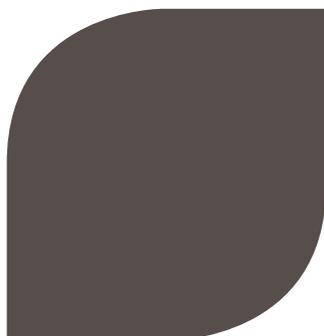
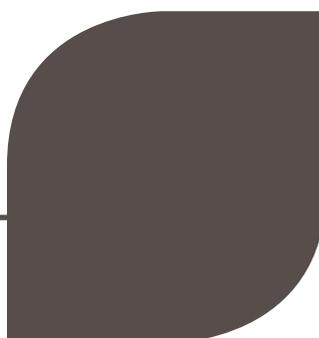


# BRECCIA

July 2022



Building REsearch Capacity for  
sustainable water and food security  
In drylands of sub-saharan Africa  
(BRECCIA)

**Assessing the difference BRECCIA  
has made**

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# 1: Introduction

The University of Southampton led project **'Building REsearch Capacity for sustainable water and food security In drylands of sub-Saharan Africa'** (BRECCIA) concluded in March 2022.

It comprised staff based at eight universities located in four countries (UK, Malawi, Kenya, and Ghana) and partnerships with international organisations, working on research and capacity development in the coupled areas of water and food security.

**The objectives were to:**

Enable partner institutions to **understand the barriers and enablers** to high quality scientific research, and to **co-develop a pipeline of capacity-building activities** to strengthen research technical and management skills, professional skills, and professional development

**Develop research networks across African** institutions around water and food security, and to leverage these to co-design pertinent research questions on key global challenges

Engage in **collaborative research programmes** that advance knowledge of food and water security in partner countries, identifies solutions to water and food security challenges, and **produce a new cohort of trained researchers** in this field that are capable of leading and shaping the direction of future research

Ensure **impactful research that influences policy/practice** through engagement with regional climate, hydrological and agricultural information providers, and with stakeholders and policy makers at national and local levels to empower local communities

**Facilitate sustained research capacity** within partner institutions after the end of the project and to **provide opportunities to self-propagate capacity** to a broader set of institutions and researchers across Africa

The project was funded by the UKRI Global Challenges Research Fund. Alongside the funded research there was an intention to prioritise and develop capacity building in participating institutions. This report aims to evaluate the capacity building strand and assess the difference that the BRECCIA programme has made in institutions, through interviews with individuals from participating institutions. It will highlight key trends and findings, consider future funding, and make recommendations for a variety of stakeholder groups.

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## 2: Key findings and recommendations

### Key findings

#### Consortium culture and collaboration

- The BRECCIA philosophy and mode of working has been appreciated. This has primarily been a model of funding small research projects conceived in Africa by early career researchers (ECRs) and co-investigators and ensuring this is supported by a programme of researcher learning and development to enable the pathway to independence.
- The importance of capacity building for institutions and beyond has been recognised and participants were keen to be able to access a strategic co-created programme that offered this.
- Many of the institutions had a long-standing relationship with the University of Southampton that led to their involvement in BRECCIA.
- Leadership of the University of Southampton, particularly Professor Sheffield as Project Lead, has been excellent and has formed the basis of a positive collaborative culture.
- This BRECCIA programme has been highly collaborative and leaves a strong network that could and should be leveraged.
- Mutual learning was highly beneficial and gave interviewees confidence that they could achieve better research capacity and support structures.
- Whilst there was a lot of benefit in UK and Africa collaboration culturally, there are also systems and processes that did not translate easily into the African context.

- Interviewees also identified differences across African institutions. It is useful to learn both from those with more developed research offices and support systems, and from those on a similar trajectory to the cohort overall.
- Some interviewees felt a lack of clarity around expectations at project inception. This stage of the project could have been more collaborative.
- The funding model requiring work to be done in advance of receiving payment was a real challenge to institutions due to the lack of finance available to them. Systems and processes were also challenging. However, interviewees did learn from this experience.
- Contact and engagement with local communities was agreed to be of real importance for the legacy of the outputs of the project.
- Funding for post-doctoral students enabled some institutions to offer this post for the first time. This was seen as a success, however precarity of African research careers means that they may still need to seek permanent university employment that is not research focussed.

#### Capacity building: Training and development

- Training and development for all levels of staff across the institution was highly beneficial. This included senior managers, co-investigators and ECRs and allowed for a change in culture at many levels.
- There are high levels of enthusiasm for this type of training with staff who are keen to participate. This appetite for training continues.

- Training for staff in research offices was viewed as extremely beneficial and has raised the profile of the work of research offices. Staff appreciated the opportunity to participate in the South African Research and Innovation Management Association (SARIMA) conferences.
- The researcher development training delivered was excellent and feedback was resoundingly positive.
- Whilst the pandemic created less face-to-face interaction and the lack of human connection was noted, the shift to online training improved accessibility and reach.
- It is important for staff to be given time to attend training, in addition to their day-to-day workload.
- Interviewees had positive first-hand experience of training and were able to articulate its benefit.

#### End of project and impact

- Research outputs of the project have been a success, with tangible outcomes for local communities.
- There is a real commitment to continuing this work. BRECCIA has energised these researchers and institutions and there is a will to continue.
- Training will impact on the career paths of researchers as they are now more self-aware and will actively seek opportunities to develop the skills for progression.
- BRECCIA research outputs have begun to influence policy both locally and nationally.



## 2: Key findings and recommendations

- Anecdotally there has been more success in funding proposals and there is an increased confidence in skills to write grant applications.
- There has also been a growth in research support staff and size of research offices.

### Future funding

- All interviewees expressed a desire to continue both the research and capacity building work initiated by BRECCIA.
- There is an appetite for more training and development to continue individuals' progression.
- As more new staff in this area are recruited there is a need to continue the cycle and provide equivalent training to them.
- As a result of this project, one institution would still like to establish a research office whilst others wish to develop their current provision. Both require funding to do this.
- Research office staff need training into both finding funding and collaboration opportunities and how to then submit successful proposals.
- Opportunities for secondments would be extremely beneficial. These should be supported by training and development in how best to leverage skills learned and developed at individuals' home institutions.
- It is important for participating institutions to build on the research knowledge gained and leverage this to maximum capacity.

- It is difficult to measure the current impact of the project due to the long-term nature of culture change. Long-term impact tracking would be extremely beneficial.

- Long term impact needs to be monitored and evaluated to demonstrate culture change.

### Recommendations

#### For University of Southampton

- The leadership of the University of Southampton and the knowledge they have brought to this consortium has been highly regarded. They should continue to share their expertise in this area internally and externally with funders and policy makers.
- For future projects there is an opportunity to increase co-creation at the outset with partner institutions and establish clear parameters around expectations, processes, and systems.
- There is a need to establish collaborative systems and processes at inception that will work flexibly in the African context. This could be done through co-creation.
- Institutions are now ready to move forward based on the capacity building training and research that they have undertaken. The University of Southampton should consider how to support them with this and find ways to continue to engage with them.
- For future projects, new African partners should be sought to ensure others are exposed to this opportunity and current partners can start to act as exemplars.

- For future projects, impact measures should be established that tie in with African national policy initiatives and are comparable across the project.

#### For senior leaders in African institutions

- Continue to seek opportunities to gain experience from other institutions in order to share experience and good practice across the African continent.
- Commit to the development of research offices and allocate appropriate resources to support this.
- Ensure that institutions can prove impact to policy makers by agreeing impact measures and mechanisms for monitoring and being able to tell engaging stories around their research to a range of stakeholders.
- Have a clear strategy for building the research base and support financial growth, ensuring that there are effective policies in place to support the recruitment and management of researchers.
- Ensure there is a strategic institution focus on the training and development of researchers and staff who support them with provision mapped to the Vitae Researcher Development Framework (RDF).
- Benchmark progression of institution in terms of capacity building and find opportunities to learn from others and develop expertise.

## 2: Key findings and recommendations

### For funders of similar projects

- Ensure that their projects link with national policies and the objectives of policy makers to ensure a collaborative approach.
- Provide opportunities and platforms for mutual learning and knowledge exchange. Funding should be available to support this type of collaboration.
- Encourage capacity building at all staffing levels to continue to create cultural change.
- Coordinate approaches to support for research in Africa and opportunities for knowledge sharing both North to North, South to South, South to North, and North to South should be encouraged.
- When developing funding calls, there should be clear mechanisms for co-creation with African research leaders to establish criteria and ensure early buy-in.
- Find ways in which those with expertise in this area in African institutions are enabled to help other institutions learn and develop to share practice. Train the trainer type models and exemplars of practice should be considered.

### For researchers and those supporting them

- Seek opportunities for collaboration and build networks around their research area.
- Take control of career and professional development and actively seek out training and development opportunities.
- Engage with research offices and research support staff in order to understand how they can help and vice versa.
- Consider and track the impact of both their researcher development training and research outputs in order to be able to articulate the value, using the Vitae RDF.
- Pro-actively seek ways to use expertise to support each other as researchers and especially across the African continent.

## 3: Methodology

This report has been informed by a **series of interviews with key individuals** in the BRECcIA programme. In the first instance a focus group was held with the University of Southampton staff to provide context and understand what some of the key topics and areas for discussion might be.

This was then followed by **eight individual semi-structured interviews** with participants in Africa. Two members of Vitae staff usually conducted these. An individual report was compiled from each interview, and this was sent to the interviewee for comment.

### Interviewees were drawn from:

- University of Ghana
- Kenyatta University
- University of Malawi
- Masinde Muliro University of Science and Technology (MMUST)
- Southern African Research and Innovation Management Association (SARIMA)
- Technical University of Kenya (TUK)

## 4: BRECcIA reflections: key themes

### 4.1 Consortium, culture, and collaboration

#### BRECcIA philosophy

The BRECcIA project brought its own philosophy to institutions in that it gave researchers freedom to pursue their own research interests. The flexible innovation fund allowed researchers in collaboration with co-investigators to develop their own small research projects and this was appreciated by the researchers involved. This allowed for several similar research projects under a larger umbrella to take place concurrently.

Alongside this, BRECcIA's commitment to training and development at all levels, in order to create pathways to independence and embed a change in culture was really appreciated by all the interviewees.

#### Reasons for BRECcIA involvement

Interviewees reported assorted reasons for wanting to get involved in the project but primarily it was two-fold – their research interest and the opportunity to work in this area and access to capacity building programmes. They wanted to develop staff across the institution particularly those in research offices or research support type roles. The BRECcIA investment in research management was something that was unusual and something that they could not fund themselves and was therefore attractive to them. Many had colleagues and staff who had attended similar researcher development training and were aware of the potential impact for example the CIRCLE institutional strengthening programme.<sup>1</sup>

The opportunity to further research in climate change, water and food security was also extremely attractive, particularly in environments of concern for example the drylands of Kenya.

#### Existing relationship with University of Southampton

Many interviewees reported that their involvement in BRECcIA was due to their existing relationship with the University of Southampton owing to previous work and a close relationship with this specific department. Some had been involved in 'Deltas' or submitted a joint proposal.

One individual particularly cited was the late Professor Obiri who had been central to the involvement of MMUST and whose passion and relationship with Professor Sheffield was repeatedly noted as being important.

#### Leadership of the University of Southampton

The interviewees commented on the excellent leadership from the University of Southampton. They appreciated the approach of starting from building capacity rather than setting the research outputs, which changed focus and allowed for flexibility. There was also clear communication and a real belief in what the BRECcIA project was going to do and that it would be successful. They have identified other areas of collaboration as a result, for example inviting a representative to be a keynote speaker at a conference. All the staff at Southampton were complimented, including Dr Reeves who was described as fantastic.

They identified one of the strengths of the project as the leadership of Professor Sheffield who was universally praised for driving a collaborative culture. Communication was open with one interviewee describing that they were not worried about questioning processes and systems. Professor Sheffield was ready to listen and incorporate ideas and suggestions from all. He was able to tap into individual strengths. This empowered participants to feel able to do things in their own way. One interviewee commented that they were now inspired to run their own research team in this way.

#### Strong collaboration

All the interviewees felt that collaboration in the project had been successful. For some it was the largest multi-partner project they had been involved with across several academic institutions. In addition to this, there were a mix of other organisations, for example SARIMA leading on training in capacity building and Vitae contributing researcher development. It was felt that this combination of academia, other organisations and regional institutes has brought together a strong mix which has been successful in helping the project in achieving its aims. This was a unique collaboration, the like of which they had not been involved with before and there was a belief that because of this, future collaborations are likely to emerge, and the network will be in a strong position to capitalise on them.

Many of the interviewees had developed partnerships with other institutions post-BRECcIA around developing new proposals.

1. [www.vitae.ac.uk/researchers-professional-development/circle/background-to-the-circle-programme](http://www.vitae.ac.uk/researchers-professional-development/circle/background-to-the-circle-programme)

## 4: BRECcIA reflections: key themes

They hope to continue to provide continuous training and development for staff to keep moving in the right direction and to ensure that they build on what they are currently doing. One commented on the value of engaging not with people whom they would work with daily but those living in different geographical locations because their understanding is vastly different. All agreed that moving forward it will be advantageous to have a network who can help with problem solving and undertake different challenges.

### Opportunity for mutual learning

Some of the interviewees were pleasantly surprised to learn that their methods and approaches to research were not vastly different from other institutions. However, there was still immense value in hearing from them and sharing practice and experience. Lessons learned were informative to leadership practice. One cited, for example, that hearing in Nairobi (at the research management benchmarking meeting) about how the University of Ghana (an institution similar to their own) had implemented research management, was extremely beneficial.

This led to a realisation that their institution needed to employ more people to be effective, and staff in the research office have doubled as a result. Communication across African institutions is important as culturally Southampton will always be viewed as a Western University and therefore what is possible in the UK context may not be the case in Africa. Visits to other institutions were repeatedly cited as being important.

### Difference in culture: Africa and the UK

Culturally all the interviewees felt that it had been great to interact with other countries and there had been mutual learning and social interaction. For example, in Christmas 2020, during the pandemic, they had come together and shared Christmas experiences that were representative of their own countries. Several interviewees commented on the benefits of this and had both enjoyed and learned from the experience. However, one interviewee identified that many of the senior participants in the project had been trained or worked outside of Africa and therefore perhaps already had a wider cultural understanding. He also noted that practices in Kenya were quite British in orientation.

There were some challenges around the intentions and objectives of the team in the UK versus the reality in Africa. Some felt that the team in the UK were very focussed on ensuring that stakeholders delivered tasks on time and objectives were met. However at times due to the reality of life in Africa this was not possible due to the cultural differences and the reality of how difficult undertaking a piece of research in the African continent might be. There seemed to be a lack of cultural awareness about the constraints on an African researcher, for example, the poor transport infrastructure in Kenya, working conditions or financial restraints. There may be a need for a more flexible approach and greater mutual understanding.

It was highlighted that when research is done in communities it is possible to see much more of a cultural difference and that it is important to consider this and

be prepared to adapt to it. For example, you might plan and budget for a visit of two days, however, when you arrive you cannot start without talking to the Chief who is a 10km walk away. Therefore, the conditions on the ground make it difficult to deliver on time.

### Difference in African institutions

Many of the interviewees pointed out the difference between participating African institutions, which was often beneficial. It was helpful to understand the distinct cultures across Africa. One suggestion was that there could be ice-breaking short sessions and that these should be held at the outset of a project to talk about culture, challenges and difference. As a result of this, systems and processes could therefore be established that were mutually beneficial and understood.

There was a great deal of difference between institutional experience depending on their infrastructure, whether they had an established research office and the scope of provision. One interviewee from a young university noted that whilst there is goodwill and support, they are at an early stage and that more could have been achieved in a larger institution. However, they also noted that this shared experience will be something they can build on in the future. One suggestion was that there could be a way of identifying levels that institutions were seen to be at in order to identify ways to role model and share practice and also create similar cohort groups.

In terms of operations, Kenyatta and MMUST tended to work together on policy and management, whilst the

## 4: BRECcIA reflections: key themes

TUK and the University of Nairobi dwell a little more on the development of hydrological tools. This was good for the projects and research, but some more time might have been established for creating synergies between the management tools to support policy.

### Lack of clarity around expectations at inception

Having had no postdoctoral staff previously, some interviewees felt that there was a lack of a clear and defined path at the outset of the project as to the requirements of partners, their teams and the model employed. This was not the case for all, but it seems that some would have liked more time from the outset to ensure this was clear and explicit, this could have been done in a more co-created or collaborative process with African partners.

### Management of funds

BRECcIA was not administered in a way that African institutions were used to. The issue of finance, particularly the cost reimbursement model employed was identified as a major challenge in the project. This arrangement put a lot of burden on institutions particularly those in Sub-Saharan Africa. Institutions had to find the money to do the work in advance and this was problematic. It was noted that the reimbursement was professionally managed and efficient. Most institutions reported that this is not a way that they are used to working, most projects are structured so that they are pre-financed. It is unclear to institutions why the funding was administered in this way. Support from senior leadership and flexibility in accounting processes were necessary to navigate around this.

Many of the interviewees also reported that it was difficult for them to understand, as UK processes around finance were different to those in Africa and were sometimes in opposition to the internal processes at their institution. This was particularly noted around field work with tedious processes that led to delay. They did adapt to them over time as they felt they were unable to change them. Operating monthly also caused additional administrative tasks. One suggested that quarterly reporting would make for a better system and make the process less tedious and less repetitive.

They were also not conversant with the system for managing suppliers and UK forms and standards around invoicing. There were also barriers around the levels of insurance required which also took time to overcome.

Some interviewees believed that on reflection they have learned significantly around management of funds through involvement in the programme. They have learned from Mr Pandit (who oversaw the finances in the final phase of the project) and the practices that were implemented, and as a result developed formal systems and processes and introduced budget plans. One interviewee explained that they have learned not to delay payments and have built capacity in terms of doing things correctly and quickly, usually within one week, but they hope to improve on this.

### Contact in the community

All the interviewees were keen to maintain contact with the local community and had worked hard to do this. Working in the community has helped them to develop programmes which directly address local problems.

### First postdoctoral researchers and new research groups

As a result of BRECcIA, one university had been able to bring in their first postdoctoral researcher who was supported by the project and is now employed as a member of staff by the university. Having had no postdoctoral staff previously this was seen as particularly special to the young Institution. They have also established a hydrology and earth information research group. Through this, the team are developing a Hydrological Information System that will be a major component to support drought studies, leveraging previous work. This is not only intended to support policy, but also advance studies at university levels on novel and applicable tools for drought level prediction and forecasting. This tool is still under continued development, and once complete to an optimal level, policy connections will be made to ensure this is fully embedded across Africa and disseminate across institutions.

Some interviewees had, however, found it challenging to recruit postdocs and appreciated the project's flexibility in their approach to this. This may be due to the lack of a research pipeline and is discussed in more detail in the Vitae report *The Path to Research Leadership in Africa*.<sup>2</sup>

2. [www.vitae.ac.uk/vitae-publications/a-path-to-research-leadership-in-africa](http://www.vitae.ac.uk/vitae-publications/a-path-to-research-leadership-in-africa)

## 4: BRECCIA reflections: key themes

### Staff challenges

Employability in Africa is a real concern and permanency is key. One interviewee identified that their postdoctoral researcher was able to gain permanent employment which was a personal success for him and the University. However, this meant that in terms of the project that some momentum was lost due to double responsibilities and the need to involve others to assist. For him this is success but less so for the project. Unemployment must not be underrated and is indeed a big issue in this environment.

### Impact of the pandemic on collaboration

Covid-19 did of course have an impact, as did the ODA cut to the budget. However, this did not affect institutions too much as most of their activities were done before the start of the pandemic. They had to cut back on some planned activities but did not lose any staff due to lack of funds. The BRECCIA team ensured that all of those who were employed to work on the project maintained their positions without any cuts to allowances. This ensured that they did not lose any ECR talent. The intention remains to keep everyone on board until the end of the projects.

### 4.2 Researcher development training

The researcher development training strand of the programme was regarded by all the interviewees as a success. They all commented on the success of the training programmes at their institutions, which were seen as timely, helpful interventions that would form a basis for the research development of the institution in the future. Many had previously identified a need to develop their research offices but did not have the expertise or staff experience to do this.

### Importance of training at all staff levels

A whole institution and team approach was taken to most of the training which was highly beneficial in implementing a change in culture and large-scale upskilling of staff. Previously institutions had only been able to send limited numbers of staff to training that had been offered. This model allowed for them to train 30-35 people in one go from different academic disciplines. This allowed staff to see how their roles were connected across the university. For the research office this cohort model helped them to understand what they needed to change and develop and allowed for a two-way conversation and interaction.

Training many staff in similar methodologies, systems and processes creates momentum for change. Of particular importance was training at senior management levels which enabled changes in policy and new processes to be implemented. The importance of senior management buy-in could not be overstated and

there were several examples of Pro-vice chancellors attending training and other events.

One interviewee identified the biggest impact as being the benchmarking training programme. This involved funding for the entire senior management team to go to South Africa and benchmark their activity against work in the University of Pretoria. The intention of this activity was to see a best practice example of how to run a research management centre and then implement this at MMUST. A team of ten senior managers including one permanent secretary attended. As a result, the interviewee reported that this had shaped future strategy and had a profound effect on attendees.

Co-investigators had also been trained in many aspects of doing their work including finance, and planning. Again, this was viewed as successful. The training highlighted the need to think more around management of research and not just research alone, identifying the need for a schematic process to manage researchers around many topics for example, ethics, gender and integrity. It had encouraged participants to see the wider perspective. Many also noted the importance of ECRs receiving this type of training. The impact of which will be felt throughout their careers and is impossible to fully measure at this stage.

Training in BRECCIA focused on the whole life cycle of research in institution. If researchers do not get support to create good research and produce quality outputs, there will not be research to manage. Research leaders need to consider how researchers gain value from the support functions at the university and how they can continue to develop them depending on the resources available to them and the stage they are at.



## 4: BRECCIA reflections: key themes

### Enthusiasm for participating in training

There was a high level of enthusiasm for participating in all the different training opportunities offered and this indicated a real appetite for training in all aspects of researcher development and an understanding of its potential benefits. Many members of staff had taken part in multiple training sessions and feedback had been extremely positive. Staff who embarked on training sessions almost always completed them and were incredibly grateful for the opportunity. Engagement levels throughout the institutions were high.

This appetite for training has continued. One remark has been that there can never be enough training opportunities like this.

### Training for research offices and support staff

Training for staff in research offices was seen as a unique opportunity. Attending this training alongside other staff in the university allowed other staff to see the benefits of the research office and enabled them to train together. Staff in research offices noted that they had gained an insight into managing research funds and interacting with researchers. One commented that for staff outside of research offices this kind of training 'wakes people up' and reinforces the importance of the work of the research office and the need for it to continue.

Several interviewees highlighted how useful they found training and support specifically in grant management.

The benefits were obvious to institutions operating on extremely limited funds and there was a belief that this training would lead to better funding application outcomes in the future. This was emphasised in several of the interviews particularly for those whom English might not be a first language or have limited written English skills.

### High quality training

The range of training was engaging and high quality. One interviewee commented that they were proud that the project had been able to give researchers at their institution this 'golden opportunity'.

Staff at some institutions were able to participate for free in SARIMA conferences across two cycles. They were extremely grateful for this opportunity and are aware that the cost of this would be enormous for numbers that attended. This had given the staff confidence and helped their understanding and ability to deal with tricky situations. Being part of this network has helped to develop support.

### Impact of the pandemic on training

Planned training was disrupted by the pandemic and face-to-face training was moved to online delivery. Whilst this was still seen as extremely beneficial with still high levels of engagement, many remarked that the lack of face-to-face contact was a shame and limited some interaction and collaborative opportunities. The lack of human connection was noted.

An unintended consequence of this, however, was that it allowed more opportunities for access to training than in a traditional physical model as this was a cheaper alternative due to lack of travel etc and required less staff time. Some felt that this had allowed more opportunity for interaction with other institutions and partners.

Another described their disappointment at not being able to visit another research office in person and that this was instead done virtually. However, this allowed them again to widen the invitation and when they were able to have a face-to-face meeting, they had a strategy for implementation of the research office across the institution. There may be a need for an online component moving forward, as this format provides the ability to deliver training quickly with a smaller budget. This is, of course, a huge advantage as many institutions will not have the budget to travel. Interviewees agreed on the need for a blended approach.

### Timing of training

There was a comment that in some instances staff were not given time off for training and had to do it in their own time alongside their usual workload. If possible, this would have been beneficial and there was a risk that day to day work divided participants attention. One interviewee felt that training should be removed from business as usual and be delivered as short, focussed interventions.

### Positive personal experience

Most of those interviewed felt they had personally benefitted from training and were able to describe the individual impact on them. One described how it had made them reflect on challenging situations in the institution including ethical standards. He appreciated having the skills to be forearmed to manage and deal with this. Often, interviewees had taken several training opportunities and felt that this had helped build skills that enabled their own personal career development.

Another described the impact of attending a meeting in Nairobi and how they had initially had a sense of imposter syndrome. However, her experience there and interactions with others made her realise the importance of her role and what she can contribute. She reflected on this as a time that she will never forget and a moment of discovery around her own capability.

Many interviewees found that the training made them reflect on their own abilities and realise that they were broadly on the right track with methods, approaches and a philosophy that was not vastly different from other institutions across Africa. Training from SARIMA had helped them to articulate the vision for the institution.

### 4.3 End of project and impact

#### Research outputs have been a success

The interviewees agreed that research outputs of BRECCIA have been a success and the work of the project is leading to tangible outputs for the community. The projects have been well regarded and have had a high profile on campus.

#### Committed to continuing their journey

The legacy of the high number of staff that have been trained was agreed to be of real value to the institutions in the future and will change culture for many years to come. Many of the interviewees are also committed to training and development and have committed resources to this. BRECCIA has undoubtedly accelerated their journey.

There seemed to be a general view that now the ball had been set rolling, institutions had leverage and momentum to continue. It is important to celebrate the successes of the project and share success stories.

### Career paths

Interviewees also noted an impact on career paths with ECRs and co-investigators as they became more self-aware, better trained, and able to successfully progress in the institution whilst also being able to take advantage of collaboration opportunities. One institution has established a network model to ensure that the opportunity to develop ECRs in the same pool as more senior researchers continues. This is a realistic model that has responded to time pressures on senior professors and therefore has created a cascading approach with long term thematic engagement.

### Feedback to government

Many interviewees commented on engagement with policy makers and felt that dialogue was open with an appetite for BRECCIA results to impact future policy. They felt confident that this will have local and national impact. Policy makers have attended their workshops and been presented with their results.

Many of the interviewees felt they have an ongoing dialogue with government in which BRECCIA results and outcomes will be feeding directly into policy changes. In Kenya there is a requirement to report every three months on science, technology, and innovation. This includes data on training numbers, content, and collaborations, and will lead to long-term measures for Kenya. Equally, in Malawi it has been noted that the national research commission were surprised and commented on the progress that has been made particularly around establishing a research support fund to generate income for the institutions and develop research. The University of Malawi will now function as an exemplar to other institutions in Malawi and a powerful example of change in the landscape.

Another interviewee reported on a policy dialogue meeting in which research findings were presented to policy makers, members of parliament and other key stakeholders. This will inform policy and disseminate findings.



## 4: BRECcIA reflections: key themes

### More success in funding proposals and new collaborations

Although it is difficult at this stage to say what the impact is, some interviewees noted a few trends particularly around funding with an increase in the number of funding proposals that have been submitted. One interviewee remarked that you can only write successful proposals when you have been trained to do so.

The University of Ghana for example, reported that over the last three years grant revenue has increased by 300%. Whilst it is hard to attribute what is due to BRECcIA it appeared clear to them that BRECcIA has contributed.

One direct benefit has been the launch of the University of Malawi Research Fund. This will continue to pair upcoming researchers with more seasoned researchers to develop skills and research outputs. This model is planned to continue.

Whilst BRECcIA did not lead to a substantial number of publications and traditional academic outputs, it allowed a body of similar research under the same umbrella in many countries. One institution reported that all their ECRs had drafted manuscripts that would be submitted for publication, and this was viewed as a success.

### Evidence of impact

Many interviewees discussed the need for tangible outcomes. Project outputs are key but continuity and sustainability should be considered. It is important to ensure there is something to show at the end of the project that is a tangible outcome and is of relevance both nationally and internationally.

There should also be a clear link between research outputs and global sustainable development goals and other socio-economic outputs. Impact measures need to be established from an early stage. The long-term impact of the training, development and research capacity building is impossible to know at this point.

### Growth of research offices

Several interviewees felt that there had been increased awareness of the importance of the research office and how to engage with staff in the office. In the University of Ghana, the Research Office has grown considerably. Ten years ago, there were only four members of staff. In 2017 it had a team of twenty people and now there are over eighty, most of whom are research development officers. This is now the most established research office in Ghana, and they anticipate seeing this model replicated across the country.

## 5: Identifying future needs

### Continued work in this area

All the interviewees wanted to continue the work of BRECcIA and continue to explore local impacts of climate change. They would like to continue to call upon colleagues from other institutions to collaborate in research and collaborative projects. They would also like to explore the possibility of exchanges across Africa particularly North to South and vice versa. Collaboration beyond Africa either online or in person would also be extremely beneficial to development.

### More opportunities for training in the future

The quality and success of the training means that all interviewees would like this to continue in the future. Institutions have identified this as a priority. They would particularly like to continue to develop the skills of those in the research offices, ECRs and co-investigators. They identify grant writing skills as being of particular interest alongside learning new research methods and techniques.

To change research culture over the long term and create a generational change, it is important to ensure that interventions are for ECRs not just more established researchers. It is helpful to find ways to continue to link ECRs with more established researchers and find ways to bring some UK practice in learning to Africa whilst celebrating the advantages of both research cultures to continue to develop expertise.

The swift growth for many in staff numbers means that they now have staff at various levels of experience. As more people move into senior roles it is important that training evolves to be more strategic and allow staff to move from entry level to more senior competences. There needs to be a strategic plan for this.

### Building a research office

MMUST reported that their main priority now is to establish a research management office based on the example seen in South Africa. They feel that they are in a good place in terms of training and knowledge, but the challenge is around how they finance this. A proposal has been submitted to BRECcIA for support with equipment. The university will supply the space, but they need video conferencing systems and technology to connect with the right people and open conversations and opportunity. They will then be able to train others and bring in experts. The benchmarking trip was fantastic and has given them the basis from which they can leap. There is a passion and commitment to establishing this office.

### Navigating funding sources and finding collaborative opportunities

All the interviewees were extremely grateful for the funding and support they received and having had this experience are keen to access more in the future. They acknowledge that the range of funding sources and how to access them can be incredibly confusing. Any support with this would be helpful, alongside training in the requirements of different funding providers.

### Secondments and reacclimatising African researchers

Several interviewees felt they would like to see more opportunity for secondments in which research leaders could identify where they want support and have several weeks working with a different institution who had expertise in this field.

This would give an opportunity to discover new research techniques and methods. In BRECcIA they knew that many of their collaborators have great expertise but there was not the opportunity to gain experience of techniques from them around their research.

One interviewee identified a need for support with reacclimatising African researchers who have worked abroad at "high end" or research-intensive institutions internationally and how they can implement and develop infrastructure and capacity when they return to Africa. The experience of those who leave and come back should be considered and more work should be done to support them and consider their experience. This would create a model of exchange of experience and transition in order that all African universities can experience the benefits of both. The University of Kenyatta have won research acclaim for achieving this balance.

### Implementation of knowledge gained

There is a need to leverage the knowledge gained during the research phase of the project. Interviewees want to continue to develop knowledge and new research areas but also to consider how this shapes policy and practice. For example, in Kenya they wish to influence County Development plans particularly around agriculture, land, water and environment. There is a need to ensure that this affects national programmes and policy. Resource is needed to support this, alongside further training, and development.

## 5: Identifying future needs

There has been a great deal of public engagement in the project, which has been extremely beneficial, for example a documentary produced by the University of Malawi highlighting outputs of research in water and food security. Resource is required to continue this important work.

Engagement with all stakeholders was seen as incredibly beneficial and some identified the need to also consider how to engage with industry and draw them further into the conversation around climate change and policy.

### National framework

One interviewee suggested the development of a community and climate change framework to customise and implement across Africa. This could be used at county and national level. It would be backed by evidence and research to provide a baseline for policy change. This might work in an equivalent way to early warning systems.

### Demonstrating impact

It has been exceedingly difficult to measure impact due to the long-term nature of both the research topic and the capacity building activity. There is a need to prove impact and answer the questions of whether the research ecosystem has been significantly improved.

One interviewee explained this as the 'so what' question, meaning that you have to keep going until you can answer the 'so what' question and the end goal is achieved. There is a need to consider the long-term impact of programmes like BRECCIA and agree clear indicators of progress. There is also a need to be able to tell the story of progress. Research offices may consider and undertake training in how to tell the story of the impact of their work. Interviewees noted that government want to hear these stories and need help to understand how they fit with the national picture.

It would be helpful to see more long-term impact studies of programmes like BRECCIA and this could be better established from the outset in future funding calls. Impact could also be better aligned to government measures and targets.

Many interviewees commented that it is frustrating to see three-year project cycles which is often the case with donor funding. There is a tendency to complete on a project and move on to the next one without building the structure to leverage learning from previous project knowledge and skills gained. Individual organisations need to build their learning and create the story of how they are moving forward to attract future funding.

## 6: Conclusions

The BRECCIA programme and the philosophy it brought with it of empowering researchers and those that support them was extremely successful. Interviewees were pleased to have had the opportunity and felt that the training that they had received, alongside the research experience left them in a better position to continue to expand their research and their own individual careers. The multi-layered approach and cohort training meant that institutions were able to see a cultural shift in their research provision that was visible around campus, supported by senior leaders and had the buy-in of research staff. Alongside this, training research support staff and those in research offices raised the profile of researcher development and the professionalisation of those that support researchers. This has created an enthusiasm to continue to develop capacity in the participating institutions and seek opportunities for further training, collaboration and funding.

Participants have learned a great deal from the University of Southampton, both in research skills and research management. Institutions feel that they are now equipped to move forward, they just need to find the mechanism and framework to do so. They would like more input into funding calls and to work in a model of co-creation at project inception in order to avoid any cultural division or lack of understanding.

They should be consulted with at all critical points. Some of the systems in the BRECCIA programme particularly around finance were not applicable in an African context and in the future a more collaborative approach to this might be beneficial. This will help projects to have maximum impact in an African context.

This is, however, just the beginning of work that could be done in this region on this topic and as there is an expansion of research in this area, there will be more researchers to train and develop.

**It is important to leverage the good work that has already occurred and identify centres of excellence and exemplars in order that those with established research offices or good practice can use local examples in local areas.**

There is also the need to use **train the trainer type models** in order to ensure more training and development can be offered again at local level. This will help to progress the path to independence.

In the future, it is clear there is a need and an appetite for more of this work in Sub-Saharan Africa. Opportunities for collaboration and mutual learning should be explored alongside knowledge sharing in order to try to ensure they are building on previous work rather than starting afresh. It is essential to achieve buy-in from all stakeholders, from policy makers to local communities, and establish clear impact levels for all.

Liaison with policy makers will ensure that data collected, and reporting is of maximum value and therefore best able to affect change. This should be shared as widely as possible within the region, and a set of shared and agreed impact measurements would be highly beneficial. Impact studies on capacity building and progress tracking would also help target resource and shape future funding.



# 7: Recommendations



## For University of Southampton

- The leadership of the University of Southampton and the knowledge they have brought to this consortium has been highly regarded. They should continue to share their expertise in this area internally and externally with funders and policy makers.
- For future projects there is an opportunity to increase co-creation at the outset with partner institutions and establish clear parameters around expectations, processes, and systems.
- There is a need to establish collaborative systems and processes at inception that will work flexibly in the African context. This could be done through co-creation.
- Institutions are now ready to move forward based on the capacity building training and research that they have undertaken. The University of Southampton should consider how to support them with this and find ways to continue to engage with them.
- For future projects, new African partners should be sought to ensure others are exposed to this opportunity and current partners can start to act as exemplars.
- For future projects, impact measures should be established that tie in with African national policy initiatives and are comparable across the project.

## For senior leaders in African institutions

- Continue to seek opportunities to gain experience from other institutions in order to share experience and good practice across the African continent.
- Commit to the development of research offices and allocate appropriate resources to support this.
- Ensure that institutions can prove impact to policy makers by agreeing impact measures and mechanisms for monitoring and being able to tell engaging stories around their research to a range of stakeholders.
- Have a clear strategy for building the research base and support financial growth, ensuring that there are effective policies in place to support the recruitment and management of researchers.
- Ensure there is a strategic institution focus on the training and development of researchers and staff who support them with provision mapped to the Vitae Researcher Development Framework (RDF).
- Benchmark progression of institution in terms of capacity building and find opportunities to learn from others and develop expertise.

## For funders of similar projects

- Ensure that their projects link with national policies and the objectives of policy makers to ensure a collaborative approach.
- Provide opportunities and platforms for mutual learning and knowledge exchange. Funding should be available to support this type of collaboration.

- Encourage capacity building at all staffing levels to continue to create cultural change.
- Coordinate approaches to support for research in Africa and opportunities for knowledge sharing both North to North, South to South, South-North and North to South should be encouraged.
- When developing funding calls, there should be clear mechanisms for co-creation with African research leaders to establish criteria and ensure early buy-in.
- Find ways in which those with expertise in this area in African institutions are enabled to help other institutions learn and develop to share practice. Train the trainer type models and exemplars of practice should be considered.

## For researchers and those supporting them

- Seek opportunities for collaboration and build networks around their research area.
- Take control of career and professional development and actively seek out training and development opportunities.
- Engage with research offices and research support staff in order to understand how they can help and vice versa.
- Consider and track the impact of both their researcher development training and research outputs in order to be able to articulate the value, using the Vitae RDF.
- Pro-actively seek ways to use expertise to support each other as researchers and especially across the African continent.



## Building REsearch Capacity for sustainable water and food security In drylands of sub-saharan Africa (BRECCIA)

### Assessing the difference BRECCIA has made

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