



CSC Evaluation and Monitoring Programme

Protecting Livelihoods and Advancing Climate Change Literacy in Rural Uganda, South Africa, and Beyond

Sidney Muhangi



Africa contains 65% of the world's uncultivated arable land, and the continent features a diversity of ecosystems which hold potential for cultivating many staple crops including potatoes, rice, coffee, and maize. As forecast by the African Development Bank (ADB), in less than a decade Africa's agriculture sector could account for a staggering USD 1 trillion, presenting opportunities for jobs and investment leading to poverty alleviation and reduced hunger. However, reliance on agribusiness also means that most of the working population of the continent is employed in the agriculture sector. For example, Uganda has 68% of its population dependent on agribusiness for their livelihoods.

According to the UN Environment Programme, Africa is the most vulnerable region in the world due to its range of climates and the lack of socioeconomic buffer systems needed to withstand and recover from the impact of climate change. For instance, despite being a major economy, South Africa remains under pressure from the cascading effects of extreme weather events, including unemployment, food insecurity, and poverty. Additionally, South Africa's commitment to transition towards a low-carbon economy further complicates the situation by creating challenges for those employed in high-emission industries such as coal.

Commonwealth Alumnus Sidney Muhangi is leading efforts to address these challenges. Having completed his Master's degree in the UK on a Commonwealth Shared Scholarship, Sidney joined the Ubunye Foundation where he played a pivotal role in helping people to establish sustainable farming in Eastern Cape, South Africa. Sidney also cultivated robust networks during his Master's, which led him to collaborations and engagement in impactful development research initiatives, and a Commonwealth Split-site Scholarship to conduct research in the UK during his doctoral study. These projects include Vocational Education and Training (VET) Africa 4.0 in South Africa and Uganda; Re-imagining Agricultural Extension through a Learning Lens (RAELL) to better support smallholder farmers; and Monitoring and Evaluation of Climate Communication and Education (MECCE) to strengthen and advance climate literacy and action globally.



Sidney Muhangi was awarded a Commonwealth Shared Scholarship in 2017 to undertake his MSc in Global Food Security and Development at Nottingham Trent University, as well as a Split-site Commonwealth Scholarship to conduct research at the University of Nottingham in 2022 as a part of his PhD in Environmental and Sustainability Education at Rhodes University. He designed the Green Business Programme at the Ubunye Foundation, transforming 200 smallholder farmers' livelihoods and business practices in the rural province of Eastern Cape, South Africa. He has worked on the Monitoring and Evaluation of Climate Communication and Education (MECCE) project, Co-Chairing the African Regional Hub and supporting policy change and sharing of effective practice in Climate Education and Communication. He also works as a researcher on the Just Energy Transition programme under the office of the Presidency of South Africa, supporting the economic transition from coal to cleaner energy sources. Beyond academia, Sidney is a co-founder and trustee of United Social Ventures, which supports young people in developing sustainable social enterprises, and also mentors youth to support pathways to decent jobs and work through the UNICEF YOMA (Youth Marketplace) initiative in Africa. Currently, Sidney is a British Academy Early Career Researcher on the project 'The Times of a Just Transition' and a British Council Scotland SGSAAH (Scotland Graduate School for Arts & Humanities) Earth Scholar.

Looking Far and Wide to Contribute to Sustainable Development

Sidney has always been passionate about community development. Prior to his Master's degree, Sidney worked on projects helping rural women start businesses to support their livelihoods. However, studying in the UK on a Commonwealth Shared Scholarship enabled him to expand the scope of his work so that he could support the sustainable development of communities both locally and internationally.

'My participation in the Commonwealth Scholarships enabled me to look far and wide ... to just harness the networks, the people, the new projects, in order to contribute to development, locally and intentionally.'

During his Master's study in the UK on a Commonwealth Scholarship, Sidney started forming and building his professional networks, which opened opportunities for him to apply for a Commonwealth Split-site Scholarship, to collaborate with like-minded people and experts, and engage in impactful research projects across Africa.



Sidney at Nottingham Trent University scholarship celebration ceremony in May 2018.

While studying at Nottingham Trent University on a Commonwealth Shared Scholarship, Sidney participated in community development programmes once a month, and this is where he met his future Split-site supervisor from the University of Nottingham. The foundation of prior meetings to discuss his doctoral supervisors' research areas and their willingness to support him facilitated Sidney's application process for a Commonwealth Split-site Scholarship.

'To go out on a Split-site, you must have someone supervise you from a university. And so, for me, it was easy because I met these people who were willing to support me. And fortunately, they were in the same line of education with my course. So, they helped to be my course supervisors for my research project when I came over to Nottingham. And again, having that connection, we worked together on projects.'

VET Africa 4.0 is one of the projects that Sidney had the opportunity to engage in due to his connections with his supervisors. The project brings together three teams of experts from across the University of Nottingham in the UK, Gulu University in Uganda, and the University of Witwatersrand and Rhodes University, both in South Africa. The project sought to improve the effectiveness of the Vocational Education and Training (VET) sector in South Africa and Uganda by refreshing and decolonising how this training was offered so that it was more relevant to working, living, and learning in an African context. Sidney reviewed the curriculum for a VET college in Alice, South Africa and one in Gulu, Uganda, to look at how the institutions embedded sustainability aspects and climate change in their curriculum, work which aligned with his PhD research. He also looked at what training could be provided by colleges to enable agriculture extension officers to better support farmers through their work in sharing new farming techniques. The revised curriculum is being implemented by the institutions, and co-learning networks have been created for farmers, extension officers, and students to learn in the Eastern Cape Province.

'Other projects also from these same networks kept developing, including Reimagining Agricultural Extension through a Learning Lens [RAELL], which was another project that I participated in as a research associate, also a result of those networks.'



Sidney conducting training for women in Eastern Cape in Micro-MBA (managing business activities) with a focus on developing green businesses.

Related to VET Africa 4.0, the RAELL project looking at capacity building specifically for agricultural extension officers (AEOs) to better support a range of actors in the agricultural system, especially smallholder farmers.



The extent of damage caused by drought in rural Nqushwa in the Eastern Cape. It is where Sidney introduced the Green Business Programme to create alternative livelihoods.

Funded by the University of Nottingham and the UK's Global Challenges Research Fund, these research collaborations led to different types of outputs which were disseminated in a number of different places including a policy paper, 'Incubating TVET Policies in Uganda', a journal article; 'Designing the Future - Youth innovation, informality and transformed VET'; a research report 'Reimagining Agricultural Extension through a Learning Lens (RAELL) South Africa Report'; and 'Transitioning Vocational Education and Training in Africa: A Social Skills Ecosystem Perspective', an open access publication by the Bristol University Press.

'I found that what I studied, the networks I created, they all enabled me to in one way contribute to society development through research or action-based projects.'

Sidney reflects that as a result of the Commonwealth Scholarship, the most significant change to himself has been how the award has shaped his academic and professional journey.

'The Commonwealth Shared Scholarship at Nottingham Trent University in 2017/18 and the 2022 Split-site Scholarship at the University of Nottingham has been pivotal in shaping my academic and professional journey. Obtaining a MSc in Global Food Security and Development provided me with the essential skills and knowledge that paved the way for my employment with the Ubunye Foundation in South Africa.'

Through these Scholarships, I have built extensive personal and professional networks, which have enabled me to engage in impactful research projects across Africa, such as VET Africa 4.0, MECCE, and Re-imagining Agricultural Extension through a Learning Lens.

These collaborations have produced scholarly materials and further opportunities, including the prestigious British Academy post-doctoral fellowship and the EARTH Fellowship by the British Council Scotland. My association with the Commonwealth Scholarship has opened doors to diverse personal achievements, allowing me to continue making meaningful contributions to academia and development initiatives.'

Transforming Farming and Business Practices in Rural Eastern Cape, South Africa

'Obtaining an MSc in Global Food Security and Development provided me with essential skills and knowledge that paved the way for my employment with the Ubunye Foundation in South Africa.'

Upon completing his Master's degree from Nottingham Trent University, Sidney joined the Ubunye Foundation, a rural development trust based in the Eastern Cape of South Africa led by rural communities. With a brand-new mindset and directly related skillset, Sidney worked as a Programme Coordinator and designed a new programme called the Green Business Programme, aimed to transform farming and business practices in rural Eastern Cape, South Africa. Sidney attributed his ability to design such a programme to the skills and knowledge he acquired during his Commonwealth Shared Scholarship in 2017.



The tower vegetable gardens at Early Childhood Development Centres (ECDs) with flourishing vegetables supporting children in various ECDs.

'Those skills I gained enabled me to design a new programme that could fit in a context here in South Africa where, in the area I was working, had suffered a five-year drought. So, I designed a Green Business Programme to enable farmers to integrate sustainable practices into agriculture, and that was the green business programme. If I hadn't had that qualification, I don't think I would have.'

After implementing the programme for three years, Sidney supported over 200 smallholder farmers and youths to establish sustainable smallholder businesses, with an average profitability of 40%.

‘In this programme, we changed their livelihoods, as it was, to make sure that the businesses that we encouraged people to develop are environmentally friendly, that they are useful to the communities in terms of employment, and also that they are sustainable ... You had people who were making, as an example, mats; instead of using grass from swamps, they were now using plastic bags [as] a way of saving the environment and adapting to the new reality that is happening in their communities.’



Sidney working with local community members to construct vegetable tower gardens for households and ECD sites.

While implementing the Green Business Programme, Sidney also worked with Early Childhood Development (ECD) centres to establish vegetable tower gardens, ensuring those ECD centres had access to fresh vegetables to prepare for the pupils at school. In a water-scarce area, the vegetable tower gardens were built in a sustainable way to assist the community in addressing the water crisis.

‘The gardens we built were sustainable in a way that conserves water. ... We call them vegetable tower gardens, where the water can be recycled since this is a water-scarce area. The water they would use is recycled water, the water that you use to wash clothes, the water that you use to wash pans and pots. You’d get that and pour that in a tower garden, and there’s a mechanism that sieves and purifies that water, and by the time it gets to the soil, it is safe for the plants to use. So, we made sure that we created those tower vegetable gardens to assist the communities which were suffering from a water crisis.’

Within two years, all 45 ECD centres had vegetable gardens, and more than 1,500 children now have regular access to fresh vegetables due to the Green Business Programme. Although Sidney resigned from the Ubunye Foundation in 2022 after he went to the UK for his Commonwealth Split-site Scholarship, he still offers assistance wherever it is possible. He feels his service with the Ubunye Foundation is one of his most rewarding experiences as a result of his Commonwealth Scholarship.

As a result of the Commonwealth Scholarship, Sidney identified his pivotal role in the Green Business Programme as the most significant change that he brought to his local community.

‘One of the most rewarding impacts of my experiences has been my involvement with the Ubunye Foundation, where I spearheaded initiatives in Eastern Cape Province in South Africa. The Green Business Programme has empowered youth and women entrepreneurs while also ensuring that Early Childhood Development centres (ECDs) had access to fresh vegetables.’

While implementing the Programme, I facilitated in establishing over 200 sustainable smallholder businesses. These enterprises operate in an environmentally conscious manner. These are also a source of valuable skills and knowledge in business management and environmental stewardship for their owners. Furthermore, due to the Green Food Project initiative under the wider Green Business Programme, more than 1,500 children now have uninterrupted access to fresh vegetables ensuring good health and well-being.’

Outside academia, Sidney continues to support young people in securing pathways for decent jobs and work through a UNICEF YOMA (Youth Marketplace) initiative in Africa. The YOMA initiative is a digital platform that supports young people to build their futures by engaging in social impact tasks. Through these tasks, participants build vital skills that can help them to secure internships and employment. This is incentivised through digital tokens, which can then be exchanged for digital services or physical goods.



Sidney with the British Academy ‘The Times of a Just Transition’ project team during the Cape Town TimeLab meeting in October 2023.

Sidney is also the co-founder and trustee of United Social Ventures. Founded in 2013, United Social Ventures supports young entrepreneurs to build social ventures by supporting market-based projects that offer products designed to maximise value to their users and not only value people over profits, but seek to catalyse systemic change. United Social Ventures identify their operations as distinct from a business incubation programme; by focussing on social ventures rather than traditional businesses, United Social Ventures looks to support individuals who are not typically included in the user base of profit-driven projects. Through this, the programme aims to offer a way to support communities that is not reliant on ongoing charitable donations; in the social venture model, the business itself is the charity.

To achieve this, United Social Ventures develop curricula offering hands-on training for potential entrepreneurs who have promising ideas but require technical and funding support to start up their entrepreneurship. They offer customised design programmes of between 12 and 22 modules, which support ventures to identify their product and market, improve their product-market fit, generate funding, and grow their sales. They work with organisations and stakeholders such as the Mastercard Foundation, Engineers Without Borders Canada, the Ugandan Minister of Information and Communications Technology, and other developmental hubs in Uganda to raise funds to support young people's start-ups. They also offer training and mentorship to young people to help them move beyond the mindset of quick gains and create permanent employment and social impact. To date, United Social Ventures has run over 350 workshops with seven partners, and supported over 300 young people and their projects and 180 business ventures.

Advancing the Climate Literacy and Action across the African Continent

During and after his PhD, Sidney has been working as a Research Associate and Co-chair of the Africa Regional Hub for the international 'Monitoring and Evaluation of Climate Communication and Education' (MECCE) project. The MECCE project partners with over 100 scholars and organisations, including an Advisory Committee comprised of representatives from the Intergovernmental Panel on Climate Change (IPCC), the United Nations Framework Convention on Climate Change (UNFCCC), UNESCO, and the UNESCO Global Education Monitoring Report, aiming to increase global climate change literacy and action.

Sidney's work has been particularly concerned with the African context, focusing on integrating climate education and communication in formal and informal education to increase resilience in response to climate change. As a Research Associate, he analysed the literature, secondary documents, and policy papers, and identified

the knowledge gaps regarding Climate Communication and Education (CCE) across countries. Sidney found despite the variety of gaps across countries, there were a number of common issues including an inability to work with indigenous communities on climate change communication, a lack of climate change education in the primary and secondary school curriculum, and limited budgets on climate change action.

'The notable one, which I think comes across most of these countries, is the inability to work with indigenous communities and teach them about climate change or developing practices that they can adopt in order to adapt or mitigate the impacts of climate change ... the other is the lack of climate education in the curriculum, especially at primary and pre-primary levels ... Another one which I also have seen, with the exception of Rwanda, is that most countries have limited budgets for climate education.'



Sidney with an interdisciplinary cohort of Earth Fellows during an excursion at the University of Stirling, Scotland, 2024.

In order to encourage countries to address these gaps, the MECCE project developed a set of profiles which assessed gaps on a country-level basis. Sidney was responsible for developing these profiles in the African context, working with UNESCO and country experts to go through thorough review processes until each country profile was ready to publish. Those country profiles have been launched at successive United Nations Climate Change Conferences starting with COP26 in 2021. Many countries have been interested in using these profiles to shape their climate communication and education policies, including Egypt, Rwanda, Namibia, Kenya, Zimbabwe, Ghana, and Madagascar.

'When those countries' country profiles were launched, they got interested in finding out what was in those profiles and what the gaps were with respect to their countries. ... They have taken those profiles and they're working on trying to fill those gaps that we identified regarding climate communication and education.'

Besides conducting research, Sidney's role as Co-chair of the Africa Regional Hub, means he is responsible for identifying potential collaborators, be they individuals, groups, associations, or organisations, that are involved in Climate Communication and Education across Africa, making contact and organising webinars to build a stronger network of stakeholders. The Regional Hub network was then able to conduct funded case studies on best practices in CCE sourced from members. Under Sidney's coordination and support, four case studies on effective CCE have been developed featuring work which have reached over 10,000 people across five countries in Africa providing advanced climate change literacy.

'[In] Ghana, there's an organisation implementing a CCE project there...looking at gardening as a climate action... trying to communicate to [rural women] or teach them about climate change ... In Senegal, we had a case study which was looking at general education. So, they were looking at education from primary through college, and how climate change is being integrated or mainstreamed in the curriculum. ... We had one in Rwanda, which was working with refugees and host communities and trying to raise awareness of climate change in communities hosting refugees and refugee camps.'

Looking Ahead

Currently Sidney is a British Academy Early Career Researcher on a project called 'The Times of a Just Transition'. Using the storytelling method, he is exploring how smallholder farmers use time mechanisms to define their problems and challenges throughout the year and what tools or learning materials could be developed to assist them in dealing with those challenges. One of those tools will be a planting calendar that assists smallholder farmers in moving forward with the changing planting seasons.



Sidney at the University of Stirling on an excursion with other Earth Fellows during a residential training programme.

Sidney has also received a 2024 EARTH Scholarship from British Council Scotland and the Scottish Graduate School for Arts & Humanities. During a three-month fellowship, he will work with experts at the University of Strathclyde to analyse and reconceptualise the agricultural advisory skills system to better support smallholder farming in a changing climate using arts-based approaches.

In addition to the agricultural sector, Sidney is revisiting his work in skills development to transition energy towards renewable sources in the South African provinces of Eastern Cape, Northern Cape, and Mpumalanga. He is involved in the Just Energy Transition programme under the office of the Presidency of South Africa, which aims to ensure the country's transition to renewable energy sources is fair for people whose livelihoods are tied to high-emitting energy industries like coal, and to create new and better job opportunities.

More about Sidney Muhangi

Postdoctoral research: [The Times of a Just Transition | The British Academy](#)

[United Social Ventures website](#)

[Ubunye Foundation's Green Business Programme](#)

Access additional published work:

Incubating TVET Policies in Uganda, published in the seventh edition of [NORRAG Special Issue \(NSI\) entitled Education in Times of Climate Change](#)

[Reimagining Agricultural Extension through a Learning Lens \(RAELL\) South Africa Report](#)

[Transitioning vocational education and training in Africa: A social skills ecosystems perspective | International Review of Education](#)

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