work to scale, rather than as a driver to enter into partnership.

- **Mutual benefit**: the partnership is based on principles of mutual benefit and reciprocal learning. This contributes to a working relationship based on mutual respect in which expertise is valued equally.

- **Government support**: An important driver of success for the work of the partnership is that it works closely with the Ministries of Health Development and Education and in line with government plans and priorities.

Barriers have been:

- **Remote working**: a partnership between UK and Somaliland institutions and individuals means working remotely most of the time. Whilst technology has bridged the gap to an extent, the partnership experiences challenges in communication and collaboration, particularly during the Covid-19 pandemic when international travel has not been possible for long periods of time.

- **High workloads**: a partnership of practicing professionals means high workloads, leaving less room for more reflective and collaborative processes within the partnership.

- **Complex institutions**: Universities are extremely complex institutions that can be difficult to navigate and foster change within.

Partnership model

Achieved and planned outcomes

Sustained quality teaching and assessment

As a result of the Health Professions Education course, run at three universities for faculty members, evidence-based teaching and assessment is now widespread, sustainable, and growing at two universities. This work has had a positive impact on the quality of teaching, examinations, and student feedback as well as on the commitment and passion of teaching staff, leading to better staff retention and a commitment to continuous professional development. 100% of teaching faculty participating in the course report making changes to the way they plan lessons, teach and assess students.

Evidence based examinations have also been institutionalised at three universities and are now being run independently following many years of in-person volunteer support to the design and management of written and clinical examinations.

For the duration of the project the partnership managed to successfully run online courses to compliment locally delivered curriculum content for students that both addressed gaps in the curriculum and allowed for case-based discussion and development of clinical reasoning skills. These were run by volunteers from the UK and feedback from students tells us that these courses were important for their learning.

Enabling institutional environment for practice-oriented learning

Funding for the clinical supervision of students on their clinical rotations has been adopted by the government, having first been provided by the project. This has provided students with much needed guidance and support while they learn in a clinical setting, and student feedback confirms that improvements have been made to the clinical learning experience.

A new national curriculum for medicine has been collaboratively developed and approved by the Ministries of Health and Education. The curriculum meets international medical standards and is grounded in Somaliland's population health needs. It will ensure that medical students are taught a standard curriculum and will contribute to improved quality of teaching delivered in medical schools.

In addition to the impact on the teaching practices of individual lecturers, the Health Professions Education course has catalysed changes at institutional level, with all partner universities revising teaching and assessment policies and procedures.

Enabling policy environment for quality medical education that is sustained

The project supported the development of Somaliland's first Medical Education Policy. This was approved in 2018 and sets out how stakeholders will collaborate to produce a suitably qualified medical workforce that is able to meet the health needs of the people in Somaliland.

The policy has paved the way for considerable reforms to national oversight and regulation of medical schools. A set of standards for medical schools have been developed that are based on internationally recognised standards and the first national assessment of medical schools has been conducted. This has led to improvements across medical schools as institutions respond to recommendations, and considerable investment in improving medical schools that did not meet the standard.

An equally important outcome has been increased collaboration and coordination between the many national stakeholders involved in producing medical graduates. The Ministries of Education and Health and National Health Professions Commission have collaborated on the development of standards, assessment of medical schools, organisation of national final year medical examinations and development of the national medical education curriculum.

Contribution to the SDGs

Whilst the SDG goals and associated targets do not form part of the projects' monitoring framework, there is strong alignment with the following SDGs:

SDG 3: Good health and well-being

Prepared for Practice was designed to address one of the root causes of poor health service delivery in Somaliland; that insufficient numbers of suitably trained and qualified health professionals were entering the health system. The project contributes to a well-trained health workforce, recognised by the WHO as one of the core building blocks of a well-functioning health system, and makes a direct contribution to SDG target 3.C: substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries. Monitoring data from final year medical examinations which assess knowledge, skills and behaviours, show that students from universities supported under Prepared for Practice perform better than those that graduated before the project started, and that they consistently perform better than students at universities not supported under the project. By improving the quality of health worker entering the health system, the project indirectly contributes to targets on maternal mortality, child health, sexual and reproductive health and public health.

SDG 4: Quality Education

Prepared for Practice contributes to SDG target 4.4: increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. Through the provision of online and blended learning on subjects not originally provided by Somaliland universities, students have practiced diagnostic thinking and clinical reasoning. This has led to an increase in relevant skills and knowledge needed for the workplace. A new national curriculum, adopted by all universities in Somaliland, has been designed to better prepare students for practice. This will increase the number of graduates entering the workforce with the technical skills that they need to practice health care effectively.

It has also contributed to target 4.C: substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries. through the widespread improvements to teaching and assessment and training in evidence-based pedagogy stemming from the Health Professions Education course. With the institutionalisation of this course by two universities, the number of teaching staff with training in pedagogy and education practice will continue to increase for years to come.

SDG 17: Partnerships

Based on a health partnership model that connects universities and health facilities in the UK and Somaliland to provide capacity building, the Prepared for Practice project contributes to SDG target 17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation.

Expected outcome	SDG	Sub-SDG
(1) sustained quality of teaching and assessment on undergraduate medical, nursing and midwifery courses at partner universities; (and (3)	Goal 3 – Ensure healthy lives and promote wellbeing for all at all ages Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	3.C: substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries. 4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4: increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development 4.C: substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries.
(2) an enabling environment for practice-oriented learning at partner universities;	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4: increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development
(3) an enabling national environment for quality medical education that is sustainable	Goal 3 – Ensure healthy lives and promote wellbeing for all at all ages Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	3.C: substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries. 4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4: increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development 4.C: substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries.

Impact on the external environment

In addition to the benefit brought to the three partner institutions, the project has had a catalytic impact on the quality of medical education delivered at universities across Somaliland.

The medical education curriculum, which was originally intended to be developed and implemented with target partner institutions, became a national curriculum. All medical schools were involved in the development, giving them exposure to the curriculum development process and equipping their institution with a new curriculum and syllabus.

There is evidence that non-partner universities have taken steps to improve how they examine medical students. Three non-partner universities have requested and received training in how to design and deliver clinical examinations and at least one university has invested in

improvements to the facilities it uses for the examination of students' clinical skills. All medical schools now use the Objective Structured Clinical Examination (OSCE) approach to test clinical skills.

Lastly, the national assessment of medical schools has also led universities and the government to allocate financial resources to medical schools enabling them to address recommended areas for improvement.

Sustainability, future of the partnership and lessons learnt

Sustainability was central to the project design and theory of change and there is evidence that the project strategy has been adapted throughout the course of the project to maximise the likelihood that project outcomes will be sustainable. A number of indicators have been added to the monitoring framework to track the extent to which sustainability is being achieved.

Core to the projects' sustainability strategy has been the intention to implement best practice approaches to educating health professionals and institutionalise them in partner universities so they become central to the way the students are educated in the future. The project has had a number of notable successes:

- Clinical supervision: to be prepared for their roles as clinicians, medical, nursing and midwifery students must have sufficient opportunities to apply theoretical knowledge to real world settings and develop their skills and behaviours in a clinical environment. In its early years the project funded 24 clinical supervisor salaries (8 per partner institutions) who are responsible for overseeing students' learning in a clinical setting. Funding for these positions has been tapered through the project, with a view to identify a sustainable national source of funding. These positions are now funded jointly by the Ministry of Health Development and Somaliland universities.

- Professional development for teaching faculty: to deliver a high-quality educational experience, teaching faculty need to be trained as educators and need opportunities to develop and update their knowledge and skills in education theory and practice. In addition to delivering the Health Professions Education course to over 90 faculty members, the course has been handed over to two partner universities which are now resourcing and running the course independently. The project has also catalysed the establishment of Educational Development Centres at these universities that act as hubs for the continuous professional development of teaching faculty. In one university they have made the HPE course mandatory requirement that all faculty teaching on health courses complete the one-year HPE certificate course. In a second university the course is now open to teaching faculty across the university influencing teaching practices across the university.

- Evidence based assessments are key to ensuring that only those students who have sufficient knowledge, skills and behaviours to safely practice clinically enter the health system. A series of activities to build the capacity of teaching faculty and university leadership in how to design, manage and administer effective written and OSCE (objective structured clinical examinations) has been implemented as part of Prepared for Practice. In 2020, universities led the final year examinations for medical, nursing and midwifery students independently, indicating that effective evidence-based examinations can be continued when Prepared for Practice comes to an end. Additionally, faculty trained under the project are now supporting the management of examinations at non-partner universities.

At the heart of the projects' sustainability strategy has been an approach of UK volunteers and Somaliland partners co-designing and co-delivering project activities. This has proven to be a

particularly effective strategy to support sustainability of outcomes; it has built capacity of individuals in partner institutions to the point where interventions could be 'handed over' and has fostered local ownership over project interventions.

The partnership preceded the Prepared for Practice project and will continue to work together to improve the quality of education for health professionals. A number of undergraduate medical schools that were not directly reached under the programme have expressed an interest in benefitting from similar interventions so there is scope to roll out the project to further medical schools. The projects national policy and regulation component focussed on medical education and similar work is needed to strengthen the regulation of nursing and midwifery education at national level. Finally, Somaliland continues to lack postgraduate health professions programmes for health professions to specialise in areas such as surgery, critical care and mental health. There is considerable scope for the partnership to implement lessons from Prepared for Practice and contribute to these challenges.

References and sources of information

- Preparing medical students for clinical practice: How health educators from the UK and Somaliland are transforming Somaliland's health education system https://www.spheir.org.uk/blog/preparing-medical-students-clinical-practice-how-health-educators-uk-and-somaliland-are

- Working together: UK and Somaliland health workers strengthen the quality of health education in Somaliland https://www.spheir.org.uk/blog/working-together-uk-and-somaliland-health-workers-strengthen-quality-health-education

- Project proposal

- Plan of work and budget

- Year 3 and 4 Annual and Mid Year MEL Reports

- Year 3 and 4 Logframe Reporting

- Draft Institutional Impact Report

4 African Economic Research Consortium – Collaborative PhD Programmes in Economics

Introduction

Launched in 2002, the primary aim of the Collaborative PhD Programme (CPP) in Economics is to strengthen graduate teaching and research with a focus on Economics in Sub-Saharan African countries, increasing the pool of researchers and policy analysts, and increasing capacity across the continent. The programme takes the form of a partnership involving eight African public universities, in 4 regions of Sub-Saharan Africa: West Africa, Francophone Africa, Eastern and Southern Africa, and is managed by the African Economic Research Consortium (AERC). The AERC has its headquarters in Nairobi and was established in 1988. It is a leading capacity building institution in the advancement of research and graduate training in economics to inform economic policies in sub-Saharan Africa. The AERC has received a mix of core and targeted funding from a range of statutory and philanthropic funders, including The World Bank, the African Development Bank, the Bill and Melinda Gates Foundation, Ford Foundation, Swedish International Development Cooperation Agency (SIDA), the Norwegian Agency for Development Cooperation (NORAD) and the UK's Foreign Commonwealth and Development Office (previously Department for International Development), the US Agency for International Development (USAID) and the International Development Research Centre (IDRC) of Canada. Some financial support has come from African governments, for example the Government of Kenya, and a network of Central Banks in Africa. The AERC is looking increasingly to African governments and institutions for their support.

The CPP has produced over 400 alumni across the continent, many of whom are researchers, policy analysts, policy makers and thought leaders in universities, government institutions, think tanks and policy research institutes.

This case study was developed based on analysis of documents available online, an interview with the University of Dar es Salaam (a participating university) and with the AERC Programme Manager. Since the CPP is funded mainly via core contributions to AERC, it has not been possible to identify an external funder to speak with specifically about CPP.

Context to the partnership

The African Economic Research Consortium was established in the late 1980s. The aim of the organisation was to increase capacity to develop economic policy that was 'homegrown' in Africa, at a time when many African countries were grappling with the aftermath of structural adjustment programmes, years of poor economic performance, and macroeconomic instability. The continent has changed significantly over the last 30 years but is still facing a number of distinctive challenges: a young population without job opportunities, widening inequality and persistent poverty.

AERC's postgraduate training programmes were designed with the aim of increasing the pool of economic researchers in Sub-Saharan Africa, who would then develop to become policy

analysts, thought leaders and policy makers/leaders. It was recognized that a CPP was not possible until a strong MA programme was in place and there was a sizable cohort of graduates willing and able to enter a PhD programme. The AERC launched the Collaborative PhD programme in 2002 building on the success of the Master's programme. At the time of its creation, many publicly funded universities teaching economics in the African region did not have skilled faculty members able to deliver postgraduate training in economics. Many students travelled abroad to study and then found employment there, as the opportunities to use their skills back in their home countries were few and far between. The Collaborative Masters programme and the Collaborative PhD programme, initiated by AERC, were both established to address the brain drain and to produce highly trained graduates who would enter Africa's public sector.

AERC's 2020-25 Strategic Plan had already identified the need to improve inclusivity and attract students from under-represented countries (Francophone and Lusophone countries, and those affected by conflict) as well as from different backgrounds (in particular seeking to attract more women to the CPP). The Covid-19 pandemic has led to the introduction of digital learning, which has both cut costs and increased inclusivity. There are now 53 PhD students from participating universities enrolled on the AERC's Joint Facility for Electives (JFE) this year, to be offered virtually a menu of online elective courses in their field of specialisation by a team of internationally competitively sourced visiting lecturers. Cumulatively, 450 students have benefited from the training offered under the CPP.

Overview of the partnership

The CPP partnership is led by AERC and brings together eight African universities. For the purpose of implementing the programme, the continent is subdivided into four regions: Southern Africa, Eastern Africa, Anglophone West Africa, and Francophone Africa, each having two universities categorised as either a host or a non-host degree awarding university. The four regional host degree-awarding universities that have been assigned the responsibility of teaching core courses to both students admitted at the regional host and non-host degree award universities are:

- University of Cape Town, Southern Africa
- University of Dar es Salaam, Tanzania (Eastern Africa)
- University of Ibadan, Nigeria (Anglophone, Western Africa)
- University of Yaoundé II, Cameroon (Francophone Africa)

The four non-host degree awarding universities that participate in the partnership (sending their students to host-degree awarding universities for teaching of core courses but thereafter offering thesis supervision) are:

- University of Witwatersrand, Southern Africa)
- University of Nairobi, Kenya (Eastern Africa)
- University of Benin, Nigeria (Western Africa)
- Université Félix Houphouët-Boigny, Côte d'Ivoire (Francophone Africa)

The AERC works with the partner universities to ensure that the quality of teaching and core content are aligned with international standards. There is some capacity strengthening of faculty through 'retooling' of teaching faculty, exchange visits and visiting lectureships. The degree-awarding universities have also received some institutional support - ICT equipment and reference books and reading materials for the graduate computer lab and library. The AERC supports subscription to journals and is now developing an e-Library that will serve researchers and students in the network.

The postgraduate degree offered by the participating universities takes 4-5 years to complete. Scholarships are awarded competitively based on merit while taking into consideration gender and regional balance. Students first complete core courses at the host-Degree Awarding

Universities in their first year of study. After this, students from all the eight degree-awarding universities gather at a common facility – the Joint Facility for Electives (JFE) based in Nairobi, Kenya, for intensive teaching of elective courses by an internationally competitively sourced team of experts for a period of 16 weeks. Students then return to their respective degree-awarding universities at the end of the JFE to prepare for and take the comprehensive examinations in Microeconomics, Macroeconomics and two electives. After the comprehensive examinations, students work with supervisors in their degree-awarding universities to prepare their thesis proposals. In the third year of their studies, students undertake thesis research, fieldwork, and data gathering and analysis under the primary guidance of their thesis supervisors.

The AERC has introduced reforms in CPP thesis research to enhance the quality of PhD thesis to advance novel ideas that are well articulated with scientific evidence to influence policy and increase the number of publications by CPP students in internationally refereed journals. Research Methods and Computer Applications course has been re-introduced as a mandatory common course for all CPP students to impart practical skills and improve the students' understanding of various aspects of the research process. To further strengthen quality and ensure better integration of research and training, CPP students are typically invited in their third and fourth year of study to present at the concurrent thematic groups at the AERC biannual research workshops held annually in May/June and December their proposals and best chapters/papers from their thesis with potential for publication in high-end journal or refereed journal. This way, the CPP students benefit from the peer review mechanism and from the large pool of international resource people, but more importantly, it is an opportunity to shape them into research and policy analysists. AERC has introduced reforms in CPP thesis research workshops and grants. The final years of the programme are dedicated to the write up of findings and defence of the student's thesis at the degree-awarding university.

Partnership model

This model is anchored in South-South collaboration. All HEIs in the network play a role in the implementation of the collaborative programme. AERC has signed a Memorandum of Understanding with the departments/schools of economics at each of the 8 partnering universities in 6 countries participating in the CPP. The Heads of Department of the partnering universities are members of the AERC Academic Advisory Board, which is responsible for the management of all academic aspects of the programmes. The Secretariat of the AERC acts as executing agency with responsibility for all administrative and financial matters relating to the programmes. The functions of the Academic Advisory Board are:

1. Approval of the menu of core and elective courses, including their course descriptions.

2. Approval of the common curricular requirements for the core and elective courses.

3. Approval of visiting lecturers and external examiners for elective courses taught centrally to all students at the Joint Facility for Electives (JFE) by a team of internationally competitively engaged visiting lecturers.

4. Approval of examination results of elective courses taught at the JFE and comprehensive examinations.

5. Periodic review of the quality of the programme and the performance of participating departments.

AERC has set up a Training Department, which is responsible for day-to-day administration of the collaborative programmes in partnership with the Heads of Departments/Schools. Each Department has a contact person who coordinates the collaborative programme and oversees the welfare of the students on the programme. The partnering universities administering the programme receive operating grants from AERC to cover tuition and fees as well as some direct cost of implementing the programme. The AERC training department works with the HEIs to ensure that they adhere to the quality standards of the programme.

The annual budget of the Collaborative PhD programme is approximately $3m USD. Over the 2015-2020 period, funding has come from a range of external funders – bilateral and multilateral donors, private foundations and international organisations – who have provided a mix of earmarked and core support to AERC. Among the current donors include: the Swedish International Development Agency (SIDA), the Foreign, Commonwealth and Development Office (FCDO), the Bill and Melinda Gates Foundation (BMGF), the Government of Kenya (GoK), and the Norwegian Agency for Development Cooperation (Norad). The participating HEIs also contribute in-kind by making available teaching faculty and infrastructure and there are also privately/ self-sponsored students who pay tuition fees. Over the 2015-2020 period, 30% of AERC's funding came from African governments and the organisation is increasingly reaching out to this group for direct support.

Results achieved and planned for the future

Achieved and planned outcomes

It has not been possible to find extensive documentation regarding the achievements under the CPP in Economics. However, over 400 students have graduated from the programme since its inception 20 years ago. Many of these alumni are researchers, policy analysts, policy makers and thought leaders in universities, government institutions, national think-tanks and policy research institutes.

AERC also believes that institutional capacities of public universities in Sub-Saharan Africa have been significantly improved and that those HEIs now offer quality graduate training in economics and agricultural economics. AERC has also provided practical support towards the upgrading of teaching infrastructure, staff development, faculty exchange and short-term teaching faculty retooling workshops.

Contribution to the SDGs (which SDGs the partnership contributes to, what are the specific pathways through which this contribution happens)

The AERC 2020-2025 Strategic Plan is grounded in – and motivated by – Sustainable Development Goal 8 to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, in addition to the vision embodied in the Africa 2063 which has focus on "improvements in living standards" and "transformed, inclusive and sustainable economies."

The CPP itself contributes directly to SDG 4 – to ensure inclusive and equitable education and promote life-long learning for all. In the next phase of the programme, there will be a focus on ensuring greater inclusivity. AERC has introduced a 'bridge programme' for students from fragile and post-conflict countries, who need extra support to qualify to enrol into AERC collaborative training programme. Affirmative actions have also been taken with award of scholarships, and with a particular focus on encouraging more women to enrol on the graduate training programme. Currently 40% of students on the Masters programme and 30% of students on the PhD are women, and this number has been increasing over time.

Expected outcome	SDG	Sub-SDG
Improved enabling environment for high-quality policy-oriented research	Goal 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	8.3 Promote policies to support job creation and growing enterprises 8.4 Improve resource efficiency in consumption and production. 8.6 Promote youth employment, education and training. 4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Expected outcome	SDG	Sub-SDG
Researchers' capability and dissemination capacity	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Improved quality of graduate students	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Improvements in quality and delivery of university-level economics curriculum	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship 4.C By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states
Improved due diligence and quality assurance by AERC	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Benefits for the partners and impact on the external environment (including at a local level)

AERC considers the benefits of the CPP in Economics to be the following:

- Improved quality and delivery of university-graduate level economics curriculum in sub-Saharan Africa.

- Well-informed economic policy making on the continent that will contribute to economic growth that is inclusive in nature.

- Alumni become policy makers or educationalists on the African continent. This counters braindrain. Twenty years ago, most universities did not have the capacity to offer quality postgraduate training.

Sustainability, future of the partnership and lessons learnt

Recently, AERC introduced virtual learning in its collaborative training programme that has helped to reduce costs and enhance inclusivity. Implementation of virtual learning has helped to minimize the disruption to academic calendars of partnering universities, which was a consequence of the COVID-19 pandemic. There has been significant increase in number of students and universities participating in the activities of the Collaborative PhD Programme as a result of virtual learning, with numbers increasing from 13 in 2019 to 32 in 2020. A total of 53 students are expected to enrol in joint teaching of elective courses offered under the collaborative PhD programme in 2021.

Africa is yet to reach a critical mass of trained economists. AERC is looking to attract more postgraduate students from underrepresented countries on the continent (especially fragile and post-conflict states).

AERC recognises the volatility of the funding environment to be a significant risk to its operations, including to its postgraduate training programme. The consortium is seeking to diversify funders by bringing in African governments.
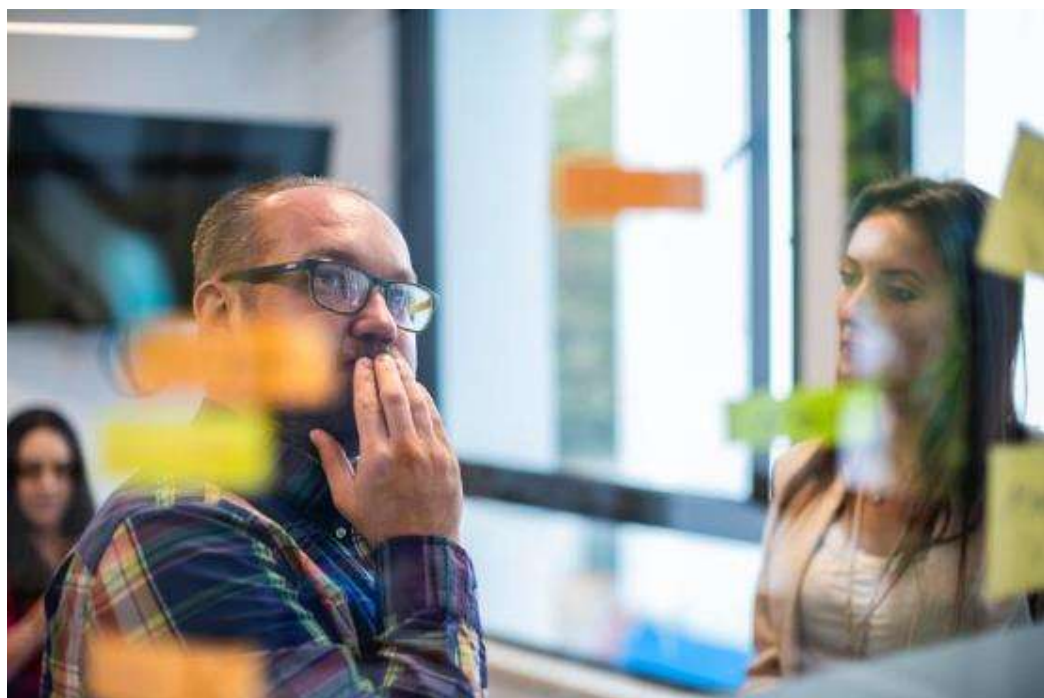
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Documents

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- Overview of the Programme: https://aercafrica.org/training/cpp/
- AERC Annual Report 2019/20: http://www.aercafrica.org/ar/wp-content/uploads/2020/10/AERC-Annual-Report-20192020_10.pdf

Interviews

Name	Affiliation	Role	Date of interview
Dr Tom Kimani	AERC	Training Manager; oversees the project	09/06/2021
Dr Beatrice Mkenda	University of Dar es Salaam	Acting Dean for the School of Economics	02/07/2021

5 Mastercard Foundation Scholars program

Introduction

The Mastercard Foundations Scholars program is a secondary and university scholarship program which aims to "develop a cohort of ethical, entrepreneurial and energetic young leaders who will drive and lead socio-economic transformation in Africa".[12]

This case study is slightly different to other partnership case studies, in that the funder, the Mastercard Foundation (MCF), is itself a partner in the model, rather than just the funder of the program. MCF is also a philanthropic organisation, rather than governmental. Nevertheless, the case study represents an interesting partnership type and, therefore, it complements the other selected case studies.

The case explores the example of MCF and one of its partners in the Scholars program. The focus is on, how together, the partnership helps young Africans on their road to being transformational leaders, and in turn how this links to the sustainable development goals (SDGs).

This case study has been constructed through the use of secondary data and supplemented with in depth interviews with key people within the Mastercard Foundation Scholars program in Rwanda, along with counterparts in the University of Makerere, one of their key partners.

Throughout this case, the America spelling of program is used.

Context to the partnership

The MCF was established in 2006 by Mastercard Corporation (although it is an independent entity). Its mission is to advance learning and promote financial inclusion for people living in poverty. Early on, the Foundation made a decision to focus on Africa, and established the Mastercard Foundation Scholars program with $500 million in 2011. The vision was to invest in the education of 15,000 African Scholars at secondary, undergraduate and master's level.

One of the main rationales for the focus of this Scholars program is the insufficient and inequitable (SDG10) access to high quality tertiary education (SDG4), its link to economic development (SDG8) and the eradication of poverty (SDG1). The Scholars program is aimed at youth who demonstrate leadership potential and who may have been overlooked by the education system (SDG10). This includes a focus on girls and young women (SDG5), the economically disadvantaged, displaced and rural youth. The Scholars program, and the wider work of the MCF is not driven by its links to the SDGs, but the alignment is evident through its stated objectives as well as the outcomes and impacts seen in the university partners and the students.

Overview of the partnership

The MCF has grown from three employees in 2006 to one of the largest philanthropic foundations in the world. With its headquarters in Toronto, Canada, the MCF also operates through four hubs in Ghana, Kenya, Nigeria and Rwanda, but with decentralised operations in

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[12] Mastercard Foundation Scholar Guidebook

seven countries (also including Senegal, Ethiopia and Uganda).[13] The Foundation is working with 29 countries across Africa and through its "Young Africa Works" strategy 2018-2030 is focused on employment as a means to poverty reduction. The goal of the Foundation is to ensure that by 2030, their work will enable "30 million young people in Africa to secure employment they see as dignified and fulfilling". The Scholars program predates the current strategy "Young Africa Works", but is well aligned to the goal of the strategy. The Scholars program has also been adapted over time to connect with the goals of the strategy more fully.

Makerere University was founded in 1922 by the government of Uganda at Makerere College. It became an independent university in 1970. In 2011 it transformed to a collegiate university and now has 10 colleges and one-off campus setting. The university is governed by the university council which works through committees. There is a four-tier system of academic units: college, school, department and administrative unit, headed by Principal, Dean, Chair and Director respectively. The University has a Planning and Development Directorate (PDD) which receives and administers all of the universities external funding. There are three main sources of funding: the Government of Uganda subvention, appropriation in aid or non-tax revenue and donor support which is either bilateral and the American Foundations or research grants.

Makerere University has a partnership with the MCF to offer 1,000 scholarships to bright, economically disadvantaged youth to study at Makerere. The partnership was set up in 2013 and runs until 2023. With a budget of $20,989,965.15, the partnership is administered by the University through the Planning and Development Directorate, which sits under the Vice Chancellor's Office. This partnership was one of the first put in place with the Foundation, starting soon after the launch of the program. As such the relationship between Makerere University and the MCF has adapted and changed over time.

The program at Makerere University recruits both national and international scholars (90:10) and female and male scholars (80:20), in proportions stipulated by the overall program. MCF also works with secondary schools and another stipulation is that priority is given to those who have already received support (50%), therefore Makerere University also works with other partner institutions to provide opportunities for young people already known to the Foundation.

At Makerere University there are preferred fields of study for MCF Scholars which are: Agriculture, Veterinary Medicine, ICT, Health Sciences, Technology and Engineering, Law and Human rights and Business and Financial management. However, it is not discipline dependent and scholars can be recruited for any subject. The scholars are taking on in cohorts and in order to ensure they can finish their education (including longer courses such as medicine), recruitment continued until the 6th year of the program.

The Scholars program at Makerere University provides a wide range of support including the following:

1. Tuition and Functional fees

2. Laptop, books and other learning materials

3. Accommodation, beddings and meals

4. Medical insurance

5. Stipend

6. Transport to and from home

7. Psychosocial and mentorship support

8. Capacity building training in leadership, Communication, Entrepreneurship, Financial Literacy, Gender and Human Rights

The way in which the objectives of the Mastercard Foundation Scholars program are articulated is closely aligned to the narrative of SDG 4 "to ensure inclusive and equitable quality education

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[13] The hubs and decentralised operations represent a response of the Mastercard Foundation to the needs of the program

and promote lifelong learning for all".[14] Looking more closely at the targets set for SDG 4 under the 2030 Agenda for Sustainable Development, target 4b set the goal of expanding higher education scholarships for developing countries by 2020, and transparently targeting young people from disadvantaged backgrounds. It is also closely aligned to SDG 5 and support for gender equality with a very strong push for girl's education. Although MCF's strategy is not driven by the SDGs, it is aligned with the SDGs. The Foundation is often called upon to speak at conferences and events which link higher education interventions to the SDGs which is relatively straightforward for them.

In its impact strategy, the MCF understands impact as "sustained improvements in the quality of life for young men and women and the socio-economic ripple effects for their families and communities as reflected in the overall health of the economy and society at a national level".[15]

The planned outcomes of the program are at a number of different levels. For the students, there is the transition to entrepreneurship, employment or onto further studies. These are the "transition pathways" for MCF scholars. For the economy and society, these students who are trained to be future leaders, attain good academic qualifications, gain better jobs, contribute to job creation as well as provide a significant element of "give back" where students and alumni work with communities to improve people's lives. For networks and institutions, there are another set of outcomes from the program. As a partner, Makerere University uses its experience of working as a partner with MCF to adapt its own policies, programming and practices and contribute to the visibility and reputation of the program.

At Makerere University, the interview with the program lead stressed how academic attainment is not important above and beyond everything for MCF Scholars. Through a combination of support services, both academic and personal, these young people gain much wider skills including those of leadership, belief in change and commitment to their communities and Africa more widely.

Partnership model

The governance and management of the Mastercard Foundation Scholars program at Makerere University is different to their other funded partnerships. The Scholars program is managed under the office of the Vice-Chancellor, who heads the program. There is an advisory board with five members including the Vice-Chancellor, a representative from the Foundation, the Ministry of Education, another partnership organisation and the Chair is a University Council Member. The program lead also sits on the committee as the secretariat. Below the advisory group is the program steering committee whose membership is made up from within the framework of the University. The people on the steering committee come from across the disciplines. The MCF Scholars program is implemented by the program implementation team, which consists of 12 staff members. There is a significant amount of work to do on the operations of the program, as the staff look after the existing scholars as well as alumni.

Funding is provided for the Scholars program on a yearly basis. There is a requirement for monthly reporting to the MCF. This includes a narrative and a financial report (which is extracted from the accounting system). This is presented to the steering committee before being sent to the regional headquarters of the MCF. The monthly reports are aggregated into quarterly reports. In addition, there are annual reports due at the end of the financial year (April 30th) which are presented to the advisory board in May each year before being sent onto the MCF. The university works with a guide to report to the Foundation, but they are also provided with support and guidance with relation to support services, leadership and mentorship.

There are five specific areas to report on. The first relates to the comprehensive support given to students and academics, through the financial support, psychosocial support, ICT, for example. The question is whether the Foundation is providing quality education to disadvantaged and talented youth? This is the largest area of reporting. The second area is leadership, and reporting on whether the program is fostering the skills and mindsets of

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[14] https://sdg4education2030.org/the-goal
[15] Mastercard Foundation impact strategy 2018

transformative leaders. The third area is about give back. At Makerere this is encouraged but it is not forced by the university since it should come naturally to the Scholars, presented with the right opportunities. The fourth area is support for transition to employment, entrepreneurship and further education and whether the Scholars are contributing to economies and societies. The fifth area is related to the change that MCF Scholars program is having on the institution itself. This is one of the main reasons why the Scholars program is managed within the central university management as it better supports institutionalisation.

The indicators are set by the steering committee as they need to work within Makerere University and be closely aligned to the needs of the University, as defined by their own strategic plan.
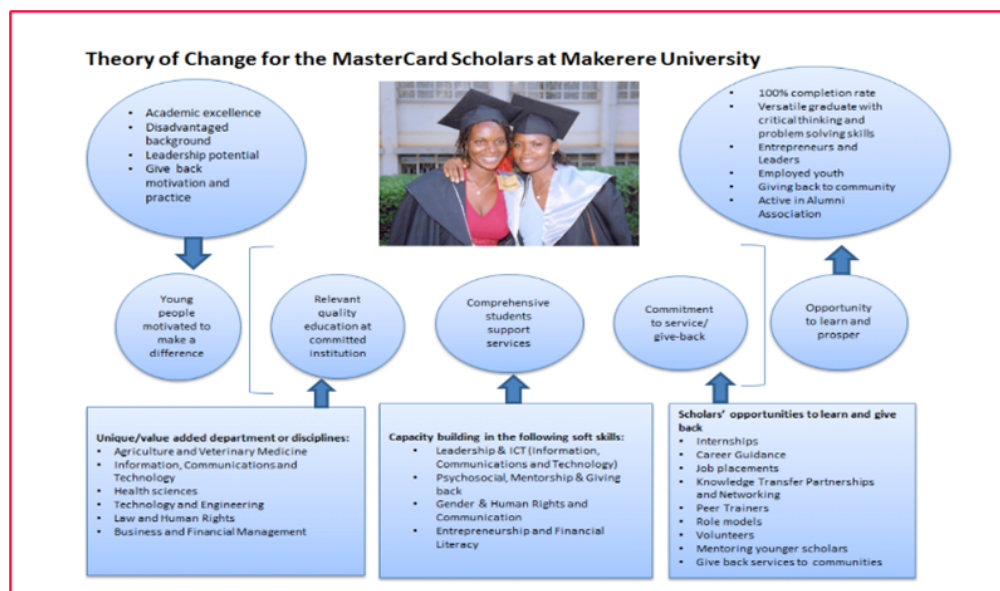
The relationship between the MCF and Makerere University is described as equitable by Makerere. The Scholars have a relationship both with the University and centrally with the MCF. Even when issues have been reported directly to the MCF, or if Makerere has been dealing with bad publicity, MCF always enter into dialogue with the university first. It is considered to be a very good relationship built on trust.

MCF also describes its relationships as equitable. The Foundation is a values driven organisation (humility, listening, kindness and respect, co-creation and impact). The values are reported to drive everything they do and are extensively referred to in the day-to-day activities of staff within the organisation. Co-creation is an important element in the partnership model. The partnership with Makerere is one of the earliest in the Scholars program and both sides have invested in this relationship and there are strong links with the Vice-Chancellor of the University. Being supportive is a very important element of the partnership.

MCF also provided insights into their response to the Covid-19 pandemic with regard to all its partnerships. The Foundation realised there was a need for a very quick and intentional response to its partners, acknowledging the situation and letting the universities know they were the authority with respect to responding to their own needs. The Foundation issued a circular to all partners outlining areas in which the Foundation would be able to support, and offering a flexible use of the budget (as well as additional funds if necessary). It liberated the universities to respond in the way they needed to for their own institutions, always with a focus on making sure that the Scholars could continue with their studies as fully as possible. This built a lot of trust during the pandemic.

There are very few challenges and barriers to the successful implementation of the Scholars program at Makerere University. The biggest challenge has been the recruitment of vulnerable persons (identification). Even with the links to the other MCF programs at the secondary level, ensuring that children gain access to knowledge about these opportunities in an equitable way is challenging. Especially as this is a public process and needs to be transparent.

There was a mid-term review of the program where project implementation was reviewed following an incident which led to the temporary freezing of funds from the MCF. The situation was addressed through ongoing consultations between the Makerere University management, the MCF and the implementation team. The Vice-Chancellor also took a leading role in the resolution. The collaboration remained strong throughout and the Foundation engaged closely with the university leaders, who implemented a number of changes to strengthen the institution.

Theory of Change for the MasterCard Scholars at Makerere University

Results achieved and planned for the future

Achieved and planned outcomes

At Makerere University, there are outcomes at the level of the student, staff and at the institutional level.

For the students, first and foremost during their academic careers they have the opportunity to be fully focused on their studies. This is in contrast to many of the students studying at the university. Even though Makerere is a public university, there are very few free places. Most of the students are private or sponsored and need to top up their finances. There is more support given to the MCF Scholars, both financial and through other support (mentorship, psychosocial). Although there is an expectation that MCF Scholars do well, which they do in general, there are also some who do not get attain grades. All of them have the opportunity to engage outside of the curricular and the university produces graduates who are well rounded with additional skills to support them in their transition onto the next stage of their life (soft skills and preparedness). A key outcome expected from the Scholars program is the development of value driven leaders.[16] There is a graduate tracer underway at the time of writing this case study which follows 215 alumni. The results are promising in terms of the impact the Scholars have post university in their transition to employment, entrepreneurship and further studies. There is also the focus of the MCF Scholars program on disadvantage students, in particular girls.

For the staff, the provision of the mentorship program and the psychosocial support has meant that staff have received training and therefore additional skills to support the students. The mentors are recognised annually by the Vice-Chancellor for their work.

At the institutional level, there are a number of outcomes. Makerere University has increased staffing levels and opened career and well-being services to support Scholars with finding internships and employment. The university has benefitted from the links made with companies for internship opportunities, which benefit non-MCF Scholars as well. It has created a much more open university system which focuses on student health (there is widescale investment into an online platform to provide services for all). This has been largely informed by the MCF Scholars program. The university has also expanded its wider partnerships for the university with the sharing of resources. The fact that the governance in enshrined in the university management means that there are models of ways of working available. When the program is set up with a university partner, they have to develop a distinctive understanding of leadership which informs the support of students towards social change. This is something which the institution gains as part of the program.

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[16] Case study on MCF Scholar program 2018 Book of International Scholarship in Higher Education. B. Burciul and K. Kerr

One of the success factors for the program at Makerere University, and its wider outcomes, is the way in which leadership is involved, but also how power has been devolved inside of the university. The decisions are made at the level of the steering group, not the advisory board, speeding up the response. At the same time there is endorsement at the highest level.

After the recent fire at Makerere University, the MCF contributed $1m towards its reconstruction.

Contribution to the SDGs (which SDGs the partnership contributes to, what are the specific pathways through which this contribution happens)

From the perspective of the MCF, the Scholars program sets out to educate disadvantaged youth in Africa (with a particular priority on girls' education), to attain high standards and to contribute through leadership, employment, entrepreneurship, further studies and ultimately their impact on society and the community. The Mastercard Foundation Scholars program does not explicitly reference the SDGs in its documents but nevertheless uses very similar language. There are very strong links overall with SDG 4 on inclusive and equitable quality education, and more specifically, the support for scholarships (SDG 4.b) and those related to equity (SDG 4.3 and 4.5). The focus on employment and entrepreneurship as an outcome of high-quality education is also reflected in SDG 4.4. The link to social change is also strong in the Scholars program, which is found in SDG 4.7, with associated indicators for global citizenship and education for sustainable development.

As the Scholar program is looking at the transition from education through its three pathways (employment, entrepreneurship, further education), there are also links to SDG 8 which promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. This is strongly linked to the MCF overarching strategy "Young Africa Works" with its goal of securing dignified and fulfilling work to 30 million young people in Africa. This would represent a longer-term outcome of the program (feeding into this ambition along with other investments made by the Foundation). The post-education support provided by the program is an area which is growing. At the beginning of the program, the investment was focus on the scholarship provision and supporting services. There is now more focus given to the support of the alumni and the future opportunities of the Scholars as they transition and post-transition to the next stage.

The expected outcomes have been broken down to a more granular level below to link more closely to corresponding SDGs.

Expected outcome	SDG	Sub-SDG
Increase number of scholarships	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.b By 2020, substantially expand globally the number of scholarships available to developing countries for enrolment in higher education,
Increased academic attainment for disadvantaged students	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Increased number of educated girls	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Goal 5. Achieve gender equality and empower all women and girls	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

Expected outcome	SDG	Sub-SDG
Graduates attain good jobs, become entrepreneurs or further their education	Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training
Graduates attain positions of influence	Goal 5. Achieve gender equality and empower all women and girls	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
Graduates give back to their communities	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development,
Increase in support for student health and well being	Less direct but links to Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	None
MCF Scholar program leads to more partnerships	Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

Benefits for the partners and impact on the external environment (including at a local level)

From the perspective of the University, the MCF Scholars program can affect change in the education system so that it can address the needs of society and the community. This can be seen in the new strategic plan of the University, which is moving away from the marketisation model, focusing on knowledge generation and looking to support innovation (in line with the MCF Scholars program's theme of entrepreneurship and transformative leadership). Gender and equity are also core goals of the university in their new strategic plan, along with partnership. Makerere has a Makerere University Female Foundation (FSF) with the objective to increase enrolment, retention and improve academic performance of female undergraduate students at Makerere University with specific on sciences and giving priority to applicants from underrepresented geographical areas in Uganda.[17] Makerere University is also supporting transitions to employment through its own Career development centre, in partnership with NFT consult.

Another key area where the MCF Scholar program and the University are well aligned is with regard to outreach and community engagement. There are clear linkages between strategy of Makerere University and the objectives of the Scholars program which therefore align with the SDGs.

From the perspective of the Foundation, as already highlighted, there has been a move away from just supporting the Scholarship and supporting services, to a model where the support is much more wide ranging (catalysing and supporting the alumni in their transition and beyond). As well as providing more ongoing support and networking for Alumni, the MCF is also working more with the universities to support their own upskilling and change. The focus on creating transformational leaders is an important one. If transformational leaders are the ones which will create the biggest change for Africa in the future, the Foundation also needs to be working with current leaders (i.e., the university hierarchy) to support those in positions of influence with their own agendas for positive change.

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[17] Note on the Mastercard Foundation Scholars program at Makerere University 2019, Makerere University

Sustainability, future of the partnership and lessons learnt

Scholarship partnerships cannot exist without funding as financial support is given directly to the students for their academic studies and their other needs. Therefore, in order to continue to provide support, Makerere University would need to continue to work with the MCF or another donor.

The current round of Mastercard Foundation Scholars program finishes in 2023 and the University of Makerere is already participating in the preparatory activities for the next round. As part of these activities, there is a focus on inclusion, in particular in relation to people with disabilities. The intention is to apply for a second round of funding to continue to educate girls and boys from disadvantaged backgrounds and give them the chance to attain academic excellence.

If it is not possible to continue with the existing relationship, Makerere University will use the pathways and systems established by the Scholars program to look out and apply for other scholarship programmes. The legacy left behind from this particular intervention gives the University to confidence to attract additional funding and be able to manage programmes in the future.

The University will continue to support the Alumni Association irrespective of any funding decisions made. There is a high level of importance given to providing the ongoing support post education, which indicates that the strong links to SDGs which relate to economic growth and not just to education are important for the University. MCF, as highlighted, is already doing more to support Alumni. The Foundation now has teams across Africa and there are Alumni chapters in Ghana, Rwanda and Uganda. The focus on alumni will help to re-frame the relationship between the Foundation and the Scholars going forward. It will also more strongly support the goals of the Foundation strategy.

The partnership is about more than funding. The partnership level is where the activities of the MCF programs are concentrated. By working through a partnership model, MCF, and in particular, the Scholars program sets out to leverage the strengths of the partner and give autonomy to innovate and adapt through their own experience. This is very much in line with the "values of the Foundation. Mastercard Foundation Scholars Program partners are deliberately organised as learning partnerships to maximise impact and influence change.[18] The partners are focused on a common agenda and agree to common goals and measurement. The learning element is critical in these types of partnerships. The Scholars program is also more than a bilateral relationship are there is a network of partners. The MCF provides the space for learning through "learning convenings" and in interview with Makerere University, the open engagement between the MCF and the university is evident.

The interview with the MCF provided more insight into the potential power of the networking aspect of the program. The partnerships are bilateral with the Foundation, but they have always brought the partners together, largely for the purposes of information sharing and knowledge exchange. However, recognising that this type of forum could do much more, there is an intention to set some common goals which will support the partners and leverage the capital in a different way. There are opportunities to be more strategic and to create economies of scale, but also to encourage other links between the organisations. As part of the wider study, of which this case study is a part of, other consultations raised the issue of the need for more interactions to be facilitated between universities on the African continent as in some cases, these relationships are weak and could be strengthened.

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[18] Partners Learning Together for Maximum Impact: Experience from the Mastercard Foundation Scholars Program Hélène Grégoire, PhD, Senior Learning Manager, Mastercard Foundation, 2019

This case provides an interesting example of a partnership between a funder and a university. In this case the funder, MCF, is a philanthropic organisation rather than a governmental organisation. This may be why the partnership is less driven by the SDGs as explicit program objectives, however the case shows how well aligned the overall objectives of the Scholars program, and the overall strategy of the MCF, are to the SDGs.

What is potentially different, particularly in relation to the Scholars program, is that it is driven by a desire to create transformation leaders of the future. With respect to the SDGs, this objective is potentially an "assumption" through which many of the SDGs can be realised, or a "condition" for success. The assumption is that having transformational leaders in Africa will drive change and support the continent in solving societal challenges.

Coming back to the new impact strategy of the Foundation which references the "ripple effects" of the programs. There is a desire to create impact far beyond the individual Scholar, through to families and social ventures. At the same time, as the program has matured, it has grown into a much more comprehensive offer for the universities in the partnership as well as for the Scholars. This has led to wider impacts on the universities themselves, through changes in policies, procedures, staff training and the development of student services to a wider cohort, outside of the scholars.

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- Note on the Mastercard Foundation Scholars program at Makerere University 2019, Makerere University
- Partners Learning Together for Maximum Impact: Experience from the Mastercard Foundation Scholars Program Hélène Grégoire, PhD, Senior Learning Manager, Mastercard Foundation, 2019
- Young Africa Works Strategy, Mastercard Foundation, 2018

Interviews

Name	Affiliation	Role	Date of interview
Dr Justine Namaalwa	Makerere University	Project Coordinator MCF Scholars program	24/05/2021
Sohna Bezanson	MCF Scholars program, Rwanda	Head of Eastern and Southern Partner Network	28/05/21

6 Groundwater Futures in Sub-Saharan Africa (GroFutures)

Introduction

This case study explores how an international partnership between eight universities and five research institutions across Europe and Sub-Saharan Africa (GroFutures) has contributed to the Sustainable Development Goals. It is important to note that although there were three strategic partnerships in Ethiopia, Niger and Tanzania, Tanzania has been the focus of this case study both when describing the partnership and the results of the project.

This case study was pulled together from desk research and primary data collected through a series of interviews. The mapping document put together by the British Council identified three web pages from which to begin the desk research: basic project information on the UK Research and Innovation website, the partnership website with links to publications and research, and the consortium's website (UPGro). Desk research from these websites revealed some useful journal articles about the work and some video interviews with key stakeholders. The biggest challenge with the desk research was that the partnership was funded primarily to conduct research, so most of what has been published is scientific research, rather than evaluations of the impact or outcomes of the work, for example.

A preliminary conversation with one of the Principal Investigators (PI) from the project led to the identification of five interviewees, three of whom were interviewed. Two funders, two PIs and a beneficiary organisation were identified. One funder, one PI and one beneficiary organisation were interviewed. The others were unavailable at the time of the research.

Context to the partnership

A recent study on groundwater in Africa has shown that there is possibly 20 times more water available as groundwater in comparison with lakes and rivers.[19] Droughts are a major cause of humanitarian disaster in Sub-Saharan Africa (SSA), often leading to mass population movements and considerable health, social and economic stress for many countries. There is a need to address some of the core gaps in the evidence and data, in order to identify and manage the full implications of increased groundwater use in this region, and to maximise the sustainable use of groundwater for the benefit of the poor and reduce the risk of damage to the environment.[20]

It was found by UPGro that a scarcity in groundwater not only leads to crop failure, challenges for livestock management, and a reduction in household income, it also leads to intra-communal conflict, intrafamilial conflict and conflict between men and women through their different livelihoods. This often leads to women having less access to water.

It has been an ongoing concern in the region that groundwater levels in such dry lands cannot be sustainable. A lack of understanding about how groundwater is replenished in the region, and what the environmental impact of increasing groundwater pumping was the rationale for the partnership to emerge. The problems that the project sought to address have been listed in four bullet points below:

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[19] MacDonald et al. 2012. Quantitative maps of groundwater resources in Africa. Environ. Res. Lett. 7. 024009
[20] https://nerc.ukri.org/research/funded/programmes/upgro/

- Limitations in present knowledge of groundwater in Sub-Saharan Africa
- Uncertainty in the renewability and quantity of accessible groundwater to meet future demands for food, water and environmental services.
- Exclusion of poor people's voices in decision-making processes on groundwater development pathways.
- Intensified groundwater dependency as demand for food and water rises and variability in rainfall and river flow increases due to climate change.[21] Groundwater is likely to become more important as a livelihood resource in Sub-Saharan Africa, as climatic change alters the reliability of rainfall and surface water flows.[22]

The partnership emerged from ongoing conversations between Richard Taylor (UCL) and stakeholders in Tanzania, where the capital Dodoma has a population of ~500,000. Groundwater is the exclusive perennial source for the city's water supply and is pumped from The Makutapora Wellfield, ~25km north in semi-arid, central Tanzania, where daily pumping now exceeds 50,000 m3 per day.[23] As a case in point, a project in 2015 that was aimed at improving water supply in Dodoma city doubled the in-store capacity of the city's boreholes (to 61,000m2) which successfully increased water production. The subsequent increased pumping significantly reduced the water level under the ground, later rising again back to its normal levels. A lack of understanding in the scientific community of the groundwater development pathways in Sub-Saharan Africa meant a lack of knowledge for how to ensure groundwater sustainability.

Overview of the partnership

The UK government funded UPGro programme, 'Unlocking the Potential of Groundwater for the Poor' was a 7-year (2013-2020) social and natural science research programme for enabling sustainable use of groundwater for the benefit of the poor across Sub-Saharan Africa.[24] Under this programme, five partnerships developed projects of which GroFutures is one.

An international consortium of scientists was assembled, which included 11 partner organisations (higher education institutions and research organisations). Sokoine University of Agriculture (SUA) in Tanzania was the lead partner. The others are listed below:

• University College London (UCL), UK • Abdou Moumouni University of Niamey (AMUN), Niger • Addis Ababa University (AAU), Ethiopia • British Geological Survey (BGS), UK • Institut Recherche pour le Développement (IRD), France	• Institute of Development Studies (IDS), UK – Grant • International Water Management Institute (IWMI), South Africa & Global • University of Ngaoundere (UNG), Cameroon • University of Maiduguri (UMA), Nigeria • University of Sussex (USX), UK

The GroFutures team also engaged staff of the national, regional and local water bureaux in Ethiopia, Niger and Tanzania, as well as basin authorities (Great Ruaha, Niger) as project partners from the start in the research planning, data analysis and tool/metric development and piloting.

It should be noted that not all of the partners were academic institutions.

[21] http://grofutures.org/project/
[22] https://steps-centre.org/blog/six-pathways-identified-for-sustainable-groundwater-futures-in-africa/
[23] http://grofutures.org/wp-content/uploads/2016/10/Poster_Makutapora_WellField_study-7-Nov-2016.pdf
[24] https://upgro.org/2019/07/04/lord-of-the-rain-how-radio-can-help-african-farmers-combat-drought/

Evolution of the partnership

The partnership was a consequence of long-term engagement in Tanzania between Richard Taylor (PI) and the Ministry of water and irrigation, Sokoine University and the University of Dar Es Salaam. Collaboration had been in place for 12 years before the development of this partnership and preceded GroFutures and UPGro, engaging a completely different group of researchers. The partnership was not developed around available grants but emerged out of long-term relationships built on trust and aligned goals. Similar long-term relationships in Ethiopia and Niger contributed to the evolution of this international partnership, but these are not discussed in detail here.

An important factor in the evolution of the partnership and its objectives is the fact that aims were developed by SSA stakeholders and informed by the Ministry for Water and Irrigation. This is in comparison to much overseas development work which is designed primarily by Global North consortiums, organisations or funders. Out of ten basin waterboards in Tanzania, GroFutures worked with 2 of them (Makutapora and Ruaha). In the former the partnership was interested in understanding the sustainability of water withdrawals for the public water supply, and in the latter agricultural use was also an interest.

There were a number of external and internal challenges in setting up and managing the partnership. Financial challenges included difficulties in procurement. Differences in quoted prices for African and European institutions caused budgetary challenges as well as complex and slow tendering processes.

Grant management challenges stemmed from working with UKRI who were not familiar with the realities of working outside of Europe and the UK. Big challenges related to the grant management system made submitting proposals and finances really difficult, and a lack of understanding and flexibility from the fund manager added to this.

Challenges also stemmed from working with individuals with whom there is no established, trusted working relationship. The outcomes in Niger and Tanzania were considerably more impactful than those in Ethiopia, where there was no prior relationship. Although the partnership had identified individuals in each country with whom they wanted to work, UKRI had policies that made this impossible. In the end, working with individuals who were not known to the partnership proved extremely challenging.

Aims and objectives

The GroFutures project had a duration of 4 years and 7 months and was focused on three 'basin observatories': the Great Ruaha in Tanzania, the Upper Awash in Ethiopia, and the Iullummeden in Niger and Nigeria. The ultimate aim of the partnership was to generate new evidence and policy insights that would lead to more sustainable and 'pro-poor' groundwater futures in the wider regions around these basins.[25] The primary pathway by which GroFutures would generate impacts for poor people was through the development of new evidence and tools which water managers in the focal countries and across SSA could use to target groundwater development where it can most effectively reduce poverty and ensure equitable and sustainable development of groundwater resources.[26] This knowledge would also be transferred via knowledge brokers to regional decision makers.

The three objectives of the partnership were:
- To develop an inclusive, participatory framework for groundwater governance in which the views of poor women and men are considered together with the trade-offs associated with groundwater development pathways.

- To apply new geophysical techniques and compile long-term observations of groundwater levels from our Network of African Groundwater Observatories to

[25] https://steps-centre.org/blog/six-pathways-identified-for-sustainable-groundwater-futures-in-africa/
[26] https://gtr.ukri.org/projects?ref=NE%2FM008592%2F1#/tabOverview

substantially improve knowledge of the renewability and volume of groundwater in Sub-Saharan Africa.

- To establish a network of observatories representing the key groundwater environments and governance challenges in Sub-Saharan Africa.[27]

In order to achieve these objectives GroFutures delivered activities through two workstreams. One was the development of new knowledge and data through scientific research in the different basins. Through a quantitative understanding of groundwater development pathways and future groundwater recharge and storage (under projected changes in climate and land use), an improved estimation of groundwater storage and recharge would be gained. Higher frequency monitoring and the compilation of multi-decadal observations across Africa would help to assess climate-groundwater relationships.

The second workstream was around the development of new tools and partnerships. Tools were to include the Groundwater Game that helped decision makers to assess trade-offs associated with development pathways. This also included a Pathways Framework for inclusive governance.

Additional partnerships and networks were also intended. A Network of African Groundwater Observatories (NAGO) featured in the planned outcomes.

The total budget for this work was £189 525. It was UK funded international partnership seed funding that was intended to support the fostering of international partnerships. It was donor funded only in part with £461,000 leveraged through stakeholder engagement in SSA.

The SDGs were the backdrop to the work of the partnership, providing a framing and being integrally linked. There is widespread acceptance of the SDGs and formal government buy-in of these ensures a secure basis for collaboration around the SDGs. It is therefore beneficial for international partnerships to be explicit about a partnership's alignment with the SDGs.

As a research project, GroFutures is not directly meeting SDG targets but certainly contributes in many ways (explained below).

Partnership model

The partnership benefitted from a Consortium Agreement that outlined expectations of partnering organisations, protocols and operations. It served as a written agreement of the dynamics and nature of the collaboration. The existence of in country and out of country Principal Investigators ensured a level of equity between Global North and South partners.

There was a concern about representation within the partnership and efforts were made from the start to ensure a balance within the research team. Two thirds of the team was from SSA and one third from outside. The gender balance was not addressed so well. Women did hold PI roles and were present as post-doctoral researchers, but there was less focus on this area. Principal Investigators were from SSA as well as Europe which ensured more equity on the research side.

The partnership met once per year as a team in order to collectively align goals and aims. Key themes discussed at these meetings were the sustainability of groundwater use for agriculture and the competition between potable water and agricultural use.

At UCL, the day-to-day management of the consortium was conducted by Richard Taylor (PI and interviewee, UCL) with a Project Manager (Post-Doctoral Fellow). The partnership also had a Project Management Team involving all members of the consortium, with UCL and IDS (Sussex University) as lead institutions. Field research in Ethiopia was managed by AAU (Addis Ababa University) and BGS (British Geological Survey), SUA and IWMI in Tanzania, IRD (France) and UAMN (Université Abdou Moumouni de Niamey) in Niger.

Challenges around the division of responsibilities between North-North partners meant that there was sometimes confusion about who was leading work. Clear lines of responsibility: who was partnering with whom, who was supporting and who was responsible for deliverables, meant

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[27] http://grofutures.org/wp-content/uploads/2015/11/Grofutures-leaflet-ENGLISH.pdf

that North-South and South-South collaborations ran very smoothly, but working relationships between the North-North partners was less clear and ran less smoothly.

Drivers and barriers

The presence of long-term, established and trusting partnerships among key stakeholders was a key driver for the partnership. It facilitated smooth collaboration, alignment of vision and goals and led to impactful and sustainable outcomes. On the other hand, the lack of flexibility of the fund manager and inexperience in managing grants in SSA created barriers to the effectiveness of the partnership. A lack of trust between donors and partners, as well as between a small number of individuals within the partnership was also a barrier.

Different ways of working at academic institutions on the one hand and more corporate institutes on the other also created some challenges for the partnership. This was not pre-empted and taken into consideration at project set-up.

As part of the UPGro programme, Knowledge Brokers worked to disseminate and transfer knowledge and evidence to those at a higher level, such as regional water governance bodies. There were many benefits to having programme wide knowledge brokers, particularly for GroFutures whose UK based PI was also consortium lead for the wider UPGro programme which was considered a particularly good model.

Results achieved

The project contributed significantly to the knowledge and evidence base surrounding groundwater use and recharge in SSA. This will lead to enhanced groundwater management and usage that will benefit the poor and ensure environmental sustainability. It puts scientific knowledge in the hands of those who need it such as governmental water and irrigation departments, water users, community organisations and high-level policy makers and power holders. GroFutures researchers were able to demonstrate the complex sustainability of dry land groundwater systems in Niger and Tanzania. In a place where groundwater is the only perennial form of water, they showed for the first time how important flooding is and how critical is the predictability of the El Nino weather pattern.

From this research, policy briefs were produced both by GroFutures and the wider UPGro programme on the partnership's research findings. Across the whole programme, Knowledge Brokers supported the dissemination of knowledge to bodies such as the African Ministers' Council on Water (AMCOW) representing African water ministries, very effectively. As well as policy briefs, videos enabled the partnership to reach a much wider audience with its findings. One policy outcome is that GroFutures research, showing that access to groundwater for productive purposes is associated with improved agricultural production and increased household income, is being taken forward by AMCOW as well as national governments to promote groundwater use to alleviate poverty and realise the UN Sustainable Development Goals.[28]

One important area of impact stemmed from the detailed stakeholder engagement process in Ruaha that led to the construction of groundwater development pathways by local stakeholders. This process aimed at putting groundwater management in the hands of water users and was strongly supported by social scientists at academic institutions, including at Sussex University. The process used multi criteria mapping in order to allow people to create criteria around their groundwater priorities. It asked people to engage with what they see and want in the future in relation to groundwater management and usage. The choices that people made about these development pathways informed research conducted with a view to assessing the consequences of these choices for the environment and water users, the results of which were fed back to stakeholders. Armed with the resulting scientific knowledge, stakeholders were then able to make informed decisions about their pathways. This happened a couple of times a year for several years.

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[28] https://gtr.ukri.org/projects?ref=NE%2FM008592%2F1#/tabOverview

This process is not only considered unique in its marriage between the physical and social sciences, and celebrated by academics, it offers a model for a more participatory approach to groundwater management. Governments have become increasingly interested in the process and the idea of taking a more participatory approach to groundwater management. And although this interest is driven by a desire alleviate some of the responsibility currently held by government departments, it could result in more participatory ways of working and better outcomes for poor water users and other stakeholders.

In addition to this, the process led to increased cooperation, increased concern about intensive development pathways and more conservative ambitions linked to environmental sustainability by stakeholders. The process and the use of targeted scientific research in decision making, enabled participants to be more concerned with the environmental sustainability of development pathways, as well as more conservative and realistic about their ambitions based on the realities presented to them. They were also more cooperative in their approach. Knowledge and participation within the criteria mapping process essentially led to improved cooperation and increased commitment to environmentally sustainable choices.

An additional planned outcome was that a Network of African Groundwater Observatories (NAGO) would be created and be able to apply new geophysical techniques and compile long-term observations of groundwater levels so that knowledge of the renewability of groundwater in SSA could be shared and understood across the region. This was not achieved by the partnership and NAGO remains unformed.

Contribution to the SDGs

There is strong alignment between the work of the partnership and the SDGs drove the partnership. As well as SDGs 2 and 6, the partnership also contributes to SDGs around gender equity, livable environments and urban environments and partnerships. The partnership works towards the sustainable provision of water in drylands but also towards enhancing and regularising agricultural production.

However, as this was a research partnership rather than for implementation of development activities, it cannot be said that the work directly contributed to targets set under the SDGs. The partnership saw their role as one of capacity strengthening and developing insights that will inform new development pathways, to be developed and implemented by the countries in question. This is partly because of a lack of research funding in countries which are most affected by climate change and there is a resulting obligation for international partnerships to fund and co-develop this work. Therefore, it is not the role of an international partner, or of research for that matter, to directly contribute to the SDGs but rather to inform and strengthen the capacities of those for whom the work matters most, so that they may work towards the SDGs.

Because the partnership produced evidence, shared knowledge, built capacity and provided equipment for the improved governance of groundwater in a region where groundwater is the only perennial water source, it has contributed to the long-term availability of safe and affordable drinking water (SDG6) and the sustainability and efficiency of water use (SDG6) in dry lands where water insecurity is a real threat. Through its use of participatory governance models, it has also contributed to the involvement of communities in water management.

Similarly, its contribution to SDG 2 can be seen through the importance of available, clean and affordable water for agriculture, and its contribution of groundwater to economic resilience. The outcomes achieved by the partnership and related SDGs can be seen in the table below:

Expected outcome	SDG	Sub-SDG
SDG 2: End hunger, achieve food security and improved nutrition and	2.1 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants,	- crop and livestock security achieved through improved data and evidence leading to better groundwater governance, use, and eventually

Expected outcome	SDG	Sub-SDG
promote sustainable agriculture	to safe, nutritious and sufficient food all year round	sustainability of water as an agricultural resource.
SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2.3 double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	- household income increases through the use of more groundwater for irrigation which can be achieved through improved data and evidence leading to better groundwater governance, use, and eventually sustainability of water as an agricultural resource.
SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2.4 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	- crop and livestock security achieved through improved data and evidence leading to better groundwater governance, use, and eventually sustainability of water as an agricultural resource. - Increased knowledge at all levels about the complex environmental sustainability of groundwater in SSA.
SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2a. Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries	International partnership and funding for crucial research and technology for better groundwater governance.
SDG 6: Ensure availability and sustainable management of water and sanitation for all	6.1 achieve universal and equitable access to safe and affordable drinking water for all	- avoidance of contamination and availability of water for all achieved through improved data and evidence leading to better groundwater governance, use, and eventually sustainability of water in dry lands for all.
SDG 6: Ensure availability and sustainable management of water and sanitation for all	6.4 substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	- Sustainable use of water achieved through improved data and evidence leading to better groundwater governance, use, and eventually sustainability of water in dry lands for all. - Different stakeholders reached through knowledge brokering and work done at community level on groundwater governance and capacity building
SDG 6: Ensure availability and sustainable management of water and sanitation for all	6.5 implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	- Improved data and evidence leading to better groundwater governance, use, and eventually sustainability of water in dry lands. - Model for inclusive groundwater governance successful and popular with governments.
SDG 6: Ensure availability and sustainable management of water and sanitation for all	6a. expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	International research partnership included majority Global South researchers and included research capacity building. Capacity building also provided to staff managing boreholes for improved data collection and measurement.

Expected outcome	SDG	Sub-SDG
SDG 6: Ensure availability and sustainable management of water and sanitation for all	6b. Support and strengthen the participation of local communities in improving water and sanitation management	Model for inclusive groundwater governance successful and popular with governments.

At the beneficiary level (e.g. the Dodoma sanitation authority [Makutapora basin]), the main outcomes were improved accuracy of information and data coming from measurement activities at the boreholes. New equipment and new knowledge meant that those working for the various authorities were able to collect more accurate data automatically, rather than risking human error. These new methods also save time and meant that engineers could spend more time on other important activities.

Capacity building activities, although sometimes challenging, did successfully increase research and data gathering capacity in SSA, ensuring that knowledge is sustained in country and able to be used beyond the life of the project.

Unfortunately, it was not possible to speak to Duwasa (Dodoma Urban Water Supply and Sanitation Authority), a key beneficiary of the project in Tanzania, but outcomes understood to be the primary results for them have been listed below:

1. Understanding of the mechanism and timing (cyclicity) of wellfield replenishment providing assurances of future replenishment in a highly uncertain and variable dryland

2. Understanding of the sustainable yield from this wellfield

3. Recognition of how to protect the quantity and quality of replenishment.

Outcomes of equal significance and importance were seen in Niger, but these are not discussed here.

Sustainability, future of the partnership and lessons learnt

Although sustainability of the knowledge and evidence produced by the partnership, and the sustainability of the results of capacity building efforts are clear, there are elements of the work done by the partnership where sustainability has been less considered. For example, stakeholder requirement mapping process was found effective at the start of the partnership but was not done at the end of it. Much more work is needed to secure inclusive groundwater governance processes, such as obtaining buy-in from the government for a programme dedicated to making governance processes more participatory. Although supportive of sharing the responsibility for water governance, the government is ultimately nervous of such a degree of participation. This would have required a different focus and possibly required embedding individuals within the ministry so that there is project representation at the ministry level. It may also be that a field office would be needed in order to allow drop in exchanges with the community and therefore continued participatory processes beyond the life of the project.

In hindsight it was out of scope for the project to create a Network of African Groundwater Observatories although this remains a long-term intention for the original partners (Sokoine University, Ministry of water and irrigation in Tanzania, University of Dar Es Salaam and UCL).

There are key lessons around the importance of trust and long-term relationships among partners. The partnership model worked so well because of an alignment in vision and goals among partners, and the established trusting relationships that were already there bolstered this. When these factors were removed, the effectiveness of the partnership and working relationships really suffered. Very few results were achieved in Ethiopia for this reason.

There are also key lessons around the flexibility of fund managers and how this can negatively impact at the project level. When working internationally it is extremely important to be flexible and have appropriate financial and grant management systems in place for working with international partners from outside of Europe and the UK. When working internationally flexibility

is always needed and problematic systems and processes can have an extremely negative effect on the management of the project and therefore its results.

Existing relationships that predated UPGro and GroFutures will continue. It is expected that those formed through the grant provided by NERC will largely end without the project to keep them in place.

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7 Policy and Governance Studies in South Asia – Regional Masters and PhD programmes

Introduction

This case study documents a project which ran from 2013 to 2020 as part of the first phase of the Norwegian government's NORHED programme. The NORHED programme is entering its second phase and aims to strengthen the capacity of higher education institutions (HEIs) in low-income countries to produce higher quality graduates, more and better-quality research, and more inclusive higher education. This project focused on developing skills and expertise in policy and governance and supported a long-standing regional partnership across HEIs in Nepal (Tribhuvan University), Bangladesh (North South University), Sri Lanka (University of Peradhaniya) and Norway (University of Bergen). The coordination and management of the international partnership was led by Tribhuvan University in Nepal.
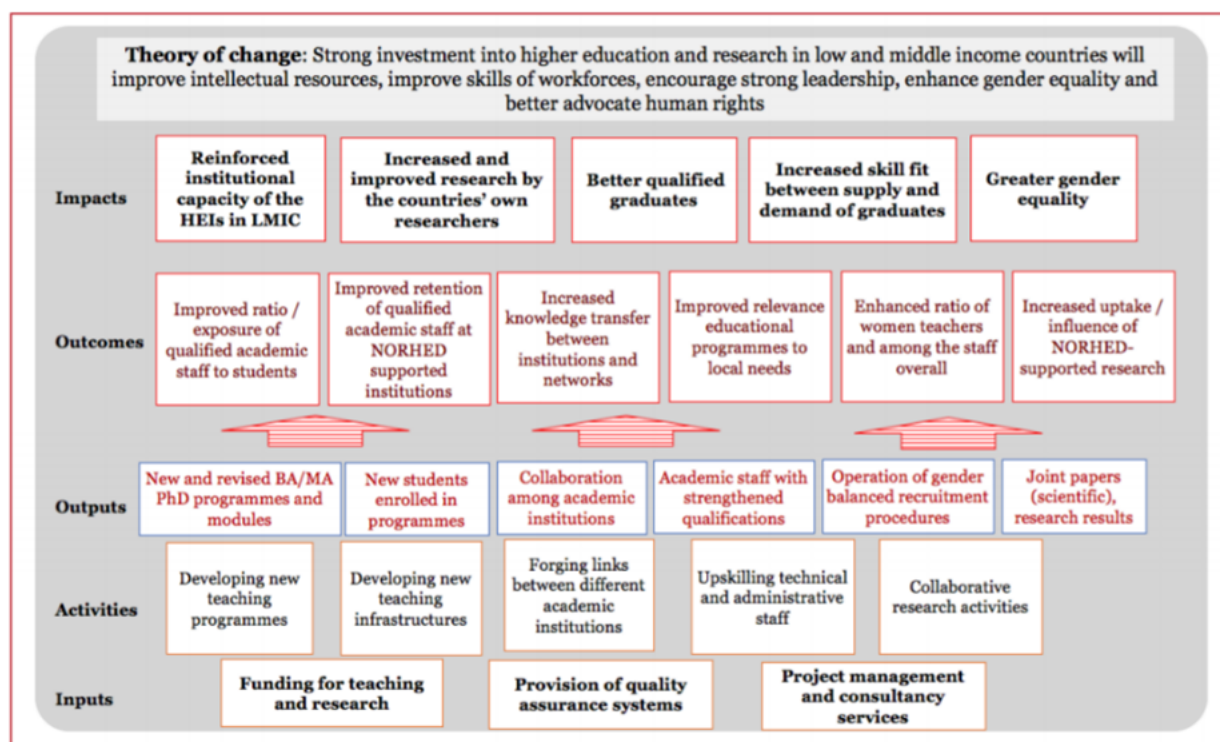
The case study was developed using project documentation kindly provided by Norad, supplemented by interviews with the NORHED Programme Manager and a representative from the University of Bergen.

Context to the partnership

The Norwegian Agency for Development Cooperation (NORAD) has supported higher education partnerships over many years. Higher Education is a particular interest for the current NORAD Director, who was himself Minister of Education between 2007 and 2009. Investment in Higher Education is considered to be key to the development of evidence-based policy making in low- and middle-income countries.

The Norwegian Programme for Capacity Development (NORHED) was launched in 2012 and built on learning from two preceding programmes – the Norwegian Programme for Development, Research and Education (NUFU) and Norad's programme for Master's Studies (NOMA).[29] NOMA was run from 2006-2010 and NUFU was run from 2007-2011. At the core of NORHED funded projects are North-South international partnerships, engaging Norwegian universities in projects led by higher education institutions from Asia, the Middle East, Latin America and Africa across six priority themes. The first phase of the NORHED programme provided approximately NOK 756 million in project financing. The logic model for the overall programme is shown below:

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[29] An evaluation of both programmes is available here: https://www.norad.no/om-bistand/publikasjon/2010/evaluation-of-the-norwegian-programme-for-development-research-and-education-nufu-and-of-norads-programme-for-master-studies-noma/

Theory of change: Strong investment into higher education and research in low and middle income countries will improve intellectual resources, improve skills of workforces, encourage strong leadership, enhance gender equality and better advocate human rights

Impacts
- Reinforced institutional capacity of the HEIs in LMIC
- Increased and improved research by the countries' own researchers
- Better qualified graduates
- Increased skill fit between supply and demand of graduates
- Greater gender equality

Outcomes
- Improved ratio / exposure of qualified academic staff to students
- Improved retention of qualified academic staff at NORHED supported institutions
- Increased knowledge transfer between institutions and networks
- Improved relevance educational programmes to local needs
- Enhanced ratio of women teachers and among the staff overall
- Increased uptake / influence of NORHED-supported research

Outputs
- New and revised BA/MA PhD programmes and modules
- New students enrolled in programmes
- Collaboration among academic institutions
- Academic staff with strengthened qualifications
- Operation of gender balanced recruitment procedures
- Joint papers (scientific), research results

Activities
- Developing new teaching programmes
- Developing new teaching infrastructures
- Forging links between different academic institutions
- Upskilling technical and administrative staff
- Collaborative research activities

Inputs
- Funding for teaching and research
- Provision of quality assurance systems
- Project management and consultancy services

The 'Policy and Governance Studies in South' project was one of 45 Norad-funded projects and one of four projects funded under the democratic and economic governance thematic area. The South Asia partnership dates back to 2008 and received funding under both predecessor Norad programmes. This partnership is distinctive because of the strong regional collaboration between South Asian partners, and the leadership provided by Tribhuvan University.

NORAD had identified poor governance in Nepal, Sri Lanka and Bangladesh, characterised by weak financial management and lack of inclusive policy making. The project was designed to strengthen teaching and research capacity on policy and governance, improving the capacity of public policy making, planning and budgetary management.

Overview of the partnership

The partnership brought together universities in Nepal, Bangladesh and Sri Lanka, in cooperation with the University of Bergen in Norway. The project had a budget of 18 million NOK (c. 2.15 m USD) for a five-year period.

The overall aim of the partnership was to strengthen teaching and research capacity in Policy and Governance at Higher Education Institutions (HEIs) in Nepal, Bangladesh, and Sri Lanka. The expected outcomes were as follows:

Outcome 1: Building capacity in the HEIs of Nepal, Bangladesh and Sri Lanka to provide relevant and quality education in public policy and governance

Outcome 2: Improved policy decisions and implementation on the basis of evidence-based research, knowledge generation and dissemination

Outcome 3: Improved gender balanced environment in Southern institutions.

The main activities under Outcome 1 included the establishment of regional postgraduate training, notably a 2-year research-based Master's programme, which is run from North-South University in Bangladesh but allows students from the region to complete a semester in Bergen, as well as two semesters in Dhaka and one back in their countries of origin.

A PhD programme was also established, anchored at the University of Tribhuvan in Nepal, but jointly supervised by the participating institutions. There has also been a focus on collaborative post-doctoral research and the production of joint publications. This was felt to be particularly

valuable for the South Asian institutions involved, as they have not had the resources to support members of the faculty to undertake research (most universities in the region are teaching universities first and foremost). The mutual benefit of these collaborative research programmes was also recognised by the University of Bergen, allowing Norwegian academics to deepen their understanding of the South Asian context and providing access to research opportunities that did not previously exist.

There is evidence that the partnership has also engaged in outreach to a range of stakeholders from the public and private sectors. It has produced and contributed to more academic publications, has developed policy briefs and provided policy advice and support to government actors. One example given during the interviews was the support that the partnership was felt to have provided to the development of the approach to local government reform in Nepal.

There was a clear intention to address gender inequities in terms of access to educational and research experience, captured by Outcome 2, though interviewees felt that this had been challenging. The 2019 Annual Progress Report documents efforts to maintain gender balance among the students and to mainstream gender into the curricula.

The partnership was established before the Sustainable Development Goals (SDGs) came into existence and therefore the SDGs are not reflected in the design of the NORHED programme or in any of the projects. The second phase of the programme, beginning this year and running until 2025, is more explicitly framed to address the SDGs. However, interviewees felt that the project had contributed to SDGs 4 (Quality Education), 5 (Gender equality) 16 (Peace, Justice and Strong Institutions) and 17 (Partnerships for the Goals).

Partnership model

Grant management, coordination of activities and reporting have been led by Tribhuvan University. Enabling Southern partners to manage and coordinate the NORHED projects was a significant departure from previous programmes and was regarded as an important step towards the achievement of the programme objectives. However, it appears that this has been challenging for a number of reasons. Like many universities in low-income (and indeed, high income) countries, Tribhuvan had limited experience of managing a large international development grant. Practical arrangement such as making international to the participating universities was slow and caused frustrations among the partners. Partners needed intensive support, particularly at the beginning of the project to ensure that the project was managed in accordance with donor expectations. As a result, Norad had less capacity to engage at a more strategic level. Norad has revisited the model and grant management responsibilities will shift to the Norwegian partners for the next stage of the programme.

Different partners have led on different components of the programme. North South University in Bangladesh continues to award the Master's degree. The Master's in Public Policy and Governance (MPPG) started in 2003 and a total of 150-175 Master's degree students have now graduated from the programme. These students come from Bangladesh, Nepal, Sri Lanka, and Bhutan and many of them are civil servants (at the level of Senior/Assistant Secretary). Tribhuvan University in Nepal awards the PhD (11 students have been awarded a PhD). PhD supervision is carried out jointly by the HEIs. There is also joint teaching for MPPG students and cooperation in course and curriculum development, research and publications. The partnership is considered to be successful, and interviews suggested that it is underpinned by trust and respect, though some partners appear to be stronger than others. North South University, for example, is a private university and has generated its own funds, which has in part allowed it to continue the MPPG beyond the programme. Given that the partnership started over two decades ago and there are strong chances that it will continue beyond the lifetime of the project.

Results achieved and planned for the future

Achieved and planned outcomes

The key achievements of the project reported in 2019 are summarised as follows:

1. **Post Doc research**: Three Post Doc candidates from Nepal, four from Sri Lanka, and two from Bangladesh (9 in total) have completed research and have published a wide range of books and papers

2. **PhDs**: All eight Ph.D. researchers (4 from Nepal, 2 from Bangladesh and 2 from Sri Lanka) have already submitted their final thesis at Tribhuvan University. All have been awarded with Ph.D. degrees

3. **Master's in Public Policy & Governance**: All three cohorts of MPPG (1st, 2nd, and 3rd) have completed and have been awarded the Master's degree.

4. **Establishment of the South Asian Institute of Policy and Governance (SIPG)**: of North South University, which has become the first South Asian member of the Network of Schools of Public Policy, Affairs, and Administration (NASPAA), a global accreditor in public service education

5. **Outreach / organisation of conferences**: The HEIS have organised a number of conferences for policy makers and other stakeholders. For example, the South Asian Institute of Policy and Governance (SIPG) and Department of Political Science and Sociology (PSS) of North South University (NSU), Dhaka, Bangladesh organized an international conference on "Rohingya Crisis in Bangladesh: Challenges and Sustainable Solutions" on July 27-28, 2019 in collaboration with the United Nations High Commissioner for Refugees (UNHCR)

6. **Development and implementation of a citizens trust survey**, carried out in Nepal, Bangladesh and Sri Lanka

Interviewees suggest that the development of critical thinking among faculty and students is considered to be the greatest achievement of the project. One interviewee also emphasised the establishment of the South Asian Institute of Policy and Governance (SIPG) in 2018, based at North South University. This is another concrete achievement of the partnership and SIPG has managed to broaden its thematic focus and attract funding from other external actors. Participating universities have collaborated on a large number of academic publications and policy briefings published via the SIPG.

Many of the student alumni from the programme are members of faculty at the participating universities and it seems that the greatest impact has been felt at the individual level, and by extension – though the impact is less clear – at the institutional level. The mid-term evaluation of the NORHED programme[30] suggested that the education and research activities undertaken seem to have been prioritised over the institutional capacity building. It is also not clear from the evidence what the contribution of the partnership has been to improvements in policy making and governance in the South Asia region.

Contribution to the SDGs

Interviewees felt that the partnership has contributed to SDGs 4 (Quality Education), 5 (Gender equality) 16 (Peace, Justice and Strong Institutions) and 17 (Partnerships for the Goals) though this has not yet been measured systematically.

The first phase of the NORHED programme had a standard set of indicators, against which all projects reported, and which are focused at the HEI level. However, the SDGs are the guiding framework for the next phase of the NORHED programme which will run from 2021 to 2026. The SDGs inform the results framework and projects are expected to show how they are linking to the SDGs. Norad is also considering how to raise the profile of the SDGs within the Norwegian HEIs, thinking beyond the project level. Additional funding will be made available to support this.

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[30] https://www.norad.no/globalassets/publikasjoner/publikasjoner-2018/norad-collected-reviews/mid-term-review-of-the-norwegian-programme-for-capacity-development-in-higher-education-and-research-for-development-norhed.pdf

Expected outcome	SDG	Sub-SDG
Number of new/revised Bachelor/Master/PhD programmes/modules	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Number of Bachelor/Master/PhD programmes/modules with gender perspectives included	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Goal 5. Achieve gender equality and empower all women and girls	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
Capacity to enroll and graduate students in NORHED supported programmes (Bachelor/Master/PhD)	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Relevance of educational programmes and new graduates to local, national and regional needs and labour markets	Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Number of academic staff with strengthened qualifications (Master/PhD) by relevant unit (institute/department/faculty)	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.C By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states 4.3 Equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Uptake/influence of NORHED-supported research in public policies	Goal 16 – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	16.6 Develop effective, accountable and transparent institutions at all levels
Uptake/influence of NORHED-supported research findings/new technologies/innovations/solutions by local communities/civil society/private sector	Potentially Goal 8 –Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation

Expected outcome	SDG	Sub-SDG
	and Goal 9 – Build resilient infrastructure, promote sustainable industrialisation and foster innovation	9.B Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities
Knowledge transfers within South-South and South-North networks and partnerships as a result of the NORHED project	Goal 17 - Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation
Changes in the broader institutional environment at NORHED supported institute/department/faculty	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.A Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all
Access to libraries, laboratories, ICT and other infrastructure for staff and students in NORHED supported institutes/departments/faculties	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.A Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all

Benefits for the partners and impact on the external environment (including at a local level)

The following examples provide additional ways that the NORHED project has benefitted participating HEIs:

- Institutional capacity strengthening through the development of ICT, resource centres, and small-scale infrastructural development
- Providing a model for international graduate programs (Masters and Ph.D.) - PhD students spent a semester (Fall 2014) at UiB, Bergen and completed two courses under the guidance of UiB faculty. The PhD students also spent an additional semester with funding from ERASMUS - Providing an avenue for faculty and student exchange
- PhD students had the opportunity to get feedback on their research work from regional and international scholars at PhD workshops
- Participation and exchange of faculty members from the HEIs in teaching, research, and dissemination
- Facilitated institutional relations between Tribhuvan University and the Ministry of Federal Affairs and General Administration, Government of Nepal

Sustainability, future of the partnership and lessons learnt

The plan for sustainability is not clear in the project design (though these details may be captured in the final project report). There are, however, a number of areas, where project achievements are likely to continue beyond the funding period. The collaboration between HEI partners pre-dated the project and seems likely to continue. The South Asia project has been led by key individuals and there is some concern about succession once those people retire

from their posts. The curricula developed for the MPPG and PhD under the project and the supporting infrastructure can and will be used beyond the funding period.

The Covid-19 pandemic has been a barrier for the completion of the project. Shifting to digital learning has been challenging for the partners but it could also present an opportunity to lower costs and provide more inclusive education to a greater number of students. However, currently there is a digital divide between different regions and online learning is not accessible to all students. The South Asia partnership has not been selected for the second phase of the NORHED project, but there is a confidence that this long-standing collaboration between partners will continue. The partnership has applied for funding under the Norwegian NORPART scheme, which is jointly run by the Ministry of Education & Research and the Ministry of Foreign Affairs, and which will promote student mobility.

References and sources of information

Documents

- Norad (2019) Annual progress report for NORHED projects, completed by Tribhuvan University
- Technopolis Group (2018) Mid-term Review of the Norwegian Programme for Capacity Development in Higher Education and Research for Development (NORHED) https://www.norad.no/globalassets/publikasjoner/publikasjoner-2018/norad-collected-reviews/mid-term-review-of-the-norwegian-programme-for-capacity-development-in-higher-education-and-research-for-development-norhed.pdf
- https://www.norad.no/en/front/funding/norhed/projects/policy-and-governance-studies-in-south-asia-regional-master-and-phd-programs/

Interviews

Name	Affiliation	Role	Date of interview
Ms. Vibeke Sorum	Norwegian Agency for Development Cooperation (Norad)	Oversees the project	09/06/2021
Prof. Ishtiaq Jamil	University of Bergen	Lead Norwegian partner	11/06/21

8 Nuffic – Climate Proof Vietnam

Introduction

The International higher education partnerships between Dutch and Vietnamese universities go back a long way. Climate Proof Vietnam is a project that builds on a 20 year long and trustful collaboration between Delft University of Technology (TU Delft) and Vietnamese higher education institutions. The project aims at training a new generation of water engineers who are well equipped to enter the labour market and deal with the diverse water management issues that Vietnam faces.[31]

This case study focuses on Climate Proof Vietnam, which is part of a wider funding programme, the Orange Knowledge Programme, funded by Nuffic, the Dutch organisation for internationalisation in education.[32]

The case explores the rationale for the partnership, the activities of Climate Proof Vietnam and how the project contributes to Sustainable Development Goals (SDGs). The case study also has the purpose to demonstrate how long-term international higher education partnerships can achieve significant impact, in a way that is sustainable and enriching for all parties.

This case study has been composed with secondary data, in the form of desk research and monitoring data, in addition to interviews with key stakeholders within the partnership.

Context to the partnership

In Vietnam, the evident effects of climate change are causing serious challenges in the context of water management. As a result of sea-level rise, longer periods of drought and frequent tropical storms, the country is facing salinisation of farmland, drought, insufficient irrigation capacity and threats to valuable ecosystems. In addition, the fast-growing delta areas of the Mekong and the Red River are becoming more sensitive to floods and subsidence.

Along with these environmental issues, Vietnam is experiencing a considerable shortage in water capacity and capability: not enough students are choosing to study in the field of water and, among the ones that do, there is often a mismatch between the level of expertise required to solve Vietnam's challenges and what academia is offering.

The rationale for the international partnership between Dutch and Vietnamese universities (SDG17) focuses on addressing Vietnam's climate change challenges (SDG13) through capacity building and curriculum development (SDG4) to help HEIs become more attractive and relevant to the local and national economy, as well as providing the next generation of engineers with the expertise needed enter the labour market (SDG8) and ensure sustainable water management and sanitation (SDG6).

Overview of the partnership

The partner organisations of Climate Proof Vietnam include four higher education institutions: two Dutch universities, Delft University of Technology (TU Delft) and the faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente, and two Vietnamese higher education institutions, Hanoi University of Natural Resources and

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Environment (HUNRE) and Thuyloi University (TLU).

Climate Proof Vietnam is a three-year long project, funded by Nuffic, with a budget of € 748,024 and is run by TU Delft. TU Delft has been active in partnerships with research institutes and universities in Vietnam since 1998, with collaborations that have focused on institutional strengthening, joint research and capacity building. HUNRE and TLU are respectively under direct management of the Ministry of Natural Resources and Environment (MONRE) and the Ministry of Agriculture and Rural Development (MARD) and both universities have been collaborating on multiple projects with TU Delft in the past.

The partnership between TU Delft and HUNRE started in 2009 and in interview consultation, all parties acknowledged the added value of the continued international partnership in terms of trust, mutual understanding, knowledge exchange, capacity building and continuous curriculum and skills improvement.

In fact, the partnership for Climate Proof Vietnam builds on a previous project from the Nuffic-funded programme called NICHE, which aimed at contributing to sustainable strengthening of higher education and Technical Vocational Education & Training (TVET) capacity in partner countries (in the water sector).[33] After completing NICHE in 2016, the partnership between TU Delft and the Vietnamese HE partners obtained further funding from Nuffic in 2019 under the Orange Knowledge Programme (OKP), a global development programme, aimed at strengthening professionals and organisations through education and training.[34]

When it came to submitting the proposal for the new project phase, the partnership faced increased competition compared to the previous project. However, TU Delft and partners were able to secure funding by illustrating the extensive experience achieved by the HEIs working together and by demonstrating how long-term, dedicated networks are crucial to achieve meaningful change and higher impact. Capacity building means changing how people operate and adapting the change to what is needed. This requires support from experts as well as mutual trust, which is deeper and more developed in longer term partnerships.

The interviews with partnership representatives also stressed how important the exchange and mobility between the two countries has been over the years and how this has been a challenge because of the pandemic. Typically, the design of a proposal is a result of a team effort: TU Delft visit their partners on location and undergoes various stakeholder consultations, from both the academic and the professional sphere. As a result, Vietnam's context emerges and the HEIs work together to identify specific education and labour market needs that the Dutch partners can support with.

In developing the path of capacity building in the water sector and education, the planned outcomes of Climate Proof Vietnam are as follows:

- Provide the future and current engineers of MONRE and MARD with a wide set of knowledge and skills (e.g. technical, social/governance and financial) and practical experience
- Work on ensuring sufficient human capital for the Vietnamese water sector by upgrading the promotion and marketing of the universities to diminish the rapid decline of students
- Strengthen the organisational development of both universities and TLU's Southern partners
- Increase the linkages with the labour market through close involvement of the public and private stakeholders in the Community of Practice[35]

The activities of Climate Proof Vietnam focus on setting up an attractive curriculum and providing strategic support to the universities of Thuyloi and HUNRE. While the previous project funded under NICHE focused on didactics and learning outcomes along with capacity building,

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[33] https://www.nuffic.nl/sites/default/files/2020-08/niche-handbook.pdf
[34] https://www.nuffic.nl/sites/default/files/2020-11/okp-annual-report-2019.pdf
[35] https://rsr.akvo.org/en/project/8136/

the activities of Climate Proof Vietnam introduced the link with the labour market, by offering a more hands-on approach to the learnings. For example, students go on field trips to selected locations, where they collect their own data and run experiments, as well as conducting group research in collaboration with Dutch students or supervised by Dutch Professors.

Still the goal of better equipping HEIs for the long term remains fundamental to Climate Proof Vietnam's activities and this is fulfilled by continuously working together to improve the curriculum, providing training to university staff and support with building capacity around organisational development and promotional activities to attract more enthusiastic students.

Climate Proof Vietnam is not explicitly driven by its links to the SDGs, but the alignment is evident through its stated objectives as well as the outcomes and impacts collected at the level of university staff, students and the wider socio-economic sphere.

Partnership model

Management of Climate Proof Vietnam sits within the Innovation & Impact Centre (formerly known as the Valorisation Centre) at TU Delft. Typically, when opportunities for collaboration arise, from common interests by both the Dutch and Vietnamese national government priorities, TU Delft takes a leading role and they design the calls together with Vietnamese partners who provide the ingredients, in terms of specific needs and activities.

Governance is kept relatively simple within the partnership, thanks to the long-term experience in working together. A project director and a project manager from the Dutch side work and keep in contact on a weekly basis with their Vietnamese counterparts. During consultation, partnership representatives described the decision of working with faculties and their professors directly very effective; in fact, Dutch (associate) professors have their own bonds with Vietnamese lecturers and professors, which is helpful for implementing the activities easily and exploring new synergies and collaborations. At HUNRE, specific staff in the international office of the university takes care of procedures and regulations associated with international higher education collaboration. In addition to a steering group, there is an annual bilateral government meeting where the planned objectives and their related activities are discussed and approved.

As previously mentioned, funding for Climate Proof Vietnam is provided by Nuffic, under the Orange Knowledge Programme (OKP), which is a € 220 million programme with ongoing projects in 54 countries. The OKP consists of four types of funding and Climate Proof Vietnam falls under the instrument of 'institutional collaboration projects', which are large-scale projects in which Dutch and local education institutions work together. Vietnamese MONRE and MARD ministries co-fund the project.

TU Delft manages the overall reporting for Climate Proof Vietnam, following a standard and detailed structure required by Nuffic on each of the projects they fund. Major curriculum changes are subject to approval by MONRE and the Ministry of Education and Training (MOET). The directors have planned activities for the month to deliver on, and the reporting on these is also monthly, along with a month-end meeting that explored the results achieved. The relationship is described from both TU Delft and HUNRE, who are the implementing partners, as equitable. TU Delft works actively to ensure and encourage that Vietnamese partners take ownership in the project and HUNRE finds the learnings and the support from its Dutch partners extremely valuable.

The partnership had to face a few challenges to the successful implementation of Climate Proof Vietnam. Primarily these can be attributed to the Covid-19 pandemic which excluded travelling for over a year and therefore deterred the exchange between the research institutes. Additionally, the partnership had concrete plans for the year's objectives and activities to achieve, but the pandemic has forced them to adapt and transfer most of the activities and lectures online.

In earlier stages of the partnership, the number of English-speaking staff at the Water Resources Faculty of HUNRE posed some barriers, as well as the lack of human capital, resources and equipment at the faculty.

Results achieved and planned for the future

Achieved and planned outcomes

Climate Proof Vietnam addresses the issue of how the capacity in water management offered in Vietnam is not in line with what the labour market needs.

Achieved outcomes are first and foremost capacity building and curriculum development in the field of water resources management. Capacity building starts at the level of staff. Lecturers have been trained and presented with a new approach and new techniques to face local challenges; this way they bring a broader vision and a different mindset to the class and to their students.

A revised and updated curriculum has been set up and developed to respond to the local needs, with the long-term aim of making teachers and students better equipped and able to respond to labour market needs. In fact, the curriculum now includes more hands-on research activities. For example, students go on field trips to selected locations, where they collect data and run experiments, as well as undertaking internships or conducting group research work. The provision of technical equipment and training for the field trips has also supported the curriculum enhancement outcome. Technical equipment and training also include secured knowledge for the Vietnamese HEIs at the level of data storage, data analysis and data management.

In terms of the research outcomes, lecturers and academics from the Vietnamese partner universities collaborate with and ask advice from Dutch experts on their research projects. They also receive support in publishing their works. They carry out their research in Vietnam and research typically focuses on a climate change aspect, such as assessing hazards, modelling floods, running climate scenarios.

Another educational capacity outcome of the partnership has been the set-up of a bachelor's degree in water management. Interview consultations expressed how this is currently being supplemented by a further educational path, in the form of a new Master of Science programme offering.

Capacity building outcomes have also included the improvement of HUNRE and TLU's capacities in establishing linkages with the labour market and other partners. This has been achieved through the creation and development of the universities' network, thanks to the organisation of events for staff, students and thanks to increased opportunities for exchange between the universities and various stakeholders in the academic, professional and governmental spheres.

Interview consultations gave insights to how among the success factors for achieving the project outcomes is to consider the newly appointed figure of resident project manager from TU Delft. Having a person with knowledge and expertise on the ground has been key to building capacity locally. The constant presence on location has been an effective element in terms of timely provision of support, communication, exchange and successful implementation of the project activities. Due to the Covid-19 pandemic, the resident project manager has continued to ensure linkage remotely, with hopes to be back on location soon.

Contribution to the SDGs

Nuffic expresses how the OKP's objectives align with the Netherlands' development cooperation policy priorities areas and at the same time contribute to various SDGs as a result.

The priorities of the Dutch government concern the themes of food and nutrition security; water, energy and climate; sexual and reproductive health and rights; and security. The aims of the OKP are:

- Strengthening knowledge and skills of professionals active in the priority fields through scholarships and training
- Building the capacity of organisations in higher education and TVET, in collaboration

with Dutch knowledge institutions[36]

The OKP explicitly references the SDGs in its documents. Its objectives closely align to the narrative of SDG4 under the 2030 Agenda for Sustainable Development, "Ensure inclusive and equitable quality education and promote lifelong learning for all", and SDG17, "Strengthen the means of implementation and revitalize the global partnership for sustainable development".[37]

Climate Proof Vietnam's achieved and planned outcomes contribute to many SDGs that overlap at the same time. As an international partnership among higher education institutions, Climate Proof Vietnam has direct links to both SDG4 and SDG17. Distinctly, Climate Proof Vietnam also aligns with the priorities of the Ministry of Natural Resources and Environment and its homonymous University in Hanoi, which connect strongly to Goal 13, "Take urgent action to combat climate change and its impacts".[38] As a matter of fact, Vietnam is heavily affected by climate change, in particular by sea-level rise. In the delta areas, water usage is causing land subsidence and the hazards caused by water such as floods, droughts, saltwater intrusion, etc. are increasing, causing great damage to the community and livelihoods. Climate Proof Vietnam focuses on addressing these challenges through education and better equipment of the future generation of water engineers.

There are very strong links overall with SDG4 on curriculum development, capacity building and strategic organisational support to Vietnamese HEIs. The link with the labour market as an outcome of high-quality education is reflected in SDG 4.4 and SDG 4.7, with associated indication of education for sustainable development.

The focus on building human and institutional capacity to reduce climate change impacts through better equipped engineers and increased expertise in water management is also very strong in Climate Proof Vietnam and can be found in SDG 6.a and SDG 13.3.

As the project is looking at the transition from education to students graduating, getting good jobs or going to study their masters or PhDs abroad, there are also links to SDG8, which promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

In Climate Proof Vietnam, reporting on SDGs is encouraged, but it is not mandatory; however, there is an intention from both the funding body and the implementation partners to link outcomes to SDGs in more detail.

The expected and achieved outcomes have been broken down to a more granular level below to link more closely to corresponding SDGs.

Expected/achieved outcome	SDG	Sub-SDG
Localised curriculum development	Goal 4 – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Build the new generation of water engineers / Increased number of students enrolled in water studies	Goal 4 – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Graduates give back to their communities	Goal 4 – Ensure inclusive and equitable quality education and	4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among

[36] https://www.nuffic.nl/en/subjects/orange-knowledge-programme/orange-knowledge-programme-overview
[37] https://www.nuffic.nl/sites/default/files/2020-11/okp-annual-report-2019.pdf
[38] https://sdgs.un.org/goals

Expected/achieved outcome	SDG	Sub-SDG
	promote lifelong learning opportunities for all	others, through education for sustainable development
Increased expertise in water management and resources to ensure sustainability against extreme conditions	Goal 6 – Ensure availability and sustainable management of water and sanitation for all	6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
Graduates attain good jobs, become experts or further their education	Goal 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training
Capacity building to make Vietnam climate proof	Goal 13 – Take urgent action to combat climate change and its impacts	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Exchange programmes: BA, MA and PhD students study abroad programmes North-South international HEP	Goal 17 – Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

Benefits for all partners and impact on the external environment (including at the local level)

Climate Proof Vietnam is creating change in the Vietnamese education system so that it can address the needs of society and the community, as outlined by the national priorities by the ministries MONRE and MARD. Primarily, the project has had the benefit to speed up the learning process for Vietnamese HEIs, so they are able to tackle the country's water and climate challenges more rapidly and more effectively. There are impacts at the level of students, staff, as well as at the institutional level.

From the students' perspective, the benefits that result from the partnership pertain to access to updated and high-quality education in water management and resources. The addition of the field aspect, industry events and guest lectures offered students a novel link to the labour market that they did not have a view on before; theory is supplemented with what the future jobs would look like in practice. Moreover, the partnership encourages and supports the already existing possibilities for both Dutch and Vietnamese students to study abroad between the two countries.

From the perspective of staff, a key area of impact and benefits is found in the training, which has included specific skills training, such as on using different modelling and remote sensing software, and different components of conducting research. Staff training has resulted in higher expertise and increased PhD opportunities abroad. In addition, the opportunity to interact with international researchers has provided staff with new approaches to conduct research and increased opportunities for exchange of ideas and techniques. This element has, in turn, increased the staff's confidence in being more open to international exchange and collaboration.

From the perspective of the Vietnamese universities, benefits deal with capacity building, provision of support within the partnership in any form necessary, and higher students' enrolment rates over the past few years. Moreover, in the specific case of HUNRE, thanks to the international partnership and consolidated collaboration on projects with TU Delft, the university now concentrate more efforts every year towards international publications and peer review

articles, which has produced an increase in the university's ranking in the country and in the region. Moreover, a stronger track record has made Vietnamese HEIs more eligible for funding. Thuyloi University in particular has benefitted from organisational development through the organisation of strategy sessions and facilitation of exchanges with other Vietnamese universities dealing with similar issues in terms of political, organisational and educational reform.

In Climate Proof Vietnam, the local community is engaged through the 'citizen science' approach in research/data collection campaigns. For every project, researchers connect to the local community to gather data around the challenges and the resources available. This strengthens the links between ministries, universities and the community, producing information is important to all parties and the partnership's objectives as well.

Staff, as well as students and the university have benefited from equipment resources, which are key to education in the water management sector: lab and library facilities have been updated and improved, along with the purchase of new lab equipment as well as (digital) books. Still, it has been stressed in consultations that the main benefits arising from the long-term partnership are the results achieved over the years in terms of capacity building and networking.

While equipment can become outdated in the future, the efforts to build human capacity have significant impact in the present as well as in the longer term, generating a development that is adequate and sustainable. Indeed, it has been perceived that the partnership has contributed to the creation of a community of practice where academics within the water education and scientific research feel that they can advise and support each other.

A more established and extended network has benefited the universities in terms of knowing their organisation better and starting many new collaborations with various partners, not only in Vietnam but also with international experts. This has resulted in more channels for funding and, for HUNRE, in new international collaborations on water management issues with partners in Italy, Germany, Switzerland, Australia and Taiwan.

Sustainability, future of the partnership and lessons learnt

The partnership of Climate Proof Vietnam is based on a relationship that goes back in time, with Dutch Professors going to Vietnam and work with Vietnamese students and teachers for the last 35 years.

Climate Proof Vietnam is an ongoing project that will conclude its course in March 2022. Plans are in place to achieve the remaining activities and go beyond planned outcomes. To ensure sustainability, TU Delft tries to stimulate a sense of ownership over certain activities on the Vietnamese side, allowing the partners to repeat these activities in the future without need for support. As of June 2021, one online course has kicked off and two more will be complete by mid-August.

The Dutch government has lists for developing countries that follow certain criteria; the Dutch government has recently changed Vietnam's status and this might cause financial challenges, as more co-funding will be necessary to collaborate. However, partners have many ambitions for the future and, though collaboration will depend on access to further funding, representatives from HEIs stressed in consultations how the long-term partnership is rooted and will continue collaboration on development projects in the future. One area of interest is the water market and its growth, linking the expertise in education to the wider economy.

One factor that poses challenges for the future of the partnership are changes of national priorities, but also changes at the management level within the Vietnamese partners. The personality of the leader holds particular relevance in Vietnam and it might require time to build a trusting and effective relationship.

Indeed, 3-year-programmes can be a short timeframe to achieve the broader changes needed and continuity is key for effective impact. A lesson learnt for significant impact from Climate Proof Vietnam is the importance of having a diverse group of stakeholders in the design of

development projects that focus on a specific issue. By consulting people in academia (who focus on training and teaching), the private sector (who focus on the market), and many other stakeholders who have experience in the field, the understanding of the context is achieved in depth, and it allows to build an effective long-term vision for impact.

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Interviews

Name	Affiliation	Role	Date of interview
Lindsey Schwidder Juliette Eulderink	TU Delft	Project Manager, Resident Project Manager	20/06/2021
Khoa Van Le Thi	HUNRE	Project Manager	03/06/2021
Prof Pham Quy Nhan	HUNRE	Project Director	09/06/2021

9 Centre of Excellence for Sustainable Health (CESH) – Karolinska Institutet in Sweden and Makerere University in Uganda

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Introduction

The Centre of Excellence for Sustainable Health (CESH) is a virtual Centre developed jointly by Makerere University (MAK) in Uganda and Karolinska Institutet (KI) in Sweden. The aim of the centre is to develop capacity and mobilise actions to drive the agenda for sustainable health. The mission of the Centre is to transform how research and policies are formulated and carried out and to realise sustainable gains in health and well-being.

This case study examines the partnership between MAK and KI. This partnership was first initiated in 2003 and recently established CESH. Therefore, it is slightly different in that the partnership was not initiated by a funder. Furthermore, the partnership has received funding from different donors to be able to carry out activities during its existence. The focus on the case is on how CESH will contribute to the achievement of the Sustainable Development Goals (SDGs).

The case study has been constructed through the use of secondary sources and supplemented with in depth interviews with key people within the partnership from both MAK and KI.

Context to the partnership

Uganda has experienced rapid economic development the last decades, but even so the job opportunities have still not increased, and poverty is still widespread – every fifth Ugandan lives in poverty. During the last few years, poverty has instead increased and caused frustration and tension amongst the youth, largely driven by unemployment and the inequitable distribution of economic opportunities, which has heightened political tension. Furthermore, Uganda is the country in Africa receiving the most immigrants which pressures the natural resources and the service sector even further.

According to UNDP, Uganda reached a third of the Millennium Development Goals.[39] During the period 1990-2015, poverty reduced by two thirds and the number of children infected with malaria was halved. Literacy increased from 56 percent of the population in 1991 to 77 percent in 2018 – now 89 percent of all Ugandan aged 15-24 can read and write. The number of women giving birth at a health facility increased from 46 percent to 54 percent between 2017 and 2018 and the share of expecting mothers gone on at least four maternity visits increased from 32 percent to 40 percent during the same period.

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[39] https://www.un.org/millenniumgoals/

The country still faces several health challenges with a high burden of communicable diseases including malaria, HIV and TB.[40] Maternal and perinatal conditions also contribute to a high mortality within the country and there is an increasing incidence of non-communicable diseases including cardiovascular disease, cancer and mental health disorders.[41] With a mostly young population and relatively high fertility rate of 5.4, the country also faces several sexual and reproductive health challenges.[42]

MAK and KI have a longstanding collaboration in research, doctoral training, and higher education primarily within the health sciences. The collaboration between KI and MAK has been regulated by formal agreements since 2003 and is comprehensive with activities ranging from research to education. The collaboration between the two universities is one of the most comprehensive international collaborations at KI. The first Memorandum of Understanding (MoU) was signed in 2003 which initiated a double degree program. In 2011, the universities signed a new MoU for mutual development. The MoU was extended in 2015 for a new five-year period. A further implementation agreement was signed in 2015 regarding a Joint Doctoral Training programme.

The joint doctoral programme has been based on joint supervision and examination and a double registration and admission. Since 2002, supervisors at MAK and KI collaborate to supervise doctoral students from MAK. The doctoral students are under the regulation of both universities and needs a master's degree as a minimum requirement. The programme initially included five research areas with 20 sub-projects, but this has evolved and since 2014 two more research areas were added.

Since 2019 the two universities are leveraging their longstanding partnership to increase action to achieve the SDGs and have therefore been jointly working to establish the Centre of Excellence for Sustainable Health (CESH). This digital platform aims to address complex health challenges. The initial projects are focusing on sexual and reproductive health and rights for the most vulnerable.[43] The Centre of Excellence for Sustainable Health will spearhead the opportunities given by these goals, and the visions and missions of MAK's and KI's Strategy 2030 within the field of health and life sciences.

Overview of the partnership

KI is a medically focused university and conducts the largest share of the academically conducted research in the medical fields as well as having the most education programmes related to health and medicine in Sweden. Since 1901, the Nobel Assembly at KI elects the Nobel laureate in physiology and medicine. MAK is the oldest English University in Uganda and was established in 1922 as a technical college affiliated with University of London. In 1970 it became an independent university.[44]

Sida has been supporting the universities' partnership in three consecutive agreement periods from 2001 to date. In addition to Sida's support, competitive grant funding has been received for research in areas such as malaria, new-born health and diabetes. The long-term support from Sida has been key to ensure capacity development and to ensure the sustainability of the partnership between the universities. Furthermore, the development of additional PhD courses and a coordinated curriculum as well as a plan for providing graduating students with post doc opportunities will also provide sustainability for the partnership.[45]

Furthermore, initial seed-funding was provided for the collaboration by SAREC which is a subsidiary of Sida. Linnaeus-Palme, a Swedish funding programme, has also been used for bilateral exchange of students and teachers which at the most has included six study programmes at KI as well as an annual exchange of 25 persons in each direction. Funding has also been received from the universities themselves, BioMalPar EU-Network of Excellence and

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[40] World Health Organisation 2018. Uganda country Cooperation Strategy.
[41] World Health Organisation 2018. Uganda country Cooperation Strategy.
[42] Uganda Demographic and Health Survey 2016. https://dhsprogram.com/pubs/pdf/FR333/FR333.pdf
[43] https://ki.se/en/collaboration/collaboration-with-makerere-university
[44] https://www.mak.ac.ug/about-makerere/facts-and-figures
[45] https://ki.se/en/collaboration/collaboration-with-makerere-university-doctoral-education

MR4-ATCC (USA). A Demographic Surveillance Site (DSS) has been established as a 'population research laboratory' with funding from WHO/TDR, EU, EDCTP, and Rockefeller Foundation.[46]

The idea of starting CESH, a virtual centre jointly by MAK and KI was launched 2019, and joint development started in 2020. The Centre has core-funding from both universities and has already, during the development phase, received competitive grants for research and capacity development projects. The aim of the centre is to develop capacity and mobilise actions to drive the agenda for sustainable health. The mission of the Centre is to transform how research and policies are formulated and carried out and to realise sustainable gains in health and well-being.[47]

From a sustainable health perspective, the challenge that the Centre seeks to address are two-fold. Firstly, the need for universities to increase efforts to act on their responsibility to contribute to achieving the SDGs. Secondly, the need for long-term, equitable and reciprocal partnerships in academia that can work efficiently together to deliver, not only activities and outputs, but rather long-term outcomes and impact. The two academic institutions aim to build on the strength of academia as a neutral platform for collaboration, education, and research, to bridge the so called know-do gap as well as to utilise research for innovation. The Centre will not focus on specific geographical regions but rather on those who are most at risk of being left behind, regardless of where they live. As such, the Centre's projects and programmes will take place in both high-income settings such as Sweden and low- and middle-income settings such as Uganda.

The situational analysis carried out ahead of the establishment of the Centre found that both universities were already working to advance the SDGs, primarily on goals focused on health and wellbeing, poverty, gender equality, water and sanitation, and energy use. Some gaps were found however, that relate to both different fields of research and education and how this is carried out. These gaps are mainly related to difficulties in identifying those who are most at risk of being left behind and at the nexus between health and other sectors. The situational analysis also identified a lack of:

- Translation of research into policy, and policy into practice
- Collaboration between health and other disciplines
- Integrating the SDGs in teaching and learning

Both universities have a strong institutional capacity, and resources to extract from, including researchers from fields in education and research to fill these gaps. The Centre can leverage this capacity, to accelerate action by universities to contribute to achieving the SDGs, and to develop and promote reciprocal and equitable partnerships that are needed to accelerate progress on the SDGs. The Centre's vision is that the SDGs are interlinked, and that health is essential to achieving all 17 SDGs. The Centre is using health as a platform to tackle broader issues and those SDGs not directly connected to health. The Centre is providing a platform which can be used to leverage innovative ideas and coordinate collaboration on funding applications. The Centre will also be an opportunity to share limited resources.

The Centre should be built on what has already been achieved, focus on key challenges identified and be specific about the added value, while ensuring long-term commitments. The aim of the Centre is congruent with MAK Strategic Plan and KI Strategy 2030. This coordination builds opportunities to consolidate the Centre's activities in line with the aim/mission of CESH in the universities' regular activities (such as webinars within already established doctoral programmes) and as such facilitate interaction between students and faculty of the member institutions throughout different platforms (meetings, courses, research etc).
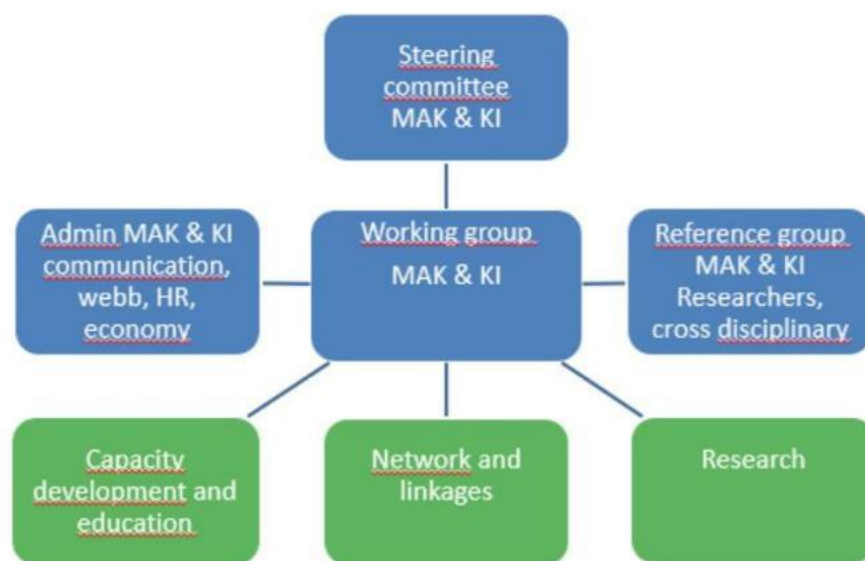
Partnership model

The organisation of the Centre is made up of a steering committee, a working group, and a

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[46] https://ki.se/en/collaboration/collaboration-with-makerere-university-doctoral-education
[47] https://cesh.health/about-the-centre/

reference group. The chairmanship in the steering committee rotates between KI and MAK on a 2.5-year period. Each university has five representatives in the steering committee which represents the leadership of the universities. The steering committee also includes two members of the working group and two student representatives from each university. The members of the steering committee are appointed for 2.5 years. The working group is responsible for the daily activities of the Centre and for the execution of decisions made in the steering committee. The steering committee meets twice a year, and the working group meets at least once a month digitally. Meetings with external stakeholders are discussed in the working group, jointly decided, and then prepared and assessed by the working group. See Figure below for an organogram of the Centre.

The Collaboration Plan for the Centre is an active document which can be referred to and used when setting up priorities in the annual activity plan. It is decided by the steering committee when changes to the Collaboration Plan is needed and also their responsibility to make the changes.

The administration is done at both universities and each university is responsible for HR for respective staff members. The financial provisions are decided in the Collaboration Agreement between the two universities. The implementation and planning of activities are detailed in an activity plan which is updated on an annual basis.

Communication and the dissemination of results will be targeted towards the Centre's target groups. The focus is on public exposure and scientific communication. The overall communication goals are to increase the awareness of sustainable health and contribute to driving the Agenda 2030 by providing resources, tools, and information for researchers, students, working professionals, and policymakers.

To reach impact the Centre has developed a theory of change. The longstanding partnership is what lays the foundation for the input of the Centre. The inputs are:

- Strong institutional capacity both in Sweden and Uganda to develop, deliver, and evaluate projects
- Internationally acknowledged experts and researchers from different fields of study, professional approaches, and perspectives, within the field of sustainable health, implementation science, multisectoral collaboration and innovations
- Regional and global networks and relevant partners in all sectors of relevance to the health systems in several countries
- The core team members of CESH have diverse and complementary backgrounds and

roles

- Resources and facilities for research and teaching and communication platforms including project management, and teaching
- Tools for actions that are key principles and approaches delivering on the objectives
- Core funding from both universities and resources and skills to apply for funding for projects in line with the priorities and aims of CESH

The activities of the theory of change are divided under four core engagements that include:

- Research
- Capacity development and education
- Network and partnerships
- Driving an agenda for sustainable health

Furthermore, the Centre has developed tools for action. In total there are five tools which will be integrated into the activities. The tools are conceptualised as integral both to the activities and the outputs and have been identified based on the gaps-analysis of existing initiatives at KI and MAK to ensure forward thinking and impact and ensure relevance.

The first tool is **Multisectoral action**. The Centre will identify, develop and use methodologies that can help to understand linkages between sectors and facilitate multisectoral and cost-effective solutions that reduces power imbalance and strengthens equality. The tool is based on that sustainable development requires multisectoral action which is underlined in the SDGs.

The second tool is **Translation of research to action and scale-up of sustainable solutions**. It is critical for development to translate research and innovation into policy and action. High quality research activities are growing but the results are not always taken outside of the universities and rarely scaled up. By giving this issue proper attention, using effective methods and developing collaborations and partnerships, the results can be translated and scaled up.

The third tool is **Information and digitalisation**. The health sectors as well as others have a wealth of data, both routine service and survey data, that could further support defining global health gaps, inequities, and interventions. To translate the data into valuable strategic information and knowledge have thus far been a major challenge. Furthermore, the potential of big data has not been fully investigated. The Centre will therefore promote initiatives in the field of data science, big data, machine learning, and AI that can be used to build local capacity for application of these tools.

The fourth tool is **Visualisation and communicating data.** Even though the wealth of data and the interesting results that researchers present, there is still a lack of easy to use and understand visualization tools for communication to support stakeholders and decision-makers. With the emergence of spatial mapping and diverse patterns of data from a myriad of sources, there is a need for simple and attractive tools that can assist civil society, policymakers, and the public to use the research. The Centre will therefore work towards the integration of innovative data visualization tools in research communication.

The fifth and last tool is **Health technology**. Expansion of the use of health technology will improve health in low-income countries. One of the most revolutionary aspects of health and medicine during the 21st century is new technology. The application of new technology has helped solving some of the most pressing health problems in the world. Whether the technology is used in knowledge and experience sharing among professionals or as a part in research and innovation technology has huge potential to redefine health care access and quality. The health care sector must work cross disciplinary to further benefit from technology, and the Centre will approach the urgent need to expand the field of technology to progress towards the SDGs.

The expected output, outcome, and impact in the theory of change is elaborated in the next chapter.

Results achieved and planned for the future

The already achieved results from the partnership are more than 40 PhD students from MAK has graduated and more than 500 articles have been peer-reviewed. It is expected that this increase in locally directed research projects and increased pool of trained researchers will have effects on the development of civil society in Uganda.

The DSS has been established as a population research laboratory with longitudinal follow-up of a population of 70,000 in 65 different villages. The population and its health status is continuously registered. The DDS is hosting some PhD students' field work and has through additional funding expanded to involve projects and researchers beyond those initially included.

The research capacity has been developed in both Uganda and in Sweden. The collaborative research environment addresses health issues and system priorities in Uganda and has in several cases resulted in policy and practice reforms. The collaboration has promoted the development of consortium-like thematic research projects and has provided research groups with many comparative advantages.

Although the launch of the Centre is planned in September 2021, it has already registered notable progress. Two training programmes are about to be concluded which have trained approx. 50 practitioners, mostly in public sector but also from the private, civil society and academia. The deliverance of those training programmes is based on new kinds of partnerships where the private sector has been more involved and a multisectoral approach.

The expected outputs of the Centre as a result of the activities and core engagements in the four areas of research, capacity development, education, promoting networks and driving an agenda for sustainable health, six key outputs have been identified as:

1. The enhancement of stakeholders´ understanding of the challenges within the field of sustainable health

2. The provision of examples of best practice, role models and tools for action to analyse and solve the challenges that stakeholders face in their context

3. The development of evidence related to sustainable health at first focusing on sexual and reproductive health and rights for the most vulnerable, child and adolescent health, and in characterizing the risk of non-communicable diseases

4. A functioning cross-sectoral digital platform (cesh.health)

5. Established international networks (contributors, partners, participants and alumni) creating arenas through which a variety of different stakeholders can meet and learn from each other

6. The positioning of sustainable health as a priority on the global agenda – affecting the framework conditions for stakeholders and countries to act

The expected outcomes from the activities and outputs are to facilitate the development of stakeholders' capacity to understand and solve challenges to sustainable health through individual and multisectoral learning. This is broken down into four more specific expected outcomes:

1. At the operational level, "the implementers", a strengthened internal institutional capacity for solving both small and complex health challenges in an evidence-based and collaborative manner instead of relying on external support

2. At the policy level, an improvement in the uptake of evidence informed policy to tackle health challenges more effectively and sustainably

3. In academia, a strengthened capacity for furthering the understanding of the challenges to achieve sustainable health for all (linking research and practices both ways) and facilitate collaboration across sectors

4. Among all stakeholders, an increased understanding of how to build and maintain effective and equitable partnerships for addressing sustainable health challenges – including both

structures for decision-making, governance, funding, as well as objectives and content of such partnerships

The expected impact of the Centre in the long-term is to realise sustainable health, especially for those most at risk of being left behind. The target groups will vary based on activity, scope, geographic context and health challenge addressed. But people and countries marginalised, socially and economically, are those who are most often at risk of being left behind. There is a need to direct and keep focus on these groups through all initiatives and activities aimed at understanding and solving challenges associated to sustainable health. CESH will stand out amongst other initiatives by the dedication to those most at risk.

The Centre have in their goals, formulated in the Theory of Change, with no explicit link to the SDGs. The SDGs are however frequently mentioned in the Collaboration Plan and the background for the Centre. The universities' contributions to the SDGs are however stated in their respective strategy and the Centre will align its activities with the universities'. Furthermore, the strategy for MAK is linked to the national development strategy of Uganda which links to the SDGs. See the table below for the expected output and outcome of CESH and which SDGs and sub-SDGs they contribute to.

Expected output/outcome	SDG	Sub-SDG
Output		
The enhancement of stakeholders´ understanding of the challenges within the field of sustainable health.	Goal 3 - Ensure healthy lives and promote well-being for all at all ages	All sub-goals
The provision of examples of best practice, role models and tools for action to analyse and solve the challenges that stakeholders face in their context.	Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries
The development of evidence related to sustainable health at first focusing on sexual and reproductive health and rights for the most vulnerable, child and adolescent health, and in characterizing the risk of non-communicable diseases.	Goal 3 - Ensure healthy lives and promote well-being for all at all ages	3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births 3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being 3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes
A functioning cross-sectoral digital platform (cesh.health).	-	-

Expected output/outcome	SDG	Sub-SDG
Established international networks (contributors, partners, participants and alumni) creating arenas through which a variety of different stakeholders can meet and learn from each other.	Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection 17.3 Mobilize additional financial resources for developing countries from multiple sources 17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism
The positioning of sustainable health as a priority on the global agenda – affecting the framework conditions for stakeholders and countries to act.	Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation 17.14 Enhance policy coherence for sustainable development 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries
Outcome		
At the operational level, "the implementers", a strengthened internal institutional capacity for solving both small and complex health challenges in an evidence-based and collaborative manner instead of relying on external support.	Goal 3 - Ensure healthy lives and promote well-being for all at all ages	All sub-goals included in Goal 3
At the policy level, an improvement in the uptake of evidence informed policy to tackle health challenges more effectively and sustainably.	Goal 3 - Ensure healthy lives and promote well-being for all at all ages Goal 10 - Reduce inequality within and among countries Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation
In academia, a strengthened capacity for furthering the understanding of the challenges to achieve sustainable health for all (linking research and practices	Goal 3 - Ensure healthy lives and promote well-being for all at all ages Goal 10 - Reduce inequality within and among countries	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including

Expected output/outcome	SDG	Sub-SDG
both ways) and facilitate collaboration across sectors.	Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	through North-South, South-South and triangular cooperation
Among all stakeholders, an increased understanding of how to build and maintain effective and equitable partnerships for addressing sustainable health challenges – including both structures for decision-making, governance, funding, as well as objectives and content of such partnerships.	Goal 3 - Ensure healthy lives and promote well-being for all at all ages Goal 10 - Reduce inequality within and among countries Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships Data, monitoring and accountability

Sustainability, future of the partnership and lessons learnt

The success factors for the CESH in its early establishment has been the longstanding relationship between the two universities. The collaboration has built trust between the universities as well as the respective staff involved in the Centre. This has further contributed to a common understanding of those involved of what they are going to do to achieve the SDGs. The long-standing partnership has also contributed to an anchoring of the Centre in both universities leading to a visionary leadership without micromanagement – the right people are therefore involved at the right level.

Furthermore, the current global pandemic has put a strain on global partnerships. Since the Centre is a virtual centre has allowed for the persons involved to continue engagement. The establishment of the Centre has therefore been timely in that digital tools have been improved which in turns allows a digital partnership to evolve and also allows the operations of the Centre to continue with bi-weekly meetings.

In earlier stages of the partnership the continued funding stream from Sida and Linnaeus-Palme has been crucial. The continuity and sustainability of previous activities became a challenge with minimal funding during the long partnership. One example of this is when the funding for the exchange of students and staff stopped, the flow of exchange was hampered and become a one-way exchange from KI to MAK. That is one of the reasons why in establishing the Centre, the universities are now providing core-funding to ensure the support the establishment of the partnership.

The alignment of the Centre's activities with the universities' regular activities and aim/mission further contributes to the sustainability of funding, more collaborations, development of courses and training opportunities, and reinforcement of diplomatic relations. The alignment of activities will also counteract the risk of CESH becoming too dependent on the people that founded it. The mitigation strategy involves anchoring the Centre in the two different partner institutions – both in strategies and key leadership - as well as involving several different key people. In addition, establishing accountable, transparent and clear governance documents and procedures is another way of mitigating dependency on a few key people. This way, the aim and objective of the Centre will be anchored in a system rather than on key individuals.

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- Note on KI's website, available at: https://ki.se/en/collaboration/collaboration-with-makerere-university

- Note on MAK's website, available at: https://www.mak.ac.ug/about-makerere/facts-and-figures

Interviews

Name	Affiliation	Role	Date of interview
Karin Båge	Karolinska Institutet	Project developer for CESH	09/06/21
Monika Berge	Karolinska Institutet	International coordinator	09/06/21
Rawlance Ndejjo	Makerere University	Coordinates CESH at Makerere University	09/06/21

10 SIDA – Research capacity and higher education development programme in Rwanda

Introduction

The SIDA-supported research capacity and higher education development programme in Rwanda is a partnership between the University of Rwanda's (UR) central administration and six colleges and 12 Swedish universities. The aim of the programme is to "increase production and use of scientific knowledge of international quality at the UR that contributes to the development of Rwanda".[48]

The case study describes the programme and how it helps to build a critical mass of researchers and improve the infrastructure of UR. Furthermore, the case examines the programme's contribution to the United Nation's Sustainable Development Goals (SDG). Some challenges have been encountered in identifying the contribution of the sub-programmes to the SDGs and the case therefore does not explore this in much detail and a deeper portfolio analysis could provide insight into this.

The case study has been constructed through the use of secondary data and supplemented with in depth interviews with key people at SIDA and Uppsala University.

Context to the partnership

Rwanda is a country with a young population – 39 percent of the population are aged 14-35 years. Their Human Development Index (HDI, a summary measure of average achievement in key dimensions of human development)[49] was in 2015 0.498 which ranked the country 159 out of 188 countries, and the country had a poverty head count ratio (the percentage of the population living below the national poverty line(s)[50]) of 39 percent, so the country is facing important development and poverty reduction challenges. But Rwanda was also the first country with females in majority in parliament, 62 percent, and ranks 4 out of 144 in WEF's Gender Gap Index and 84 out of 188 in UNDP's Gender Development Index.

The quality of primary and secondary education, despite large investments and overall improvements, are still challenged in the form of inadequate physical infrastructure and learning material, inadequately trained teachers, and high levels of dropouts – for primary education only 60 percent of students graduate out of an 87 percent attendance rate. Furthermore, the enrolment of students in higher education has been affected by socio-economic conditions and poverty. The sector was also heavily affected by the genocide in 1994 which led to a lack of qualified academic staff in the country and at UR which is limiting UR's role as a critical voice in society. Many of the academic staff have however been educated at institutions abroad. This had led to a staff with experiences from many different countries and degrees are increasingly

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[48] Tvedten, I., Byabagambi, A., Lindström, J., Tedre, M., "Evaluation of the Sida supported research capacity and higher education development program in Rwanda, 2013–2017", 2017, Sida Decentralised Evaluation, 2018:3
[49] http://hdr.undp.org/en/content/human-development-index-hdi
[50] https://databank.worldbank.org/metadataglossary/millennium-development-goals/series/SI.POV.NAHC

seen as a precondition for careers in the private sector and the government.

Rwanda has sustained a long period of economic growth and there have been considerable improvements in socio-economic indicators. The country is steered top-down which has created an effective environment for implementing actions aimed at achieving their national development goals and has contributed to the rapid progression of the country.[51] But the large majority of the population are still active in the agricultural sector and the government has recognised a need for structural transformation. In this transformation, UR is an integral partner in development and poverty reduction. The higher education sector in Rwanda has expanded considerably in terms of number of universities, academic staff, and students. The output of the qualified academics and their research has increased but is still low compared to neighbouring countries.

Sweden has research cooperation with a number of countries as a part of their aid portfolio. Some of these partnerships' dates to the 1970s such as those with Mozambique, Tanzania, Ethiopia, and Uganda while others are more recent such as those with Bolivia and Rwanda. The support to Rwanda started modestly in the early 2000. The support in higher education and research has been financed in three programme periods to improve the research capacity and provide institutional support. Since 2012/13, SIDA's partner organisation has been the University of Rwanda which is a consolidated organisation created by the merger of the former National University of Rwanda and six other independent universities and colleges into one organisation. Prior to the merger, National University of Rwanda was the partner organisation and the cooperation expanded after the merger.[52]

Overview of the partnership

The University of Rwanda (UR) was established in 2013 and was the result of a merger between seven public higher education institutions into a consolidated organisation. The rationale behind the merger was an acknowledgement that each prior institution was weak both institutionally as well as academically. The merger was needed to create a more efficient entity of higher education. In 2017 UR consisted of six colleges with 24 schools and 11 Centres on 14 different campuses. A further consolidation therefore started in 2017 to reduce the fragmentation and reduce the number of colleges to five on 10 different campuses. UR consists of 2327 staff members, with 1378 academic and 750 administrative and support staff. In 2017, 30 thousand students enrolled in UR, 67 percent male and 33 percent female, and the university offers 67 different undergraduate programmes.

The two first programme periods 2003–2006 and 2007–2013 had a budget of SEK78m and SEK 185m respectively and put an emphasis on human resource development, research development, strengthening research management, and improving the research environment. The third phase, 2013–2018, had a total budget of SEK334m and involved all six colleges at UR and twelve Swedish universities and included eight sub-programmes in research infrastructure and three sub-programmes in continuing research training. A fourth programme period is currently running which started 2019 and continues until 2024.

The foundation of the partnership is a concept note which is produced ahead of each new programme period by SIDA's partner organisation in Rwanda, UR. The concept note maps the current capacity and needs of UR to further develop their research capacity. Since the Paris agreement, the concept note also has to be linked to the SDGs beyond Rwanda's national development strategy and explain how the partnership will contribute to these different goals and objectives. UR is also responsible for the identification of PhD candidates among its staff, for establishing the policies, procedures, and incentives towards research needed to create a beneficial environment for research-based teaching at the university, and for the development of the in-house masters and PhD programmes.

After the concept note is produced, SIDA has an open call for proposals to select the sub-

[51] Interview
[52] Tvedten, I., Byabagambi, A., Lindström, J., Tedre, M., "Evaluation of the Sida supported research capacity and higher education development program in Rwanda, 2013–2017", 2017, Sida Decentralised Evaluation, 2018:3

programmes to be included in the programme. Each sub-programme focuses on different disciplines but must be linked to the concept note. It is through this link to the concept note the sub-programmes also link to the SDGs. The sub-programmes have a Team Leader in both Sweden and Rwanda.

The programme period of 2013–2018 aimed at the following five specific objectives:

- To contribute to the establishment of an environment more conducive to research and post-graduate training at the University of Rwanda

- To increase the number of PhD and Master's holders in Rwanda

- To increase the quantity and quality of research conducted at the University of Rwanda

- To increase the use of research and competences produced within the programme, in political decision and policy making in Rwanda

- To increase the use of research and competences produced within the programme, by the Rwandan society at large

The programme specific objectives are not explicitly linked to the SDGs but instead focus on building further research capacity in Rwanda to eventually reach a critical mass which allows them to research their national questions at issue. According to the interviewee at SIDA, research lays the ground for contributing to the SDGs and therefore the programme contributes to many of them. Some of the sub-programmes on the other hand have a very clear link to the SDGs by nature of their focus area. For instance, the sub-programme of Water Management has clear contributions to SDG6 and SDG14 while the sub-programme of ICT e-governance might have a blurrier contribution to the SDGs. For a detailed list of the sub-programmes see the table below.

The basic principle for SIDA's support for research and building research capacity is that countries need to have methods for asking and answering questions related to their own development. However, building research capacity is a complex process and takes a long time, therefore this type of support is SIDA's most long-term support. The PhD-training is the main activity for Sida to build a critical mass in research. But for some of these countries, Rwanda for example, there were not enough eligible students to enrol in PhD-training in the beginning of the partnership. Therefore, the programme also has had to focus on master's training to create a pool of students eligible to apply for doctoral training.

Partnership model

The programme is implemented in partnership between UR's central administration and six colleges and 12 Swedish universities. The main activity is PhD training in a sandwich mode (time spent in both countries), master's training, development of curricula, joint research projects and institutional capacity building in areas such as policy development, research management and research infrastructure.

SIDA's programme manager has since 2016 been stationed at the Swedish Embassy in Kigali. The programme manager has very broad tasks ranging from discussions with relevant ministries and ministers to more operational tasks such as visa issues for the students. The Swedish National Higher Education Council (UHR) has also been involved in managing and coordinating the call for proposals of the sub-programmes and for directing the funds to the Swedish partners from Sida. But this contract was cancelled in the later stages of the programme.

Before each new programme period a new call for proposals is held to select the sub-programmes. The applications are reviewed by external experts, but Sida has the final decision. Each sub-programme is managed by Team Leaders at the Swedish lead partner and the Rwandan lead partner.

The Swedish partner organisations are responsible for enrolling chosen students into their regular PhD programmes in Sweden and for supervising the students. Furthermore, they also assist UR in:

- Developing the 'in-house' master and PhD programmes, teaching, and supervision in these programmes
- Developing a research culture through the establishment of seminar series, and providing coaching or training in supervision and research methods
- In the sub-programmes of library, ICT infrastructure, and instructional technology corresponding units at the Swedish universities and UR worked together to develop the capacity at UR

The overall Programme Coordination Office (PCO) is located at UR and coordinates all activities in the programme with the purpose of ensuring effectiveness and efficiency in the implementation of the programme. The PCO ensures high efficiency in communication and execution of management and administrative tasks on programme level, ensure the quality and performance of the programme as well as the strengthen the scientific cooperation between the involved universities. The PCO serves as the interface between Sida and UR as well as the interface between the Swedish partner universities and the Rwandan counterpart.[53]

The main responsibility of the PCO is to oversee and support the implementation of the sub-programmes and contribute to the institutional learning for sustainability purposes in terms of research capacity development, resource mobilisation, and donor coordination at UR. PCO also supports the PhD students and postdocs. On the Swedish side, the responsible coordinator is the International Science Programme (ISP) at Uppsala University.[54] ISP is also responsible for handling the allowances granted to the Rwandan PhD students while located in Sweden.

There are clear management structures for the programme at UR. But the organisation is quite complex due to the size of the programme and the disperse locations of colleges and the different cultures at the colleges. The programme has become an integrated part of UR and has been crucial to attract further donor funding.

The table below gives an overview of the specific sub-programmes included in the partnership and their partner organisations. The last phase of the programme saw a significant increase in number of partnerships between departments, faculties, and universitutes in Sweden and UR colleges and schools. The programme included 13 sub-programmes in the period 2013–2018 with three of them being derived back to earlier phases to allow PhD students to graduate.
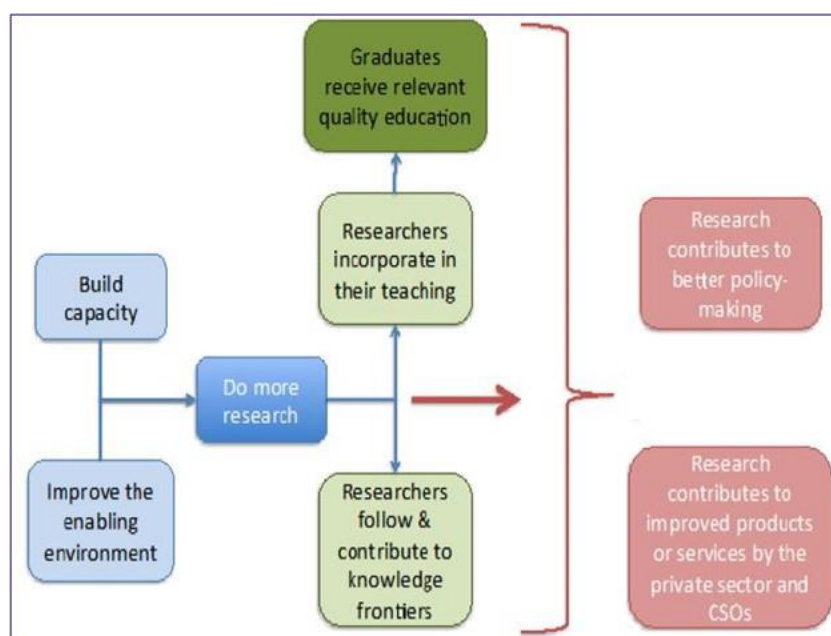
Sub-programmes	UR partners	Swedish/regional partners
Research		
Agriculture	College of Agriculture & Veterinary Medicine (CAVM)	Swedish University of Agricultural Sciences
Economics and Management	College of Business & Economics (CBE)	Jönköping University
Peace Studies	College of Arts & Social Sciences (CASS)	University of Gothenburg
Law	College of Arts & Social Sciences (CASS)	Uppsala University
Health Sciences	College of Medicine & Health Sciences (CMHS)	Gothenburg and University of Umeå
Applied Mathematics	College of Science & Technology (CST)	Linköping and Stockholm University
GIS	College of Science & Technology (CST)	Lund and Royal Institute of Technology (KTH)
ICT e-governance	College of Science & Technology (CST)	Örebro University
Research management		

Sub-programmes	UR partners	Swedish/regional partners
Research Central Management	UR Central level: Research Coordination Unit	Uppsala University (ISP)
	UR Central level: Programme Coordination office	Linköping University
	UR Central: Management Information System	
	UR Central: Institutional Advancement	Uppsala University (ISP)
Innovation	University central & CEESD	Södertörn
Research Infrastructure		
Library support	UR central level: Library	University of Borås and BTH
ICT Infrastructure	UR Central level: ICT Centre	Blekinge Institute of Technology
Instructional technology	Center for Instructional Technology	Stockholm University
Continuing Students from non-approved programmes		
Environment	CBE	University of Gothenburg
ICT Research	College of Science & Technology (CTS)	BTH
Female students in region	Various colleges (CMHS, CBE, CAVM, CASS)	Different universities in Africa

The Figure below illustrates the Theory of Change for the programme. The input of the programme are activities that builds research capacity at UR and improving the environment for conducting research. The output is doing more research which in turn will lead to the outcome of graduates receiving relevant quality education, researchers incorporate their research in their teaching, and researchers that contribute and follow the knowledge frontiers. The expected impact of the programme is divided into research contributes to better policymaking and research contributes to improved products or services by the private sector and Civil Society Organisations.

Results achieved and planned for the future

The programme has been implemented amidst considerable expansion and change at UR and is relatively young compared to SIDA's other aid programmes. Despite this, an evaluation done in 2017 assessed the programme to be very good and in some respects even impressive in increasing the Rwandan production and use of scientific knowledge.

Since the start of the partnership in 2003, a total of 67 PhD students have graduated, 30 PhD students are still studying, and 300+ master's students have graduated. Altogether, 11 master programmes have been developed with 8 of them accredited and running. More than 410 publications have been supported through the partnership between 2007 and 2017.

In the form of research capacity, the academic staff have been trained in entrepreneurship and academic writing, start-up of several PhD programmes, and research guiding policies have been developed. Participation in research conferences, exhibitions, and seminars by academic staff and lab equipment plus reagents for the lab has been implemented.

As for the institutional advancement, the outcomes of the programme are:[55]

- An integrated library management mechanism has been implemented
- Purchase of books and subscriptions to E-journals
- ICT infrastructure and ICT support
- University wide integrated management information system
- Different institutional policies
- Capacity building of the admin staff and management and mobilisation of external resources.

The evaluation done in 2017 further lists the following outcomes of the programme:

- There seem to be a development towards more interactive systems of instruction, but the impact of research training and institutional support was difficult to ascertain.
- The impact of the programme on the ability of researchers to follow and contribute to the 'knowledge frontiers' depends on definitions. There are examples of publications of high quality in reputable journals, but the main impacts are related to the contribution to the local knowledge frontier in areas of concern for Rwanda's development.
- The impact on science-based policymaking is through individual relations between UR academic staff and various government agencies as well as through commissioned research. The accessible public channels for research dissemination and public discussions of development based on research are few. This does not however mean that the government is not interested in or follow the research conducted.
- Contributions to improved services and products were limited

The monitoring of the actual impact of the programmes is limited according to the evaluation even though the focus on the programme's wider effects have seen improvements and is more systematically recorded. There is a widespread and close interaction between policymakers in Rwanda and the UR staff. Most of the PhD projects' scope are on issues of relevance to Rwanda's economic and social development but with limited explicit attention to potential impact.

The PhD and Master's students typically work on projects of relevance to the national development and grounded in Rwanda reality. Once graduated, the former students continue to full employment in companies and institutions relevant for development. Staff from some of the sub-programmes interact in public debate, primarily through national and international conferences, with the private sector and a few with civil society, this is however not done in a systematic way. Some sub-programmes engage with the private sector and a few with civil

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[55] https://ursweden.ur.ac.rw/?q=node/82

society – but generally not in a systematic way that opens for replications or learning.

On the programme level there are no explicit reference to the SDGs in the documents. But there are very strong links overall with SDG 4 on inclusive and equitable quality education, and SDG17 to strengthen the means of implementation and revitalise the global partnership for sustainable development. The table below gives a more detailed overview of the programmes five objectives' links to the SDGs.

Expected/realised outcome	SDG	Sub-SDG
To contribute to the establishment of an environment more conducive to research and post-graduate training at the University of Rwanda	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.a - Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. 4.3 - By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university. 4.7 - By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.
To increase the number of PhD and masters holders in Rwanda	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.3 - By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 4.4 - By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
To increase the quantity and quality of research conducted at the University of Rwanda	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.a - Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. 4.b - By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
To increase the use of research and competences produced within the programme, in political decision and policy making in Rwanda	Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Goal 16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	4.3 - By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university 16.6 - Develop effective, accountable and transparent institutions at all levels 16.7 - Ensure responsive, inclusive, participatory and representative decision-making at all levels 16.a - Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime

As for the outcome from the sub-programmes, these are harder to identify and link to the SDGs and would need a deeper portfolio analysis to ascertain. However, our consultation with the stakeholders of the programme suggests that there are contributions made by the sub-programmes to the SDGs. The research projects conducted in the sub-programmes can directly

contribute to the SDGs through the nature of the research conducted, but they also have more indirect contributions.

Sustainability, future of the partnership and lessons learnt

Since the start of the UR-Sweden programme in 2002 it has played a crucial part of the former NUR and has continued to be so in the new and consolidated UR since 2013. The programme is highly appreciated by the academic staff, students and management involved.

Even though the economic reliance on external funding has been reduced due to the emergence of other donors such as the Worlds Bank, Sweden is still alone in supporting the university on a holistic front in research capacity building and institutional development.

The evaluation made in 2017 found that the main contribution of the programme might have been to support the education of highly qualified UR academic staff. UR, however, still have not reached a critical mass necessary to run its own masters/PhD programmes without external support. This is a key indicator of a mature research-based university even if some colleges/departments are more advanced in this than others.

Continued support seems necessary in order to improve and further develop central functions in research management, contribute to the consolidation and further development of research at UR by the PhD candidates, and develop the competence and capacity for multidisciplinary and applied research for UR to comply with its overall mandate and policy.

References and sources of information

Documents

- Tvedten, I., Byabagambi, A., Lindström, J., Tedre, M., 2018, "Evaluation of the Sida supported research capacity and higher education development programme in Rwanda", 2013-2017, Stockholm: Sida (Sida Decentralised Evaluation no. 2018:3), available at: https://www.cmi.no/publications/6462-evaluation-of-the-sida-supported-research-capacity
- Programme website, available at: https://ursweden.ur.ac.rw/?q=node/82
- Note on ISP's website, available at: https://www.isp.uu.se/what-we-do/bilateral-coordination/rwanda
- Note on Sida's website, available at: https://www.sida.se/en/sidas-international-work/rwanda

Interviews

Name	Affiliation	Role	Date of interview
Dr Emilia Molnar	Sida	Programme manager 2016–2018	03/06/2021
Therese Rantakokko	International Science Programme, Uppsala University	Administration and finance manager	02/06/21

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