Evaluation of the DELTAS Africa Community and Public Engagement (CPE) Seed Fund, 2019-2021

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Contents

Executive Summary

The DELTAS Africa Community and Public Engagement (CPE) seed fund was designed to strengthen CPE capacity of DELTAS Africa early career researchers, and consortia staff more broadly, as well as pilot programmes of activity to promote societal impact of DELTAS Africa research. Initially implemented over two rounds between Aug 2019 to May 2020, it was extended to include a third round to focus on the Covid-19 pandemic. The Covid-19 pandemic grant round; (round three) was opened to staff teams across the 11 DELTAS consortia. A total of 25 awards were made, with individual awards for fellows each up to a maximum value of 25,000 USD and consortia awards to address the Covid-19 infodemic each up to a maximum value of 35,000 USD. The scheme was funded by Wellcome and FCDO and administered by the African Academy of Sciences through the Alliance for Accelerating Excellence in Science in Africa (AESA).

In this report, we present the findings from a process and outcome evaluation of the pilot DELTAS CPE seed fund scheme. The evaluation was conducted by the Centre for Capacity Research (CCR), Liverpool School of Tropical Medicine (LSTM), in partnership with the African Population Health Research Centre (APHRC). The specific objectives, included to:
1. Evaluate the CPE seed fund process
2. Evaluate the performance of the CPE seed fund against an award-specific outcome framework
3. Provide recommendations for strengthening CPE award design, support and outcome measurement that may be utilised in future iterations of the award

The evaluation drew on three data sources: An anonymous, online knowledge, attitude and practice (KAP) survey completed by the 25 awardees pre- and post-project implementation; semi-structured interviews completed with eight awardees and one AAS focal point at the conclusion of the award; and 'end-of-project' reports completed by each of the 25 awardees.

The process evaluation found that the mechanisms by which the award was administered, and the various supports provided to awardees were satisfactory, although a range of additional supports were suggested for future iterations of the scheme. The major finding, consistently expressed across all data sources, was that the time made available to implement the various CPE projects was too short. This often caused or compounded implementation challenges for awardees and resulted in a number of activities not being completed in full, many of which related to monitoring and evaluation (M&E) tasks. Nevertheless, without exception, awardees described the CPE opportunity as a rewarding and positive learning experience.

The outcome evaluation found evidence of substantial improvement in awardees CPE attitudes, knowledge and proficiency, which reached a statistically significant level on the quantifiable survey data. The qualitative data further revealed high levels of enthusiasm for CEP among awardees and an expressed commitment to engage in further CPE activity. Thus, **as an exercise in strengthening the enthusiasm and capacity for early career research fellows and research support staff to undertake and champion CPE, the seed fund appears to have been a great success.**

The findings were weakest with respect to understanding the outcome of the CPE seed fund on the various communities and public engaged in the respective awards, although some impressive results were still apparent. High levels of engagement via many different media were clearly achieved, even if not always reliably measured. Similarly, many varied and innovative materials or outputs were co-created with community input across the respective projects. Some evidence of a shift in participant attitudes and knowledge in the respective CPE focal areas was reported, although whether any of these activities subsequently resulted in a change in behaviour is unknown. Despite the intention to measure behaviour change in ten projects, these measurements were not implemented in practice.

This is perhaps not surprising, given the relatively short duration of the awards and the various challenges awardees faced.

A total of 14 recommendations were made under the three headings of CPE award design, support, and outcome measurement. These recommendations are intended to inform future iterations of the CPE seed fund scheme, on the basis that the primary aims of any future schemes remain the same, i.e. to foster greater appreciation of, and capacity for, CPE among early career researchers and research support staff with the expectation that these individuals may then champion CPE within their respective institutions and research networks. The findings presented in this report suggest that the current scheme was largely effective in achieving these outcomes.

These recommendations are briefly outlined below and are explained in full at the end of the report:

Award Design
1. Maintain the current application and reporting processes
2. Inclusion of a FAQs section to assist awardees during the application and submission process
3. Open scheme to a larger applicant pool
4. Encourage or stipulate the formation of consortia/institution 'support' panels to assist with proposal preparation, project implementation, and knowledge transfer
5. Allow a longer, more-flexible implementation period
6. Where possible, align awards targeted at early-career research fellows with research start-up
7. Consider smaller 'booster' funds to support continuation of project-related work following formal completion of an award

Support
8. Maintain or extend the existing three-day induction period prior to project implementation
9. If the project implementation period is extended, then include continuous learning and 'check in' opportunities
10. Strengthen peer learning and knowledge transfer mechanisms

Outcome Measurement
11. If project implementation periods continue to be relatively short, then consider reducing the M&E expectations on awardees
12. If the project implementation periods are extended, then provide more intensive and continuous M&E support to awardees and stipulate greater adherence to any programme-level outcome framework
13. Encourage greater use of qualitative outcome indicators
14. Employ and adapt the outcome framework already developed

1. Introduction

Developing Excellence in Leadership, Training and Science (DELTAS) Africa was a five-year (2015-2020) programme implemented by the Alliance for Accelerating Excellence in Science in Africa (AESA) with support from Wellcome and the UK's Foreign, Commonwealth and Development Office (FCDO). DELTAS Africa funded 11 African-led research consortia to implement cutting edge collaborative research and training programmes spanning 54 institutions from across the continent. To achieve its vision, DELTAS Africa addressed four strategic areas: 1) Scientific quality; 2) Research training; 3) Scientific citizenship; and 4) Research management and environment. These strategic areas were recognized as necessary for strengthening, sustaining, attracting, and retaining excellence in research.

The third of these strategic areas, scientific citizenship, particularly community and public engagement (CPE), was identified as a critical gap across the 11 DELTAS Africa consortia. The DELTAS Africa CPE seed fund was set up as a pilot scheme to contribute to strengthening this strategic area with a special focus on early career researchers. The seed fund was originally designed to be implemented across two rounds: Round One (Aug 2019 – Mar 2020) focused on CPE capacity strengthening; and Round Two (Oct 2019 – May 2020) focused on gender equity in research using innovative CPE initiatives. However, with the onset of the global Covid-19 pandemic a 'Round Three' (Aug – Oct 2020) was added with a focus on addressing the Covid-19 'infodemic'. The Covid-19 pandemic also severely disrupted the Round Two CPE projects which were in progress at that time. Accordingly, all Round Two CPE seed fund awardees were granted an extension until February 2021.

The CPE seed fund was a competitive award. Rounds One and Two were open to all PhD and Post-doctoral trainees affiliated to the 11 DELTAS Africa consortia. Round Three was further opened to specialist project management and communications teams employed across the DELTAS consortia. Applicants were required to propose a CPE-project aligned with the respective focal area (Rounds One to Three). A proposal template was provided to ensure consistency across applications. A total of 122 applications were received across the three funding rounds, with 13 awards conferred in Round One, 7 awards in Round Two and 5 awards in Round Three. Each award was up to a maximum value of 25,000 USD. The scheme was funded by Wellcome and FCDO and administered by the African Academy of Sciences (AAS).

It was hoped that the seed fund scheme would support CPE capacity strengthening at both individual and institutional levels: the capacity of individual awardees would be strengthened via a 'learn by doing' approach and, having developed greater CPE capacity through this process, these individuals would then go on to impact CPE practices within their respective consortia and home institutions.

In this report, we present the findings from a process and outcome evaluation of the pilot DELTAS CPE seed fund scheme. The evaluation was conducted by the Centre for Capacity Research (CCR), Liverpool School of Tropical Medicine (LSTM), in partnership with the African Population Health Research Centre (APHRC). **The specific objectives, included to:**

4. **Evaluate the CPE seed fund process as informed by document review, survey, and semi-structured interviews**
5. **Evaluate the performance of the CPE seed fund against an award-specific outcome framework**
6. **Provide recommendations for strengthening CPE award design, support and outcome measurement that may be utilised in future iterations of the award**

2. An Overview of the 25 Funded CPE Projects

Fifteen of the 25 CPE projects primarily sought to engage student populations at either a secondary school or University level, adolescents or young adults (even if not in school) or stakeholders with a primary interest in schooling or adolescent health. Seven projects either had a broad community focus or sought to engage the general population, often on a national or even regional basis. The remaining three projects =aimed to engage: a specific patient group, alongside broader community engagement through indirect means (e.g. uploading a movie to YouTube and promoting viewership through word of mouth and social media); adult men from a specific rural population; or market vendors and their customers within a specific city setting.

CPE methods varied across projects. Most Round One and Round Two projects were designed to engage with target populations via 'in-person' means such as community dialogues, group discussions, school visits, science 'cafes', photo exhibition, conferences, lectures and career days. However, many of the Round Two projects were required to adapt their methods of engagement part way through due to the global Covid-19 pandemic, typically utilising social media platforms such as Twitter, Facebook and WhatsApp or online meeting forums such as Zoom or Microsoft Teams. All Round Three engagement methods were designed to be delivered remotely, with radio broadcasts most utilised.

Ten projects focused primarily on engaging students in science education, five on Covid-19 and the remaining ten each focused on a specific disease/s, including: mental health and HIV, TB, HBV, AMR, Sickle Cell Disease, health care oversight, rabies, substance abuse and HIV, aminoglycosides ototoxicity, and maternal mental health.

Collectively, the 25 projects spanned nine sub-Saharan African countries and were led by awardees from nine out of the 11 DELTAS consortia. A list of countries and consortia is presented in Table 1.

Table 1. Country and DELTAS consortia of CPE seed fund awardees

Country	No.	DELTAS Consortia	No.
Botswana	2	Afrique 1 Aspire	2
Cote d'Ivoire	2	AMARI	4
Kenya	6	CARTA+	4
Malawi	1	DELGEME	1
Nigeria	3	IDeAL	4
South Africa	3	MUII+	2
Tanzania	2	SACCAB	1
Uganda	2	SANTHE	5
Zimbabwe	4	THRIVE-2	2
Total	**25**		**25**

Details for each of the 25 CPE projects funded across the three rounds are presented in Annex 1.

3. Evaluation Methodology

3.1. Outcome Evaluation

A programme-level outcome framework was developed to support the outcome evaluation. This framework included 9 domains and 19 indicators as presented in Table 2. Domains one-to-five (participant measures) and associated indicators were designed to measure outcomes pertaining to CPE participants (i.e. the communities and public that the 25 awardees aimed to engage with). Domains six-to-nine (awardee measures) and associated indicators were designed to measure outcomes pertaining to the awardees themselves and their respective institutions.

Table 2. Domains and indicators included in the outcome framework

Domain	Indicator
Participant Measures	
1. Attitudes	1.1. %/No. of participants with improved attitudes in CPE focal area
	1.2. Qualitative evidence of improved participant attitudes in focal CPE area
2. Knowledge	2.1 %/No. of participants with improved knowledge in CPE focal area
	2.2 Qualitative evidence of improved participant knowledge in focal CPE area
3. Behaviour	3.1 %/No. of participants with an observed behaviour change in CPE focal area
	3.2 Qualitative evidence of participant behaviour change in CPE focal area
4. Engagement	4.1 %/No. of participants who actively engage in CPE focal area
	4.2 Qualitative evidence of participant engagement in CPE focal area
5. Co-Creation	5.1 %/No. of participants engaged in producing a CPE project output
	5.2 No of outputs resulting from CPE focal activity
	5.3 Evidence of participant involvement in production of CPE project outputs
	5.4 Qualitative evidence of participant involvement in production of CPE project outputs
Awardee Measures	
6. Attitudes	6.1 % increase in awardees describing CPE as either 'very' or 'extremely' important
	6.2 Qualitative evidence of change in perceived importance of CPE
7. Knowledge	7.1 % increase in awardees describing their CPE knowledge as either 'good' or 'very good'
	7.2 Qualitative evidence of change in self-reported CPE knowledge
8. Proficiency	8.1 % increase in awardees describing their CPE proficiency as either 'advanced' or 'expert'
	8.2 Qualitative evidence of change in self-reported CPE proficiency
9. Institutional Impact	9.1 Qualitative evidence of impact of CPE seed fund award on institutional CPE practices

Awardees were primarily responsible for collecting 'participant level' outcome indicators (domains one-to-five), whereas the programme evaluation team were responsible for collecting the 'awardee-level' indicators. Awardees were not required to include all participant level indicators in their respective project monitoring and evaluation (M&E) plans; rather, awardees utilised outcome indicators suited to their respective projects (which varied substantially in aim and design across the 25 projects) and operationalised them accordingly. For example, 19 different variants of the indicator 1.1. '%/No. of participants with improved attitudes in CPE focal area' were utilised across the 25 CPE projects. Variations were evident in terms of the 'target' level of attitudinal improvement sought, the wording of the indicator and the data source. A full list of the outcome indicators used across the 25 awards, including details on how they were operationalised, is presented in Annex 2.

As common indicators were operationalised in different ways, it was not possible to determine a set 'target' at the outset. Rather, target values and subsequent results (i.e. the level of change attained) are presented individually in Annex 2 and as composite values in Chapter Five below (i.e. if an indicator was utilised by ten projects, then the mean 'target' value across the 10 projects is reported in Chapter five alongside the mean 'result' achieved).

All data presented against the outcome framework were obtained from three data sources, as described below.

3.2. Process Evaluation

Data to inform the process evaluation were obtained from the same three data sources as used to support the outcome evaluation. However, the data used to inform the process evaluation differed from that used to inform the outcome evaluation. Thus, whilst the same data sources were utilised, different data were obtained for the two distinct purposes. The process evaluation focused on three distinct time periods: Awardee experience of the CPE application and project preparation stages (pre-implementation); Awardee experience of project-implementation (implementation); and the awardee experience following project completion (post-implementation).

3.3. Data Sources

Knowledge, Attitude and Practice (KAP) Survey

KAP surveys were administered to the 25 CPE project awardees at two time points: 1) prior to project commencement (pre-survey); and 2) following the submission of their respective 'end of project' reports (post-survey). The surveys were designed to measure changes in awardees CPE attitudes, knowledge, and proficiency as well as their experiences of CPE project implementation and of the various supports provided to assist them both prior to and during project implementation. Most questions included in the survey were developed by the research team, although a small number of questions included in the post-survey were adapted from '*Hamlyn et al. Factors affecting public engagement by researchers: A study on behalf of a consortium of UK public research funders. TNS BMRB & The Policy Studies Institute. 2015*'. These included: 'How well equipped do you feel to engage with the public on your research or subject?'; and 'How likely is it that you will engage with another CPE activity in the next 12-months?' Follow-up questions exploring barriers and enablers to CPE participation were also adapted from Hamlyn et al. All surveys were administered online via the 'Online Surveys' platform. Participation was both anonymous and voluntary. An information sheet was sent with the initial survey invitation, which was sent via email with a link to the survey form. Two 'reminder' messages were sent, also via email. Each survey was 'live' for a four-week period. In total, 23 awardees completed the pre-survey, and 22 awardees completed the post-survey. **Data from the KAP surveys were used to inform indicators 6.1, 7.1 and 8.1 on the outcome framework.**

Semi-Structured Interviews

Semi-structured interviews (SSIs) were completed with a sub-sample of awardees at the completion of their respective projects and with the African Academy of Sciences (AAS) focal person towards the end of the grant period. Participation was voluntary, with an invitation extended to all 25 CPE seed fund awardees and to a small number of administrators and stakeholders nominated by the AAS. All interviews were completed online by the programme evaluation team and following a structured interview guide (included in Annex 3). A total of nine interviews were completed: 8 with CPE awardees and one with a programme administrator. Of the eight awardee interviews, four were from round one, one from round two and three from round three. Five of the eight were PhD/post-doctoral fellows and three were research support staff. **Data from the SSIs were used to inform all qualitative indicators included in the outcome framework.**

End of Project' Reports

All 25 CPE seed fund awardees were required to submit a written 'end of project' report at the conclusion of their respective projects. A report template was provided which consisted primarily of narrative fields, including: a description of the project aims; a description of achievements made against planned activities; a description of any delays faced and how these were mitigated; outline of achievements against project-specific M&E framework; a description of any challenges faced and lessons learnt; a description of dissemination activities; specific examples of value for money; an overview of high-level risks and how they were managed; and any additional feedback. Awardees were also required to report against the outcome indicators included in their respective M&E plans within 'Section B' of this report. All 25 awardees completed this report. **Data from 'End of Project' reports were used to inform indicators 1.1, 2.1, 3.1, 4.1, 5.1, 5.2 & 5.3 on the outcome framework.**

3.4. Data Analysis

Quantitative survey data were imported into a STATA database for analysis. The Mann-Whitney U test was used to compare between group differences in CPE attitude, knowledge, and proficiency ratings pre- and post-survey. All other quantitative analyses were limited to descriptive statistics only. All interviews were transcribed in full. Free text data from the KAP surveys was imported into an Excel file. Interview data and free text data obtained from the KAP survey were analysed using a framework synthesis approach. The framework was informed by the interview guide (Annex 3). The transcripts and free text responses were independently coded and entered into the framework. Discrepancies between reviewers were resolved by consensus agreement. Once completed, the recorded entries in the framework were then thematically organised. End-of-project report content was synthesised under common headings, in line with the final report structure.

Narrative extracts from all three data sources are presented in the two results chapters that follows. To assist readership:

Extracts from 'open' (free text) survey questions are presented in an orange-shaded text box.

Extracts from interview transcripts are presented in a blue-shaded text box.

Extracts from 'end of project' reports are presented in a green-shaded text box.

Extracts from the nine interviews are coded T001-T009, extracts from the 25 end-of-project reports are coded R001-R025 and extracts from the KAP survey are coded S001-S022 (note- extracts are only presented from the post-survey). All codes have been randomly assigned to ensure anonymity, although they are consistently applied (e.g. all extracts sharing the same code are from the same individual).

3.5. Ethical Considerations

Ethical clearance was obtained from Amref Ethics and Scientific Review Committee (ESRC), Kenya (AMREF-ESRC P819/2020) and LSTM's Research Ethics Committee (REC), UK (LSTM REC 20-005). A research permit was issued by National Commission for Science, Technology, and Innovation (NACOSTI), Kenya. All interview participants provided written informed consent. All survey participants were required to select a response on the online survey form that read 'I have read the study information sheet and consent to participate'. If participants selected 'yes' then they were directed to the first survey question. Participants who selected 'no' were directed to a message thanking them for taking time to consider participation and then exited the survey.

4. Findings – Process Evaluation

4.1. Pre-Implementation Phase

Motivation to Apply

Qualitative analysis revealed several influences underlying interviewees' motivation to apply for the CPE award. These included internal motivations such as developing a new set of skills and career advancement as well as external influence from their respective consortia. For example, fellows from SANTHE were strongly 'encouraged' to apply. This was an initiative to ensure that all the PhD and Post-Doctoral Fellows familiarized themselves with the CPE aspect. Previously SANTHE had identified this as a glaring gap, and during their initial DELTAS application while filling in the scientific citizenship aspect, they had realized they had very little real direction or focus on CPE.

> *"I think we were acutely aware that we were lacking in CPE area, and I think we took steps, to really try and think how we could address that. That's why, when the [CPE] doctoral awards were announced, we actually encouraged every single one of our trainees to at least attempt a proposal. During the application process we realised that there was a skills and knowledge gap generally around CPE, even at the supervisor level. Fortunately, we were very delighted when we got four awards".* **T004**

Many interviewees also recognised the CPE award as an opportunity to strengthen their respective research activities, through dispelling myths and misconceptions about their research topic and/or fostering community ownership and research uptake through the guidance and participation of the community.

> *"There were rumours and a lot of misinformation within the community, this was a perfect opportunity to dispel the misinformation around my study while leveraging on home-grown solutions".* **T005**

> *"CPE was new to me and I was conducting research on policy intervention, focusing on community-based monitoring. I was testing a model that has not worked in Tanzania, trying to work out its effect, sustainability and scalability. When I heard about the community and public engagement approach, it was something that could add value to the research I was doing, so I started actually learning about what is community engagement or public engagement".* **T006**

Whilst not widely reported, some interviewees did note that their respective PhD supervisors were not especially supportive of their CPE application, considering engagement to be a distraction and felt that the awardees should have focused on completing their PhD.

The Application Experience

Most interviewees draw on a range of support to assist in the application process, which was considered especially helpful as for many this was their first experience applying for both a CPE award and a large grant as the named Principal Investigator. Support was often provided internally within the respective consortium 'structures'. This ranged from formalised internal review processes designed to strengthen the CPE proposals prior to submission, through to informal support provided at the applicant's request. SANTHE employed the former model and, possibly as a result, received the highest number of awards across the 11 DELTAS consortia.

Interviewees routinely described the application and submission process as relatively straight forward with few complaints or suggestions for improvement. However, some participants reported experiencing a lengthy delay between submitting their application and formal notification of the outcome. Some insight into why this delay occurred was provided by the interview with the AAS focal point, who described facing difficulties recruiting suitable reviewers to inform the proposal selection process:

> *"For me, the biggest challenge that I faced was the review process. That was really, really a thing. One, people who I would have used as reviewers were the same people who had provided support to grantees as they were writing their applications. So, the pool that I would have drawn from to review who understand the field really well were already conflicted. So, identifying new reviewers was really a challenge. And so, that was a major bottleneck for me. Secondly, still on the review process, the return of scores by reviewers. Because these are people volunteering their time, their expertise. You can't dictate when they should be able to do thing for you. One, you're not paying them. So, you're really depending on their goodwill to be able to prioritise your request. And so, the delays there were also another issue and impacted a lot on our timelines in terms of implementation. Because the longer the review scores take, the longer the awarding process, the shorter the implementation phase."* **T008**

Interviewees from round three also noted the relative 'urgency' of the submission process and the tight time frames they were expected to adhere to[1]. The assistance received from AAS during the contracted round three submission process was especially appreciated as a result:

> *"So that was a bit stressful [the short submission period], but I think, once [AAS focal point] got that idea, her response to it was, I thought, fantastic in the sense that she phoned us, she chatted with us through our proposal, she suggested areas where it could be refined. I really loved that. That interactive development or growth of the idea, I think, was really great."* **T004**

The AAS focal point reported making fewer awards in Rounds One and Two than originally anticipated. This resulted in the underspend that subsequently allowed the Covid-focused Round Three round to be implemented. The original underspend was attributed to a dearth of suitable submissions, highlighting the limitations of existing CPE capacity (as further discussed in Chapter 5). As illustrated in the quote below, the 'quality' issue was not unexpected and some provisions had been made to address it, but viable proposals were still relatively scarce:

> *"We were working with the expectation that we might not get the most or the high-quality proposals. The issue was not that we were looking for high quality proposals. The issue was that we were working to build interest in a cohort that would then potentially work as ambassadors for CPE within their own peers. So, we were working from the angle that we would need a lot of handholding, even through the application. Now, when we issued the call for proposals, application, the grant call was a closed call just to DELTAS fellows. Or fellows affiliated to the DELTAS Africa Consortia. And so, with that, we asked that the CPE implementers at DELTAS level, at the DELTAS Consortia, provide as much support and guidance to applicants as they can in submitting sound or at least reasonably competitive applications."* **T008**

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[1] The submission process was contracted for the Round Three cohort to allow a faster response to the Covid-19 'infodemic'

Induction and Support

Following notification of receiving the award, and prior to project implementation, Round One and Two awardees were invited to a three-day induction meeting in Nairobi, Kenya. During this meeting, awardees attended several presentations covering CPE and M&E basics and were provided feedback and hands-on support to refine and further develop their project plans. The awards had initially been advertised as up to two-years in duration but were subsequently reduced to a six-month maximum. This meant many awardees were required to scale-back their proposed projects and were supported to do this at that time. Awardees were also expected to develop and implement project-specific M&E plans. They were afforded assistance with this at the three-day meeting and were provided further coaching sessions on how to develop their M&E plans in the weeks after the meeting. An induction meeting was not held for the Round Three awardees given the Covid-related travel restrictions at that time, although remote assistance with proposal development and M&E was provided.

Interviewees who attended the workshop invariably described it as a useful learning and networking experience. All components were considered helpful as was the time and one-on-one support to further refine their project plans. The M&E support provided post-workshop was also highly valued. However, a number of interviewees noted that ongoing M&E support over the duration of the project would have been helpful as would support on aspects of project management and opportunities for sharing learning or learning from previous projects:

> *"Oh yes, what I definitely would have needed additional support on would have been follow up on the M&E part of things. I mean we only had now such a short time. My expectation was then we would have regular meetings to go through that plan and see, what we had done so far while evaluating indicators that we may be falling behind on".* **T001**

> *"If we had had some examples of pros and cons…some learning from other projects that we could have read up on. Obviously, we didn't have the time to read in-depth studies but maybe, if there were a few key examples of previous projects, then maybe that could have been helpful. We certainly feel we have a lot of learning that we were so willing to share with others from the project."* **T004**

As indicated in the quote above, the tight project implementation timeframes did not necessarily support reflection and intensive, continuous training, yet the majority of awardees would almost certainly have benefited from such. A strong theme to emerge from the qualitative data was just how 'new' all elements of the CPE award were to many of the awardees. CPE, as a subject, was new to most interviewees, but so too was the experience of preparing and leading a substantive project, inclusive of project management, financial management and M&E. This is well illustrated in the following excerpts which highlight both the inexperience of many awardees as well as the variety of tasks that they were responsible for:

> *"So, this was my first major grant. I'd written smaller applications. I wrote an application for SANTHE. I'd wrote for other PhD funds. But this would have been the first time that I wrote a major grant. So, I think that in itself was daunting. But then, also, because I just didn't have experience with writing a grant for that kind of money, it was a little hard…I sacrificed my weekends to run this play [a component of her CPE project] and the teaching and the training. And I first had to teach them about TB and teach them about immune cells and what they are and how they behave, so that they know how to personalise them. And then putting together the script. Directing. Recording. I was the cameraman as well. And then designing the logo for the CPE. And, wow, the paperwork. And getting the production. I was like, wow, procurement. I was procurement. I was finance. I was everything."*
> **T001**

Assuming responsibility for so much without substantial prior experience, was often somewhat overwhelming for interviewees especially given the tight timeframes. This could result in some aspects of project delivery not receiving as much attention as perhaps was required. For example, when asked to comment on the M&E reporting expectations, one interviewee noted:

> *"I had a lot on my plate. It's not like the reporting was demanding. But because it was in the mix of all these other things that I had to deliver on, it became a mammoth task also to do."* **T007**

The multi-dimensional demands of the CPE award were exacerbated in some instances by the awardees' relative inexperience in leading complex projects and, in particular, not fully utilising available resources within their respective consortia to ease the burden. One interviewee, when asked why they did not utilise consortia resources to a greater extent commented:

> *"I think it's a little bit of being naïve. And it's also a little bit of just placing the entire project on my shoulders and not knowing that I can share the load, if I can say it that way. But I think because I was just so into this mindset of this is my project, I have to make it work, I didn't really allow myself to get as much help as I could have or should have. And so, yes, and I think that's why I didn't engage with SANTHE as much as I should have or probably could have, and with the AAS in terms of coordinating the project."* **T009**

The AAS focal point noted that an online platform had been established to support peer-to-peer learning during the award period; however, this did not appear to be well utilised in practice and was not mentioned by interviewees or referred to in end-of-project reports. The AAS focal point also provided substantial 'hands on' support to awardees during proposal development and afterwards 'as needed'.

> *"You know sometimes you also have someone reach out to you to say, hey, I'm struggling here. What do I do? And so, those who would reach out and say, [focal points name], I am struggling here. Please guide me. Then those I would initiate conference calls and have that guidance, that personalised guidance. For those that did not reach out, I would basically just send out an email and say, hey, I hope everything is going on well."* **T008**

As referred to in an earlier quote, this personalised support provided by the AAS focal point was widely appreciated by awardees. Nevertheless, the fact that specialist CPE support was not widely available to awardees by other means further demonstrates the scarcity of expertise in this area. The AAS focal point recognised this constraint and, when asked, acknowledged that it would have been difficult to offer the same level of personalised support to a larger number of awardees, yet remained optimistic that solutions could be found if necessary:

> *"Yes, it would have been a challenge for me, definitely [to support more than the 20 cohort one and two awardees]. I struggled doing the same for 20. But I am also thinking that once you are able to look at some of the challenges in terms of implementation, then you have to plan how to address those challenges… If we had more grantees, then we would have said, okay, can we bring in a short-term intern to help? Especially where there is intense workload."* **T008**

4.2. Project Implementation Phase

Implementation Challenges

Without exception, all interviewees described their CPE project implementation experiences in positive terms. As discussed in Chapter 5, awardees reported learning a substantial amount about applied CPE and project leadership and not one interviewee reported any regret at having taken on what invariably proved to be a very challenging task; rather, many openly encouraged AAS to continue the scheme in order that others could benefit from the same opportunity:

> *"I think my comment would be I hope you have more of these CPE awards that will be given out. Or at least will be available for people to apply for. And I would definitely encourage people within my network to apply. Because I think it just gives you a different framework to work from and just additional skills. I mean now I can put on my CV monitoring and evaluation. So, yes, I think it was really great exposure. But the caveat would just be, please, make it have more time on that grant. Because six months was just insane."* **T001**

Nevertheless, interviewees also highlighted a range of challenges that may usefully inform future iterations of the scheme, the most ubiquitous of which is alluded to in the quote below: (lack of) time. Interviewees consistently stated the six-month implementation period was too short:

> *"The project implementation timelines were too tight. It limited the scope of activities and levels of engagement considering the initial challenges experienced in setting up the activities"* **R005**
> *"Unfortunately, the project duration was too short and this made it difficult to effectively measure the project impact."* **R002**

Time-related challenges were also the most frequent response to the question 'What was most difficult about implementing your proposed CPE project?' included in the post-survey. Of the 22 awardees who provided a response, nine were related to (lack of) time. Other responses included: delays experienced with internal institutional bureaucracies, typically related to procurement or funds disbursement (N=5); external factors outside of the awardees control (N=4); practical challenges with engaging target audiences (N=4); Covid-19 related challenges N=3; the acquisition of skills necessary for project implementation (N=2); and language-barriers (N=1). Exemplar responses included:

> *"The time frame was short to carry out all activities."* **S006**
>
> *"Most difficult was mobilizing all the community level stakeholders we were targeting to develop trust and identify themselves as part of the project team. Closing the gap between communities and researchers is not an easy task."* **S012**
>
> *"When the global pandemic hit and had to come up with other way of engaging. I didn't even know the word virtual."* **S013**
>
> *"Getting through the set procurement procedures and identifying the right consultants to support our activities."* **S022**
>
> *"Coping with the political situation in Côte d'Ivoire due to the upcoming presidential election."* **S018**

The range of challenges reported in the post-survey were similarly reflected in end-of-project reports and the interview data. Internal processes such as gaining required ethical approvals or adhering to institutional procurement polices often took considerably longer than awardees had anticipated, this was especially the case when procuring novel items or services. Delays were often experienced due

to external factors associated with engaging target communities. For example, many of the projects that sought to engage school students were delayed due to National regulations that would not allow school-based activities during national examination periods, nor was it practically possible to engage students in a school context during a holiday break. Similarly, projects that required the awardees to obtain permits from National ministries often resulted in delays or the modification of projects:

> *"The project was to start in third term, but the current government regulations do not allow activities in schools during the examination period. I also did not take into consideration the mid-term break in February which forced me to reschedule some of my activities."* **R010**

> *"The other thing is also we are not autonomous so most of the activities that I had planned to go through the IDeAL management, and then that has to also be up-scaled to the KEMRI headquarters in Nairobi as well as by extension to the Ministry of Health. So that level of protocol of course led to some unprecedented delays."* **T005** *"I remember being turned down for approval by the ministry of education in Uganda because they didn't understand what the project was about. I had to change the strategy and approach the youth through community gatekeepers, rather than the education system."* **T007**

The global Covid-19 pandemic and subsequent workplace and travel restrictions impacted on many of the Round One and Two projects, the latter especially, although projects that were further along in their implementation at the time of the pandemic outbreak (~March 2020) were less affected as compared to those that had experienced delays in implementation prior to the outbreak. Equally, CPE projects were inherently more or less prone to pandemic-related disruption depending upon their target population and/or project design. Thus, while all Round One and Two projects were impacted by the pandemic, not all projects were impacted to the same degree. In some cases, almost the entire project needed to be redesigned to allow implementation within the 'new normal' of pandemic life:

> *"… we had only conducted three science cafés reaching over 200 students at the two universities by the time the first case of Covid-19 was announced in Kenya and the government instituted various mitigation and prevention measures, including closure of universities and banning of public gatherings. These measures made us suspend all our activities in mid-March. We, therefore, moved all our activities online and restarted them during January and February 2021 to complete our remaining engagement activities."* **R020**

Other commonly reported challenges related to the practical realities of accessing and working with community populations ranging from poor infrastructure, language barriers, conflicting stakeholder needs, the use of online technologies and perceived competing interests, as indicated in the various excerpts below:

> *"Unavailability of electric power in most of the villages, difficulty in assessing printing services, poor road conditions, bad weather increased the time and cost to carry out activities. These will be factored in planning future engagement projects."* **R016**

> *"Due to the nature of this project, I had to work with various stakeholders within the institution. My work fell with various departments: communication, procurement, training, security and community and liaison department. Coordinating and arriving at a consensus took some time. It took us a while to choose the scenes to shoot. I had to organize several meetings before we all agreed on how to proceed."* **R007**

"We observed about 20% of our respondents cannot speak Kiswahili fluently. This made interaction sessions of some of the symposia less participatory. During house-to-house engagement sessions, we used sub-level chairmen to translate to respondents in their local dialects to ensure respondents completely understand the research and individual questions." **R016**

"I think one thing I reflect on was that not only was this our first real CPE-funded project but it was also online, which threw an extra thing into the twist." **T004**

Lessons Learnt

Despite these challenges, the implementation process was a great learning opportunity for the awardees. Interacting with various team members within the project, stakeholders, and the community enhanced their management skills. The process of defining CPE objectives, training the project team members on CPE, the coordination and management of the implementation processes, while being mindful of the timelines, setting targets to ensure that all objectives were met and the repot was submitted in time, was a great learning experience.

"Engaging with the teammates, engaging with the community leaders and the community people, engaging with the people who provided services, engaging with the fund-holder institution that is Ifakara Health Institute has been a huge learning experience." **T003**

Key learnings included the need to be **highly adaptive** in response to the inevitable challenges that arise as well as accommodating of community needs and interests:

"The main lesson I learnt from these engagement activities was the need to have an open mind and flexible approach. Things will not always go as planned, but it is essential that one can quickly respond and adjust the plans accordingly." **R009**

"I think community ownership, early engagement of the participants and being open-minded in terms of taking ideas from the community not to be prescriptive. I was so flexible to accommodate what the learners and the other community leaders were suggesting. Then I think, having a well-resourced project also helped me in achieving this. Because you don't want to run out of resources." **T007**

Collaborating with organisations that already have well established relationships with the target audience was often found to facilitate easier access and greater participation:

"One of the key lessons learnt from this CPE project is the importance of working alongside community organisations. Collaborating with the community liaison officers for this project made the CPE events a success. It also ensured that the community saw it as a community initiative which contributed to buy-in for participation in the activities." **R021**

Other awardees noted that having a **larger number of specialist service providers** at hand may speed up procurement processes. In addition that when utilising online interactive forums, the provision of a generous data allowances to participants may be needed to ensure full and equitable engagement, and that graphic rather than text-based presentation formats may be preferable given that many participants may join in via smart phone (small screen) rather than computers (less accessible to many community audiences). Ensuring **adequate time to prepare** and implement activities was also frequently mentioned:

> *"Just like developing a vaccine needs time, public engagement needs adequate time. You are not just out to send a series of advertisements but you are out to build public trust and make the public part of your journey. That is one process that calls for patience and strategy and of course lots of consultations from all relevant authorities and stakeholders."* **R005**

4.3. Post-Implementation Phase

Reporting Requirements

As described earlier, all awardees were required to complete an 'end-of-project' report, utilising a structured template, and submit to AAS electronically via the 'Ishango' platform. Interviewees described this reporting process as 'straight forward' and 'seamless':

> *"I thought the report itself was really simple. And they didn't put questions that were not necessary, I felt. So, it didn't feel like additional work."* **T001**

One interviewee even noted the reflective value of the reporting exercise:

> *"The reporting was also a good experience. You get to reflect on what you have been doing and it shows you that you probably have done or have achieved quite a lot of things than you could readily recount. So the reporting process, it was also a nice experience and it brings everything that you have been doing and their possible impacts into clear view."* **T003**

However, this did not necessarily mean the reports were completed in full, with the M&E reporting requirements proving especially problematic in some cases as interviewees did not always have the data available to report against their proposed indicators:

> *"…we have not really been able to compile the entire M&E report and just measure the outcomes. But I think one of the things that we were hoping to achieve was to, how do I put that, was to see some level of change especially in regards to how people understand vaccines. But then it's not something that we maxed out on, and I'll say that was partly attributed to the timelines that we had."* **T005**

CPE Activities 'Post-report'

As the 'end-of-project' reports were submitted at a set-date for each awardee round, many noted in their reports that certain activities were ongoing and would be completed at a later date. As the interviews were conducted some time after report submission (for cohorts one and three, but not two), then this provided an opportunity to explore the continuation 'post-report' of project activities as well as participation in any new CPE activities post-award. Evidence of both were clear.

A number of interviewees were still engaged in activities related to their CPE projects or continuing to seek opportunities to further utilise project outputs.

> *"We're still in the process of trying to think about where else we can put the art [CPE project output] to continue the dialogue and discussion around COVID-19 with the community but also around promoting this kind of engagement project with others. So I quite like that aspect that the art isn't just… I feel the art is still the project continuing."* **T004**

> *"I think we did around eight radio interview with our scientists [post-report]. Then we had a number of social media engagements and campaigns. Then the other thing is we were also able to develop a short animated video just to demystify vaccines and diseases."* **T005**

Many awardees had indicated intent to draft manuscripts for publication, presenting their CPE projects and outcomes. Two interviewees reaffirmed this intent, although both still remained in the 'planning' stage due to competing commitments as evident in the following quote:

> *"So I will say it's [the CPE publication] still at the planning phase, and that is because I have to make three publications before I graduate in a year's time [drawing on other data to meet PhD graduation stipulations] and so I've been pretty much occupied with those ones. But I hope to be able to make that publication. If I can make that publication submitted within this year, I will be very, very glad."*
> **T003**

Many interviewees were also either actively engaging in new CPE activities or seeking funding to allow them to engage in new activities:

> *"So, based on this project [the CPE project], what we are doing now is to replicate or implement this kind of activities in the countries where our fellows are working…before the annual [DELTAS consortium] meeting I present all the plan and we agree. The [management] give the okay for that…And now it is done, so we will carry out these activities very soon."* **T002**

One interviewee had even been successful in obtaining funding to start a new research project in a subject area informed by her CPE activities.

> Interviewee: *"I now have this additional interest to just, stemming from the stories that the young people shared, I felt there was a need to look into that. So, I was just recently awarded another grant from Santhe, where I will be working with the London School of Hygiene & Tropical Medicine to introduce self-testing for HIV and STIs among young people in Botswana. We just submitted to our IRB now. And as soon as we get approval, I'll be heading to Botswana for that project."*
> Interviewer: *"That's awesome. That's really good news. And you see a direct link between your CPE involvement and that piece of research work?"*
> Interviewee: *"Definitely. I would have never thought of doing that otherwise."* **T001**

The commitment to continued CPE activity was further evident in the KAP survey data. Post-survey participants were asked 'How likely is it that you will engage with another CPE activity in the next 12-months?', in response to which 59% reported 'definitely will' (13/22) and 41% 'probably will' (9/22). Participants were then asked to select from a list of 11 possible response options (Figure 1), the 'three main factors that would encourage you to get more involved in CPE?'. Participants could select multiple response options. As shown in Figure 1, the most frequently reported factors included: 'If grants for CPE covered staff time' (15/22); 'If it was easier to get funds' (13/22); and 'If I had (more) training' (8/22).

Figure 1. Reported factors that would encourage awardees to get more involved in CPE (N=22)
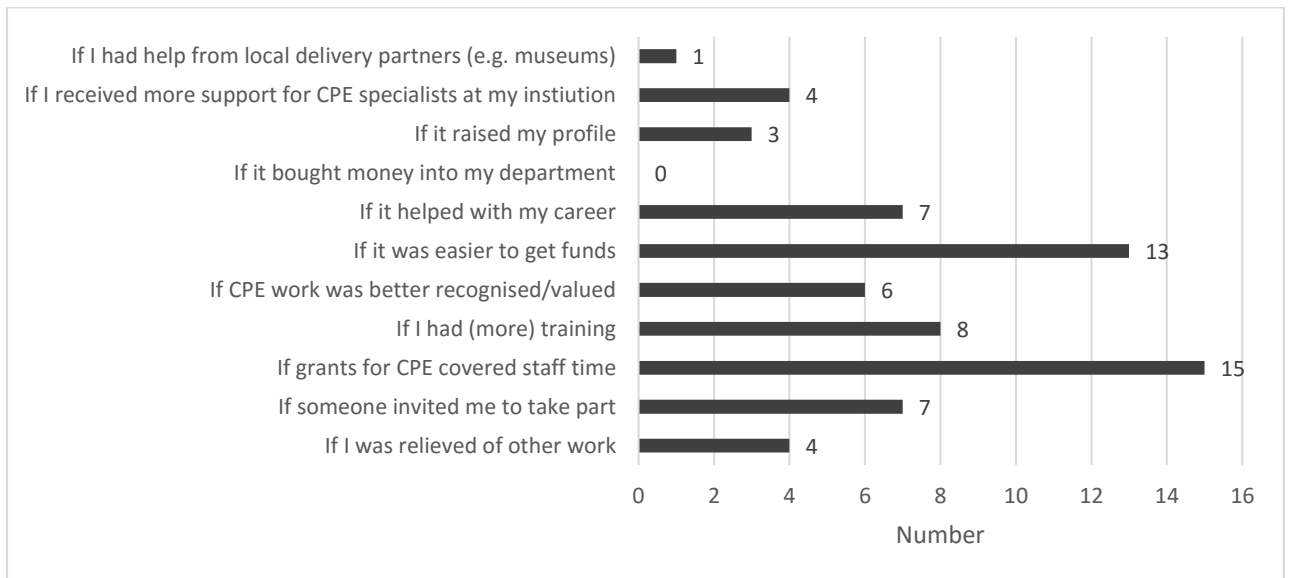
Awardee Recommendations for Programme Improvement

KAP survey participants and interviewees were asked to identify additional supports that may have made it easier to complete their respective CPE projects as well as general recommendations for programme improvement.

On the KAP post-survey, 12 participants provided a response to the question 'What additional support, if any, would have been helpful to you?'. Four suggestions pertained to additional time, other suggestions included: having mentors with expertise and experience on CPE (N=2); mid-implementation evaluation and trouble-shooting; a more detailed introductory course on community engagement; project management support; an M&E expert constantly reviewing progress after every month and consulting on challenges; and funding to support more activities and welfare of the communities we engage with.

Twenty KAP post-survey participants provided a response to the question 'If you could make one recommendation to improve the DELTAS CPE seed fund for future awardees, what would it be?'. Four participants offered two suggestions resulting in a total of 24 recommendations for improvement. Over half of these recommendations pertained to either an increase in the time available to implement the CPE project (N=13/24) or greater flexibility in project timelines (N=2/24). Four recommendations pertained to an increase in available support or training, specifically: a longer inception workshop; increased 'on the go' support and training; access to a CPE research expert to advise and guide awardees during project implementation; and training in financial management and more M&E training and resources to be provided. Two responses pertained to an increase in funding and the remaining responses were: to expand the scope of the call (nb. this was not further defined in the comment provided); mid-implementation evaluation and trouble-shooting; and to emphasise the need for proper planning to enable one to complete their project on time.

To finish, post-survey participants were asked to provide 'any additional comments about the DELTAS CPE seed fund that you would like to make' (free text response). Most participants chose not to, but the four comments that were provided present further recommendations for CPE award strengthening and offer some insight into the awardees experience:

> *"I think that measures to integrate CPE into research need to be intensified. Reaching Masters students who are already involved in research can be an avenue as many of them will take the skills acquired to their future places of work. Doing this will also improve the pool of specialist staff to support CPE in institutions."* **S001**
>
> *"Increasing availability of CPE seed funds and allowing longer project periods will generate more interest in CPE."* **S019**
>
> *"Thank you for the opportunity, I truly enjoyed my CPE experience. I wish I had more time to work on it. The documentary raised so many questions I wish I could fully explore."* **S010**
>
> *"The CPE award was a challenging opportunity. I had a lot to learn and it has actually changed my attitude towards research. Instead of doing research for career growth and academic success, my primary goal is to help people improve their livelihood through building trust in science and scientific solutions."* **S012**

The interview data was largely consistent with the survey findings, especially with respect to the need for additional time – which was a common theme across all data sources. Interestingly, and as the following quote demonstrates, additional time does not necessarily equate to additional cost:

> *"So it's paramount that even for these and future engagement activities that one is to have CPE activities that run for a longer period because I think if I had say two years with the same amount of money, I would have more impact than I had with the amount of time of I had. Which of course, will allow you time to plan, develop very concrete M&E plans and see what will work and what won't work. And then, of course, you have enough time to learn from your experiences and implement those activities."* ***T005***

Other suggestions from interviewees included:
Frequently Asked Questions: The AAS should consider having a frequently asked questions page to help answer all questions pertaining to the process of application and grant writing.
Real-time responses: Have a section within the AAS website that offers real-time responses to grantees who have challenges in technical aspects of their CPE grants.
Networking: Provide an interface or a network of awardees who have previously received a CPE award and have experience in implementing process paired with those who are novices.
Technical support: Consider having mentors offering technical support to novice researchers and junior academics throughout the project duration. This will help build the grantees capacity and will also enhance a positive impact.

The AAS focal point also suggested three key recommendations for programme improvement. These included: providing the CPE grant at the onset of fellows' research projects as opposed to mid-point (as occurred during this award); opening the award programme to a wider pool of applicants; and revising the proposal review process prior to awardee selection. The first of these recommendations was made in recognition of the fact that, by introducing the CPE award at the mid-point of many fellows PhD or postdoctoral research, the CPE projects placed additional pressure on awardees:

> *"They [awardees] are so engrossed in trying to get their science done. And so, the level of concentration itself was impacted. Because they are dealing with their projects that have timelines, and yet they have also applied for this grant and have succeeded and need to deliver on it. So, that pressure alone is a lot for somebody. Because the Seed Fund had very tight timelines. But they also need to complete their PhDs and graduate."* **T008**

Opening the award programme to a wider pool of applicants was suggested as a way of overcoming the dearth of quality proposals; a bigger applicant pool may result in a larger number of strong proposals. The third recommendation was a reference to a particular requirement placed on consortia during the seed fund scheme that in hindsight, may not have worked as anticipated. In short, all consortia were required to convene their own internal review panel to score and comment on the CPE proposals developed by their respective fellows. These consortia level reviews were then forwarded to AAS. This was conceived as a capacity strengthening exercise designed to foster greater understanding of, and engagement in, CPE on a broader scale within each consortium (i.e. the internal review panel would develop their own understanding through exposure and would gain a better insight into the CPE strengths and weaknesses of their respective fellows). However, the internal reviews did not inform the subsequent selection process (which took place at AAS level) and, probably because of this, caused some confusion at consortia level as to the purpose of the internal review process:

> *"It [the internal review process] created confusion amongst the DELTAS Consortia. Because I think they assumed that what they were doing was going to contribute to the overall awards. That maybe some of the people that they selected would be the people that would be awarded. And so, there was a kind of miscommunication in that process. So, yes, I think that is something that we could have done differently. Maybe better. Especially in terms of communication, to tell them that this is not in any way going to influence the final awards."* **T008**

5. Findings – Outcome Evaluation

5.1. Outcome Indicator Inclusion and Reporting

Table 3 presents an overview of the outcome indicators included in the programme evaluation framework (the outcome framework is presented in full in Annex 2). As shown, almost all outcome indicators utilised by awardees (participant level) were quantitative (with a single exception) and the most utilised pertained to participants' attitudes (N=19), knowledge (N=23), and behaviour (N=10). Of the 80 data points that were expected to be reported, only 47 (59%) were reported. Quantitative measures of participant behaviour change proved most elusive, with none of the 10 expected indicators reported. The reported results for each individual indicator are presented in Annex 2.

Awardees noted many reasons for not reporting planned M&E indicators, most commonly a lack of time or Covid-related disruptions. The interview data (reported above) further revealed that M&E was new to most awardees, and it was an area that many struggled with.

Table 3. CPE outcome indicator type, number included across awards and number reported

Domain	Indicator	No. Variants	No. Reported
Participant Measures[1]			
Attitudes	%/No. of participants with improved attitudes in CPE focal area	19	12
	Qualitative evidence of improved participant attitudes in focal CPE area	2	1
Knowledge	%/No. of participants with improved knowledge in CPE focal area	23	13
	Qualitative evidence of improved participant knowledge in focal CPE area	1	1
Behaviour	%/No. of participants with an observed behaviour change in CPE focal area	10	0
	Qualitative evidence of participant behaviour change in CPE focal area	1	1
Engagement	%/No. of participants who actively engage in CPE focal area	9	4
	Qualitative evidence of participant engagement in CPE focal area	1	1
Co-Creation	%/No. of participants engaged in producing a CPE project output	2	2
	No of outputs resulting from CPE focal activity	2	2
	Evidence of participant involvement in production of CPE project outputs	2	2
	Qualitative evidence of participant involvement in production of CPE project outputs	1	1
Awardee Measures[2]			
CPE Attitudes	% increase in awardees describing CPE as either 'very' or 'extremely' important	1	1
	Qualitative evidence of change in perceived importance of CPE, attributable to project experience	1	1
CPE Knowledge	% increase in awardees describing their CPE knowledge as either 'good' or 'very good'	1	1
	Qualitative evidence of change in self-reported CPE knowle2dge, attributable to project experience	1	1
CPE Proficiency	% increase in awardees describing their CPE proficiency as either 'advanced' or 'expert'	1	1
	Qualitative evidence of change in self-reported CPE proficiency, attributable to project experience	1	1
Institutional Impact	Qualitative evidence of impact of DELTAS CPE seed fund award on institutional CPE practices	1	1
Totals		**80**	**48**

[1.] Collected by CPE awardees, with the exception of one of the six qualitative indicators.
[2.] Collected by evaluation team

5.2. Outcomes – Participant Indicators

Attitude, Knowledge, and Behaviour: Quantitative Data

Of the 25 quantitative indicators pertaining to changes in participants' attitudes, knowledge, and behaviour in CPE focal areas that were reported, 22 were presented as percentages. The mean 'target' and 'result' achieved across the 22 percentage-based indicators are presented in Table 4. As shown, the target was exceeded on the 'attitude' indicator (mean of 72% participants with an improved attitude as compared to a target of 47%) and largely met on the 'knowledge' indicator (56% vs 55%). The mean target percentage for the 10 awardees that had planned to report a quantitative behaviour change measure was 36%; however, as no data were reported it is not possible to determine whether this was met or not.

Table 4. Changes in participants' attitude, knowledge, and behaviour in CPE focal areas

Domain	Indicator	No.	Target	Result
Attitudes	% with improved attitudes in CPE focal area	12	47%	72%
Knowledge	% with improved knowledge in CPE focal area	10	56%	55%
Behaviour	% with observed behaviour change in CPE focal area	0	36%	-

An additional three 'knowledge' indicators were reported, in which the data were presented as a number rather than a percentage (Annex 2). In these three cases, the target was close to being met in one instance (target=20, result=19), approached being met in another (target=500, result=402) and was a long way from being met in the other (target=500, result=39).

Attitude, Knowledge, and Behaviour: Qualitative Data

The research team did not seek to obtain data directly from CPE project participants; rather, qualitative insights into project-related influences on participant attitudes, knowledge, and behaviour were sought via awardee end of project reports and interviews. Some interviewees noted the difficulties with not only trying to measure project outcomes on participants, but also gauging what a realistic outcome might be:

> *"I haven't read it recently [end of project report], but sometimes our data, and maybe this is my naivete, you hope or expect to see these huge shifts, if that makes sense, in impact or whatever. I can't remember if it was the scientists or the artists, but we didn't see massive shifts, and I guess my question is, how do you still say that your project was good?"* **T004**

Nevertheless, anecdotal accounts provide some sense of project impact:

> *"The journalists, our partners, were very excited with the project and they see it as very, a novel approach for them to engage the communities. For example, after the project they continue to use the approach in the way how they deal with the communities regarding COVID-19."* **T002**

> *"Two of the male out-of-school adolescents who participated in the photovoice exercise have indicated that they want to return to school. As part of the photovoice activity, these adolescents visited the campus of the University of Ibadan in November and the graduation ceremony happened to be ongoing at the time. Seeing undergraduates and some of the grandaunts challenged them to return to school. Three months after (when the stakeholder's meeting took place in February), these adolescents were still committed to returning to school. They are being followed up and the project is working with the Ministry of Education to get them back to a school."* **R015**

"In this project, we engaged men in dialogues about maternal mental health which is one of the risk factors of maternal mortality and morbidity. It is important to have men on board maternity issues since they may be the sole social support for the pregnant women due to global and urban migration which has somehow destroyed the traditional support a pregnant woman would normally get from the female family members. This project has somehow ignited some engagement among men to fill in the supportive roles that have been left vacant. The discussions can actually lead to formulation interventions crafted by the end-users themselves rather than prescriptive interventions. Because the men are involved in providing the solutions, their participation in maternal health may actually be easier, thereby leading to a reduction of mortality and morbidity." **R021**

Engagement and Co-creation: Quantitative Data

All four of the reported quantitative indicators measuring active participant engagement in the CPE focal area were operationalised as numeric counts, and the respective engagement target number varied considerably across all four. In three out of the four cases the target was exceeded. Measures, targets, and actual engagement included: number of adolescents willing and able to share experiences with others openly (target=2, achieved=1); number of planning and decision-making meetings conducted between health facility management teams and facility governance committees (target=8, achieved=14); increased radio show listenership (target=30, achieved=93); and increased social media engagement (target=10,000, achieved=13,300). The two quantitative indicators measuring the number of outputs resulting from CPE focal activity both exceeded their respective target numbers, including: Number of newspaper articles, news reports and social media posts on social inclusion, stigma, and discrimination of youth with HIV and substance abuse (target=33, achieved=34); and consensus on accountability and service delivery monitoring indicators (target=5, achieved=6).

All targets for the four quantitative 'co-creation' indicators were met or exceeded. These included: percentage of students participating in the compilation of an updated situation analysis document developed on the status of participants understanding on basic TB (target=10%, achieved=70%); number of people involved in joint message development on Covid-19 interpersonal communication (IPC) (target= not set, achieved=200); presence of a publication highlighting issues surrounding people living with HIV experiencing mental health illnesses (target=1, achieved=1); and presence of a document on community sourced interventions that address bullying, harassment and intimidation in the University of Ibadan (target=1, achieved=1).

The engagement and co-creation indicators included in the evaluation framework substantially underestimate the actual outcomes achieved in these areas across the 25 projects. Awardees frequently described engagement activities and co-produced resources in their respective 'end of project' reports; however, these had not been formally operationalised as outcome indicators or included in their respective M&E plans. Drawing on figures presented in 'end of project' reports, at least 13,500 people were directly engaged 'in-person' across the 25 CPE projects, at least several-hundred thousand (and more likely millions) were engaged through various radio broadcasts (in one case, a single broadcast was simultaneously transmitted by 95 different radio stations) and at least tens of thousands were engaged through social media platforms. These figures are almost certainly under-estimates given that not all awardees reported reliable figures. Similarly, target audiences continue to be engaged beyond project end dates through materials produced by some of the CPE projects, as indicated by the following 'end of project' report excerpt:

"The comic book [a co-produced CPE resource] will be used beyond the current project at the sickle cell clinic and for future sickle cell studies. It will also be available online for access to individuals to other parts of the country and continent. The raw files have been submitted by the illustrator and we

> *shall use this for future printing and we also intend to develop an animated video for use at our clinic and online. We aim to share the content with other affected countries across sub-Saharan Africa as the stories were written in a way that they can also relate with. The comic book will also be used for distribution as reading material to the community by the support group formed by the affected parents."* **R013**

Alongside the comic book, a diverse array of materials were developed across the 25 CPE projects, the majority either produced or co-produced by representatives of the respective target audience. AAS are planning to collate these within a CPE depository. Materials include such things as: a documentary which focused on the male role in promoting maternal health; a photo exhibition of bullying, harassment and intimidation within a University context; a set of 'Super Scientist' avatars designed to encourage greater female participation in the sciences; a second documentary detailing the experience of living with HIV/TB during adolescence; a hepatitis B educational poster; a virtual reality video presenting a tour of active research laboratories; educational posters, leaflets and flip charts depicting dog behaviour and rabies prevention; a full-length Nollywood movie centred on the use of aminoglycoside antibiotics and subsequent hearing loss as a complication; pictorial 'info' cards depicting barriers to secondary school retention; creative art works developed by adolescents with HIV/substance abuse issues, highlighting experiences of social stigma; community plays and dramas highlighting TB and HIV-related issues; learning materials for infection prevention and control; and an educational sickle cell disease comic book.

In two projects, the broadcasts were uploaded to the respective consortia websites where they can continue to be accessed:

- https://amari-africa.org/covid19-1
- http://afriqueoneaspire.org/the_events/radio-broadcast-living-with-covid-19/) and these two projects developed complementary materials based on the broadcast such as blogs
- https://amari-africa.org/newsevents/2020/9/17/childand-adolescent-mental-health-during-covid-19
- https://amari-africa.org/newsevents/2020/9/17/impact-ofcovid-19-on-substance-use
- https://amari-africa.org/newsevents/2020/9/17/impact-ofcovid-19-on-womens-mental-health
- https://amari-africa.org/newsevents/2020/9/17/covid-19-psychological-effects animated video clips https://youtu.be/p-eTiXvFdpU and film.

In one of these projects, the broadcast uploaded onto the website had 1,517 views at the time of reporting along with 500+ questions posted to a complementary WhatsApp/Facebook forum. For another project, around 200 people had read the posted blogs or accessed the uploaded broadcasts at the time of reporting. In two projects that utilised radio broadcasts, one complemented the broadcasts with in-person Covid-19 awareness meetings with market vendors (N=200) and co-created posters to be placed within the respective markets, as well as aminated clips to be screened in some markets and shared on social media platforms. The other project contracted two social media influencers to promote co-created Covid-19 messaging across various social media platforms (again, this activity had yet to commence at the time of reporting) and established an online repository for Covid-related research and information (https://covid-uat.kemri-wellcome.org/#overview).

One project sought to engage scientists and artists in interactive discussions in order that the latter may then produce 'artistic masterpieces based on the virus and disease'. The project invited participation from artists from across Africa (N=48) and scientists (N=23) from within the SANTHE consortium. This collaboration resulted in 40 art pieces that were displayed in a publicly accessible

virtual art exhibition (https://artandscience.santheafrica.org/entries/) promoted by a social media campaign. As a measure of engagement, the public were asked to vote for their favourite over a 7-day period, resulting in 3,312 votes. A total of 13,300 'impressions' were also recorded on twitter over the same period. Many of the art works have now been framed and shared with project partners as has a booklet featuring the artwork (250 copies).

Engagement and Co-creation: Qualitative Data

The following excerpts from 'end-of-project' reports and interview data further illuminate the level and range of engagement and co-creation achieved across the CPE projects:

> *"The students were really participating during the activities such that they suggested future research areas and even came up with Setswana names for HBV. The Setswana name is very important as we take HBV to the public. They will be more receptive."* **R011**

> *"So, my orientation right now, and I have trust in these lay communities, that they can produce evidence to inform the solutions and solutions that actually work in their context, not the theories we are trying to prove or to justify whether they work or not."* **T006**
>
> *"Some of the questions that we were receiving from the students really gave me the sense that they were thinking about what we were talking about."* **T009**
>
> *"I think the documentary, for me, was the… I mean that was the main outcome for the grant. That's what we had said in our proposal. That the main thing out of this grant will be a documentary that's produced by these young people. And I mean it's one thing to write that, and then another thing to actually see it in reality…the first day I meet those kids and I am thinking, oh my. And the first day people are still shy. They're not talking. And I am just thinking is anything going to come out of this? This is crazy. But then by the second, third day, they were taking the cameras home…So, it was just amazing seeing how that unfolds, to then seeing the final product. And you could say they were also really amazed at the final thing. That oh my gosh, we did this?"* **T001**

Many awardees were also able to successfully engage local media including radio and television to report on their project activities, providing free publicity and potentially extending the audience engaged. For example:

> *"'The media team from Voice of Nigeria was invited to the stakeholders' forum and they have run a media story based on the project. A media officer from CEO TV (an online news channel) was also present at the stakeholders' forum and they developed a brief documentary hosted on their U-Tube channel. "* **R015**

The level of community interest and engagement was eye-opening for many interviewees, although as illustrated in the following quote, there was not always capacity to meet the subsequent response:

> *"The thing that came out strongly was there was a lot of interest in what we do, and I realised there was an increase in terms of the number of in-boxes that I was receiving on our social media platforms asking about our training programme. We had journalists asking can we interview so-and-so. For me the biggest take home, the biggest success was the level of awareness that came out of it. But then I realised from that awareness there exists quite a big gap that we need to fill, which unfortunately we could not at that point."* **T005**

5.3. Outcomes – Awardee Indicators

Attitude, Knowledge, and Proficiency: Quantitative Data

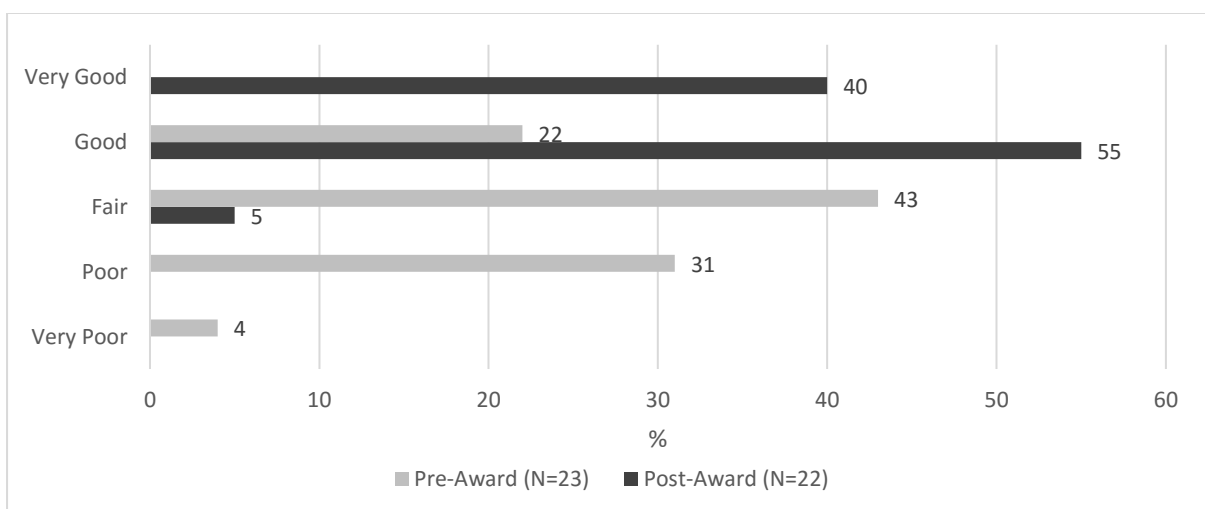One hundred percent of awardees across all three funding rounds described CPE as either 'very important' (41%) or 'extremely important' (59%) following completion of their respective CPE projects (Figure 2). This represents a 54-percentage point increase compared to baseline, when 46% of awardees described CPE as either 'very important' (41%) or 'extremely important' (5%). The 'between survey' difference in perceived importance of CPE reached statistical significance ($z = -4.613$, $p < 0.001$).

Figure 2. Perceived importance of CPE, pre- and post-CPE project implementation
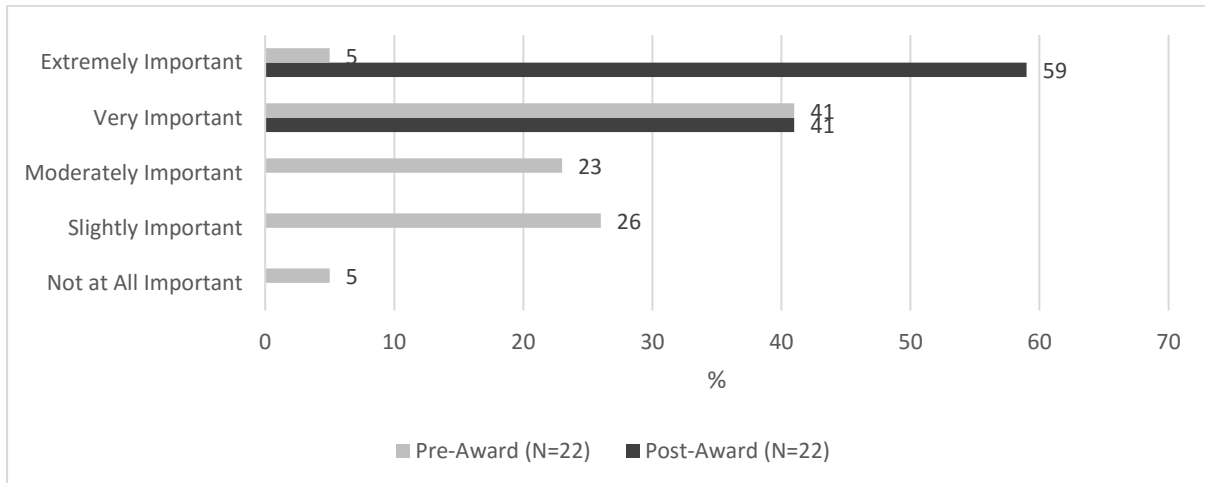
Ninety-five percent of awardees across all three funding rounds rated their CPE knowledge as either 'good' (55%) or 'very good' (40%) following the completion of their respective CPE projects (Figure 3). This represents a 73-percentage point increase compared to baseline, when only 22% of awardees rated their CPE knowledge as 'good' and none as 'very good'. The 'between survey' difference in self-rated CPE knowledge reached statistical significance ($z = -5.042$, $p < 0.001$).

Figure 3. Self-rated CPE knowledge, pre- and post-CPE project implementation

Sixty percent of awardees across all three funding rounds rated their CPE proficiency as either 'advanced' (55%) or 'expert' (5%) following completion of their respective CPE projects (Figure 4). This represents a 60-percentage point increase compared to baseline, when no awardees rated their proficiency as either 'advanced' or 'expert'. The 'between survey' difference in self-rated CPE proficiency reached statistical significance (z= -4.688, p <0.001).

Figure 4. Self-rated CPE proficiency, pre- and post-CPE project implementation
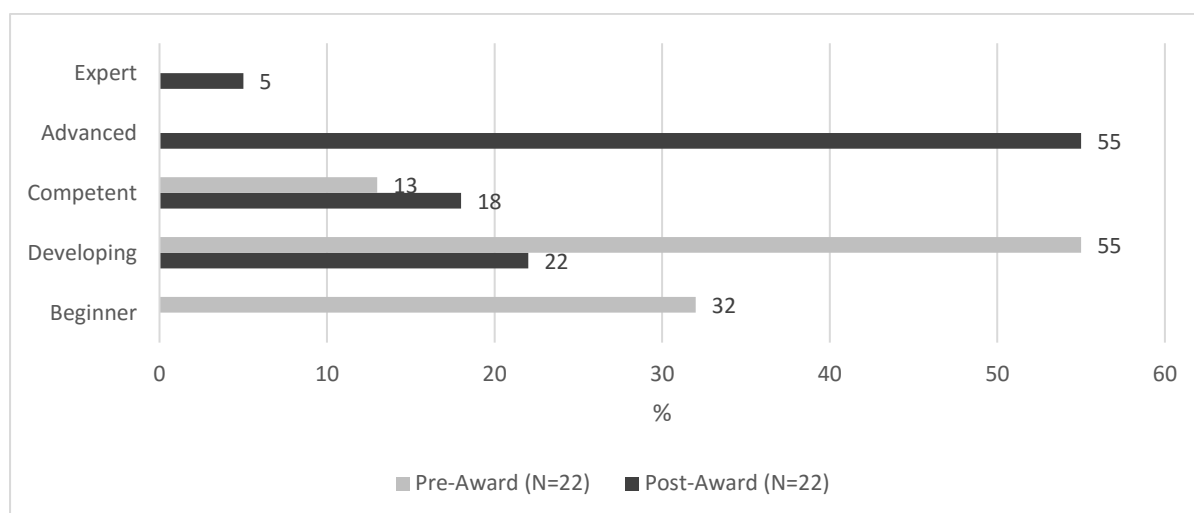

All awardees across all three rounds reported 'expected learning objectives' prior to CPE project implementation. The full list of learning objectives is presented in Annex 4, although primarily encompassed improvements in: applied CPE practice; community engagement; communication; and monitoring and evaluation. Eighty-six percent (19/22) of awardees who completed the post-survey reported achieving their respective learning objectives 'in full'. The remaining 14% (3/33) of post-reported achieving their respective learning objectives 'in part'. Two of the three participants who did not achieve all of their learning objective in full attributed this to 'insufficient time' and the third to 'covid disruptions'.

Post-survey participants were asked 'How well equipped do you feel to engage with the public on your research or subject?', in response to which 68% reported 'very well equipped' (15/22) and 32% 'fairly well equipped' (7/22)[2]. Participants were then asked to select from a list of nine possible response options (Figure 5), the 'reasons which best describe why you feel 'very' or 'fairly' well equipped to engage with the public?'. Participants could select multiple response options. As shown in Figure 5, the most frequently reported reasons included: 'I have developed experience of CPE' (21/22); 'I enjoy it and have had good feedback' (20/22); and 'I am knowledgeable about my subject' (17/22).

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[2] This question was not included in the pre-survey

Figure 5. Reported reasons for feeling either 'very' or 'fairly' well equipped to engage with the public (N=22)
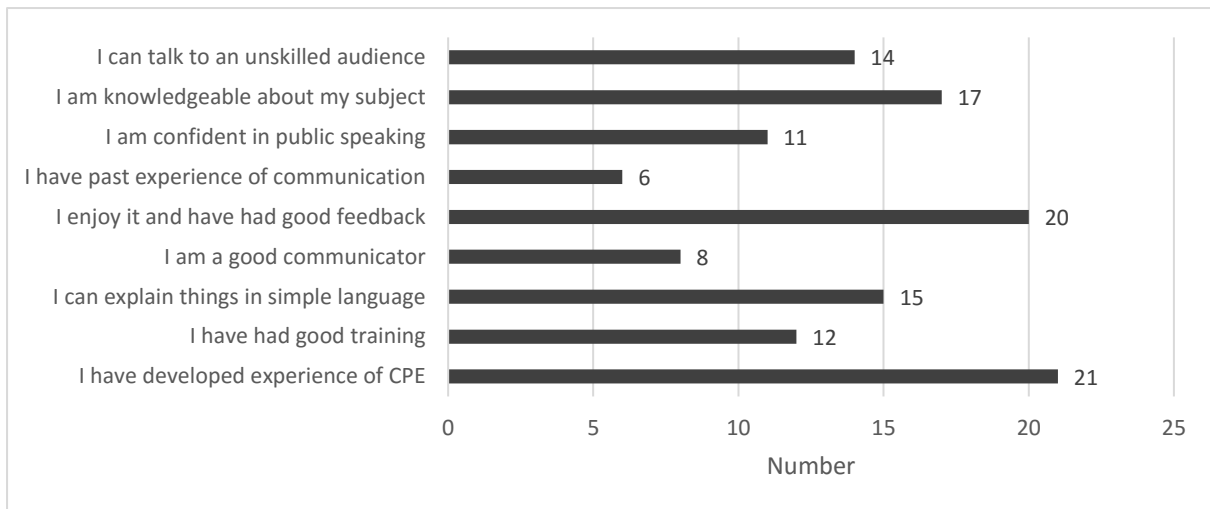
Attitude, Knowledge, and Proficiency: Qualitative Data

The qualitative data closely aligns with the KAP survey results. Six of the eight awardees interviewed reported having little or no prior knowledge or experience of CPE and attitudes were often ambivalent as evident in the following comment:

> *"I had treated community and public engagement as an additive, like it's an afterthought when you're doing research"* **T007**

The two interviewees who reported some CPE knowledge and experience were both programme support staff who had gained their CPE-related training and experience since taking up their positions within their respective DELTAS consortia:

> *"Prior to the award, I was engaged in a project whereby we had to engage communities on health advocacy and awareness, and most of the activities and projects that we were developing were community centred. The community played a huge role in informing how we designed and developed our activities. I was also very instrumental in supporting two cohort two fellows execute their CPE grant so by the time I was implementing my activities I was quite knowledgeable".* **T005**

However, without exception, all interviewees reported a marked and often profound shift in their respective CPE attitudes, knowledge, and proficiency because of the seed fund experience. For example:

> *"I started as someone who basically knew nothing about how to do CPE… Since that [CPE award experience], I think I've really grown in leaps and bounds in terms of understanding engagement. And I now consider science engagement as a possible career path for me".* **T009**

Substantial change was evident even among the few interviewees with prior CPE experience:

> *"My knowledge changed, I can say fundamentally. Before the project, my knowledge was, I think, so theoretical. So it is not so practical. But after the project…I face the reality in the field."* **T002**

Equally without exception, all interviewees considered the CPE award experience to have been highly positive, despite the challenges faced and the excessive demands on their time (as reported earlier), and all were adamant that they would integrate CPE within their respective research work going forward:

> *"I would actually do this again. And what it means is that in future projects, whether a post-doc project of a full-time research project, I would include CPE both in a timeline of the implementation as well as in the budget line of the implementation. So it then becomes an integral part of the project and it doesn't disrupt."* **T003**

The 'integration' aspect is especially key here as for many interviewees, the CPE award was considered quite disruptive to either their PhD progress or routine roles and responsibilities. This was not presented as a negative; rather, an acknowledgement of their experience and a reflection of how the award was implemented as a stand-alone project on top of an already busy workload:

> *"It was very hard. I totally didn't anticipate the workload. Totally. So it got me off guard considering that we already had our other planned activities. So totally got me off guard. Quite a lot of effort to be put in and a lot of hours."* **T005**

Institutional Impact: Qualitative Data

Impacts on awardees' respective consortia or institutions were not as strongly evident in the qualitative data as the impact at the individual level. However, interviewees in research support positions (as opposed to PhD fellows) were proactively thinking about how they might be able to apply the lessons learnt from their individual CPE project experiences to support better CPE practice within their respective consortia currently and going forward:

> *"It [the CPE project experience] reinforced the importance of integrating CPE as part of our [consortium level] communication as opposed to seeing it as just an additional activity. That was, for me, my biggest take home. Even now when I'm designing my [consortium level] communication activities, I tend to think about where does the CPE angle come in, in as much as it's a very subtle way."* **T005**

> *"Now CPE is basically in theory embedded in our DELTAS II application everywhere. The idea that on concept submission sheets now there's a part on the form where you have to put in what CPE you're going to do around this project. So it's like the new approach in theory would be that at our annual meeting there'll be a slot for CPE-style presentations. So its taken almost as an expected aspect of what we do, whereas really in DELTAS I it was more like a novelty."* **T004**

Some element of 'group-learning' was also often referred to as awardees interacted with others in their respective consortia during the course of CPE project implementation:

> *"Having supported some of our fellows execute their CPE, I got quite a lot of knowledge around it. So by the time I was getting to do my CPE project, I had quite some deep level of understanding of what goes around it."* **T005**

Thoughts of scale-up and knowledge/skills transfer were not only limited to awardees in research support positions. Some awardees in PhD fellowship positions were also actively transferring their CPE knowledge and advocating for greater CPE practice, perhaps none more so than the following:

> *"Of course, I'm trying to push [promote CPE] and actually because in Tanzania not so many researchers have exposure to the CPE methods and techniques, I'm trying to push because I'm right now teaching the PhD students in research methods, research ethics and the meta-analysis techniques and methods. So, I try as much as I can to make them at least have it as an embedded part of their research. So, when I tell them actually I think CPE may not be a separate kind of research but it should be used as a tool that should push forward research in public health, in social sciences, to make research relevant to the communities and actually research and research institutions and academic institutions should be able to transform the lives of the people around them."* **T006**

However, for most awardees in PhD fellowship positions their attentions returned to completing the research and publication requirements of their respective PhD projects at the conclusion of the CPE award. Understandably, given many had had to prioritise their CPE projects for the six-month implementation periods given the tight time frames and this was achieved to some extent at the expense of progressing their PhDs:

> *"I took on an extra workload and so that was what was a bit challenging. So yes, it did take away some amount of time from how much I could have devoted to my PhD work. And so, yes, I can say that it took a toll on my PhD work. But I believe that the training out of this work is worth the sacrifice."* **T003**

6. Discussion

Our findings indicate the CPE seed fund was a rewarding and positive, yet highly challenging experience for most (if not all) awardees. The seed fund exposed a large cohort of DELTAS fellows and research support staff to an applied CPE project, most for the first time, resulting in greater understanding of, and enthusiasm for, CPE and the acquisition of the necessary knowledge, skills and confidence to undertake CPE. This was most evident in the KAP survey and interview data which demonstrated a marked shift in CPE attitudes, knowledge, and proficiency among awardees in all three rounds. The shift in attitudes towards CPE was often profound, with some awardees considering a change in career direction – away from research and towards CPE – as a result. Beyond CPE, career benefits in the form of attaining grant income and principal investigator experience as well as broader project management and M&E experience were realised. In a number of cases, these career benefits were a primary motivating factor for undertaking an award, yet even when this was the case the subsequent project experience still seemingly fostered genuine enthusiasm for CPE. Thus, as an exercise in strengthening the enthusiasm and capacity for early career research fellows and research support staff to undertake and champion CPE, the seed fund appears to have been a great success.

The extent to which the awardees were able to influence CPE attitudes and practices within their respective consortia and home institutions was less clear. There was evidence of a substantial influence at consortia level in some cases but not all, and not consistently to the same degree as the impact on the awardees themselves. This is not an unexpected finding, given institutional impact achieved through individual 'championing' will take place over the longer-term. Thus, the fact that some consortia appear to have radically altered their appreciation and approach to CPE in subsequent 'DELTAS 2' submissions due to their engagement in the CPE seed fund is highly encouraging. The findings suggest that the opening up of the Round Three award to research support staff was an effective approach to achieving consortia/institutional level impact. Research support staff are especially well placed to achieve broader influence and whilst busy in their respective roles, are perhaps better able to reflect and build on their CPE experiences in the immediate period post-implementation not being faced with the often-all-encompassing pressures of completing a PhD or postdoctoral research project. The fact that the 25 awards were spread across 9 out of the 11 DELTAS consortia suggests the potential for longer-term influence across multiple consortia and their respective member institutions was achieved. However, the findings further suggest that those consortia who most actively encouraged and supported their respective fellows to apply for the award were not only most successful, but perhaps also most receptive to the subsequent learning that followed.

The implementation challenges faced by awardees were many and varied and often essential to the learning process, e.g. by providing lessons in project planning. Nevertheless, the findings strongly and consistently suggest the limited time available to implement the awards and the timing of the awards (often mid-way through a PhD or postdoctoral project) were highly problematic. The strict and relatively brief implementation period exacerbated the consequences of other routinely experienced challenges, such as delays in procurement or obtaining necessary ethics approvals. The timing of the award (mid-PhD project for most Round One and Two awardees) did not in itself hinder uptake or engagement with the proposed CPE projects, but placed significant stress on the awardees and limited the opportunity to extend involvement in the respective projects (inclusive of publications) post-implementation, as awardee focus typically returned to the completion of their PhD requirements. Beyond the challenges of implementing the respective CPE projects, the study findings suggest the process by which the CPE seed fund was administered was largely satisfactory. The award guidance

and process was clear, the support provided was useful, and the reporting requirements were considered straight forward. The leadership and ongoing personalised support of the AAS focal point was often noted by interviewees as especially helpful and appreciated. However, the M&E responsibilities of awardees were perhaps not completed as originally expected (discussed more below) and awardees frequently indicated a desire for ongoing training or feed-back mechanisms, covering a broad spectrum of areas, as well as stronger peer-to-peer learning opportunities. Thus, additional guidance and support, including but not limited to M&E, could be considered in future iterations of the CPE seed fund, as should the internal review process DELTAS consortia were required to undertake at the pre-award stage. The latter, according to the AAS focal point, was included as a capacity strengthening mechanism in its own right, but as the internal review scores did not count towards the subsequent selection of awardees, then the value of the exercise was lost on some. However, as noted above, consortia that were strongly engaged in promoting the awards and supporting awardee applications appeared to have greater success and subsequent buy-in. Thus, the idea of encouraging (or mandating) consortia level involvement in the application or even implementation stages may have some merit; it is perhaps just how that involvement is configured that requires further thought.

The findings are weakest with respect to understanding the outcome of the CPE seed fund on the various communities and public engaged in the respective awards, although some impressive results were still apparent. High levels of engagement via many different media were clearly achieved, even if not always reliably measured. Similarly, many varied and innovative materials or outputs were co-created with community input across the respective projects. The M&E data that were collected also suggest that several projects successfully achieved a shift in participant attitudes and knowledge in the respective CPE focal areas. However, whether any of these activities subsequently resulted in a change in behaviour is unknown. Despite the intention to measure behaviour change in ten projects, these measurements were not implemented in practice. This is perhaps not surprising, given the relatively short duration of the awards and the various challenges awardees faced. The expectation of measuring participant behaviour change was perhaps also an artefact of the original CPE seed fund planning, in which two-year projects were proposed; as the project durations were subsequently reduced to six-months, M&E planning may not have been sufficiently scaled back in response. Many awardees did note their inexperience with designing and implementing M&E plans and indicated that more intensive and regular support would have been helpful. In addition, the outcome framework itself was only loosely applied across projects: awardees were not required to strictly align their respective M&E plans with all suitable indicators on the framework, rather awardees were encouraged and supported to develop their own M&E plans which were then integrated into the overarching framework. Had adherence to the framework been more strictly enforced, then many awardees would likely have included additional indicators in their respective project-specific M&E plans. Nevertheless, regardless of which indicators were or were not included, the challenges pertaining to collecting quality M&E data in a short-time period, by individuals new to M&E and with considerable competing pressures would have remained.

7. Recommendations

Recommendations are presented under the three headings of CPE award design, support, and outcome measurement. Collectively, these recommendations are intended to inform future iterations of the CPE seed fund scheme, on the basis that the primary aims of any future schemes remain the same, i.e. to foster greater appreciation of, and capacity for, CPE among early career researchers and research support staff with the expectation that these individuals may then champion CPE within their respective institutions and research networks. The findings presented in this report suggest that the current scheme was largely effective in achieving these outcomes.

The following recommendations should be considered alongside those made directly by awardees as presented in results chapter 4 above.

Award Design

1. **Maintain the current application and reporting processes:** The current application and reporting processes appeared to be easy to understand and implement from the awardee perspective. The competitive nature of the process also enhanced the appeal and should be maintained. Nevertheless, the processes could be made more efficient from an administration perspective, including a faster response time from proposal submission to confirming awards and by no longer requiring the internal-review process prior to proposal submission.

2. **Inclusion of a FAQs section to assist awardees during the application and submission process:** Whilst the process was relatively straight forward, the inclusion of a FAQs section – ideally with inks to helpful CPE resources - would likely be of benefit to potential applicants in any future CPE award scheme.

3. **Open scheme to a larger applicant pool:** The current scheme was limited to DELTAS Africa fellows and, initially at least, to early-career researchers. To ensure a greater quantity of competitive applications, the scheme could be extended beyond the DELTAS network to include a more diverse array of applicants. In the current scheme, the inclusion of research support staff in Round Three appeared to enhance the potential for broader impact at consortia and institutional level and should be continued.

4. **Encourage or stipulate the formation of consortia/institution 'support' panels to assist with proposal preparation, project implementation, and knowledge transfer:** The evaluation findings suggest the more formalised the internal support provided to awardees, the greater the chance of success, with ongoing assistance was more readily accessible and there was a greater transfer of knowledge within the wider consortia/institution.

5. **Allow a longer, more-flexible implementation period:** The six-month duration of the current awards, especially for early career researchers, was highly problematic. Allowing a longer-time period to implement projects or greater flexibility in terms of implementation timelines would likely reduce stress, improve results, and enhance the learning opportunity for awardees.

6. **Where possible, align awards targeted at early-career research fellows with research start-up:** This would allow early career researchers to better integrate the CPE activities within their respective research project planning. This would reduce the potential conflict between CPE tasks

and research tasks as was often experienced, would reduce the stress and workload for awardees and would align more closely with the principles of CPE, ensuring better outcomes.

7. **Consider smaller 'booster' funds to support continuation of project-related work following formal completion of an award:** All awardees were keen to pursue further CPE activities after the completion of their projects. Many also had project-related activities outstanding (e.g. publication) or had identified follow-on activities that they would like to have engaged in if further funding/time allowed. The provision of a small booster fund made available to support meaningful follow-on activities may therefore represent good value for money (i.e. leveraging off previous work) and would harness awardee enthusiasm for CPE in the immediate post-award period.

Support

8. **Maintain or extend the existing three-day induction period prior to project implementation:** This was widely appreciated by Round One and Two awardees and provided a much-needed opportunity for learning and 'hands on' support. Consideration could be given to extending the meeting an extra day or two, allowing time for peer-based learning (from previous rounds) and teaching/support on a more diverse range of topics.

9. **If the project implementation period is extended, then include continuous learning and 'check in' opportunities:** The need for ongoing support and check in opportunities was widely expressed by awardees but would only make sense if implementation periods were extended (otherwise they would just add to the stress of an already congested project). These additional learning opportunities would ideally be responsive to awardees needs as they arise and could be delivered via multiple platforms.

10. **Strengthen peer learning and knowledge transfer mechanisms:** Peer learning opportunities were sought by awardees and would appear especially useful when CPE expertise is not routinely available. Peer learning could be facilitated by several means, although an online forum set up for this purpose did not appear to be that effective in the current scheme possibly due to the lack of a moderator. Given the aim for CPE seed fund recipients to assume a CPE 'champion' role, then any support that would allow them to be more effective in this role would also make sense.

Outcome Measurement

11. **If project implementation periods continue to be relatively short, then consider reducing the M&E expectations on awardees:** A short-term implementation period means the opportunities for robust outcome measurement are limited. Beyond ensuring reliable counts of community and public engagement and (where relevant) effective documentation of co-created materials, the inclusion of additional indicators may pose a further burden for relatively minimal reward.

12. **If the project implementation periods are extended, then provide more intensive and continuous M&E support to awardees and stipulate greater adherence to any programme-level outcome framework:** Longer implementation periods provide greater opportunity for reliable and meaningful outcome measurement which should be exploited in full. However, given the limited M&E experience of current awardees, intensive and continuous support should be provided. If

available, this support should be drawn from M&E expertise available in participating consortia or institutions. If unavailable, external support may need to be provided.

13. **Encourage greater use of qualitative outcome indicators:** CPE outcomes are inherently difficult to measure via quantitative means. Future awardees should be encouraged to use qualitative measures which can be easier to implement (if well designed) either in isolation (especially on shorter-term projects) or in combination with quantitative measures.

14. **Employ and adapt the outcome framework already developed:** The domains and indicators included in the current outcome framework proved to be broadly applicable to a wide array of CPE projects. Thus, even though it was not widely or successfully implemented in practice, it remains a useful starting point. As noted in earlier recommendations above, if the framework is applied in future iterations, then awardees will require more intensive and continuous support to ensure better adherence and the greater use of qualitative indicators should be encouraged.

Annex 1: CPE Project Summaries

Round One: CPE (13 awards)

1. **Mental health community engagement for people living with HIV**
   Target audience: Persons living with HIV and their support networks
   Primary aim/s: Engaging persons living with HIV and their support networks in participatory methods that empower them with knowledge of such conditions and to be able to utilise such knowledge or outputs from research to improve their health or treatment outcomes.
   Country: Zimbabwe
   DELTAS consortium: AMARI

2. **A novel scalable public engagement tool: taking KEMRI-Wellcome Trust Research virtual laboratory to young children aged 10-14 years using immersive technology**
   Target audience: Children aged 10-14 years
   Primary aim/s: To increase the appreciation of science and research in society.
   Country: Kenya
   DELTAS consortium: IDeAL

3. **Science to Society: Raising future leaders**
   Target audience: High school students
   Primary aim/s: Expose high school pupils in otherwise neglected rural communities to the importance of infectious disease research and promote scientific research as a viable career path.
   Country: South Africa
   DELTAS consortium: SANTHE

4. **Harnessing Adolescence Advocacy to End Tuberculosis in Botswana**
   Target audience: HIV-infected Adolescents
   Primary aim/s: To share the awardee's PhD research (that focuses on understanding the predictors of incident TB in HIV-infected patients) with adolescents in a relatable and interactive manner and to inspire high school students to pursue scientific careers.
   Country: Botswana
   DELTAS consortium: SANTHE

5. **Science-based conversation, knowledge, and skill transfer to students in selected secondary schools in Western Kenya**
   Target audience: High school Students
   Primary aim/s: Motivate and inspire students to pursue a career in science and to communicate science.
   Country: Kenya
   DELTAS consortium: THRIVE-2

6. **#HepB0: Silent No More**
   Target audience: 18-40 year olds
   Primary aim/s: To share knowledge about HBV transmission, prevention, pathogenesis, treatment, and research to students in an interactive manner and to produce a poster for use in healthcare facilities to provide HBV awareness to the public.
   Country: Botswana
   DELTAS consortium: SANTHE

7. **A public engagement initiative involving training on antimicrobial resistance and infection prevention among primary school students in Kampala District, Uganda, "Power over Bugs Project"**
   Target audience: 10-14 year olds
   Primary aim/s: Train, engage and interact with primary school pupils in selected primary schools in the topics of infection prevention and control and hand washing practices.
   Country: Uganda
   DELTAS consortium: MUII Plus

8. **Sickle cell disease - the patient's perspective**
   Target audience: Children of all age groups living with sickle cell disease
   Primary aim/s: Share the experiences of families living with sickle cell disease through the development of a comic book.
   Country: Kenya
   DELTAS consortium: IDeAL

9. **Rural Community Partnership: A Collaborative Initiative to Empower Communities for Primary Health Care Oversight**
   Target audience: Community members, health workers, members of health facility governance committees, grassroots officials, and leaders at village and ward levels.
   Primary aim/s: To empower rural communities to play an effective oversight role in terms of ensuring accountable use of available financial resources and delivery of primary health care.
   Country: Tanzania
   DELTAS consortium: CARTA+

10. **Gown and Town: Synergy for Enhanced Societal Impact**
    Target audience: Adolescents aged 10 to 19 years old
    Primary aim/s: Foster an improved understanding of the importance of senior secondary school retention, elicit possible factors promoting or hindering secondary school enrolment (and retention), and provide a forum for wider community dialogue among selected stakeholders around this key research finding.
    Country: Nigeria
    DELTAS consortium: CARTA+

11. **Process Evaluation of community-based mass dog vaccination strategies in the Mara Region of Tanzania.**
    Target audience: Mara Region of Tanzania community
    Primary aim/s: Empower communities with awareness of dog behaviour and handling techniques both at home and vaccination points to: i) reduce incidence of dog bites in the first place; ii) foster stronger bonding between people and their dogs; iii) ease dog catching and holding for treatment at home and vaccination points; iv) foster prioritizing of rabies as a disease of public health concern by communities and their collaborative efforts with the veterinary system towards organizing mass dog vaccinations; and v) improve dog-owner participation in mass dog vaccination campaigns.
    Country: Tanzania
    DELTAS consortium: Afrique One ASPIRE

12. **Community Engagement for Social Inclusion in Substance Abuse and HIV in Mufakose, Harare, Zimbabwe**
    Target audience: Young adults dually afflicted with substance use disorders and HIV

Primary aim/s: Raise awareness, generate insight, and start a critical conversation around fighting stigma and promoting social inclusion in HIV and substance abuse.
Country: Zimbabwe
DELTAS consortium: AMARI

13. **Epidemiology of streptomycin induced ototoxicity in Ibadan**
Target audience: Patient groups, healthcare workers and wider public
Primary aim/s: Increase the awareness about hearing loss secondary to aminoglycosides ototoxicity.
Country: Nigeria
DELTAS consortium: CARTA+

Round Two: Gender Equity in Research (7 awards)

14. **Scientific culture development in teenagers from Bouna**
Target audience: High school pupils, parents, the local and the international actors of education.
Primary aim/s: Create awareness among parents, opinion leaders, young girls, mothers, etc. about female participation in higher education.
Country: Côte d'Ivoire
DELTAS consortium: DELGEME

15. **Promoting science and health research awareness among university students in Kenya with a focus on second- and third-year undergraduate students from four universities**
Target audience: University Students
Primary aim/s: Create awareness and raise an interest in science and research amongst university students.
Country: Kenya
DELTAS consortium: IDeAL

16. **Awareness and sensitization of Maternal Mental Health issues among Zimbabwean men**
Target audience: Male participants, community gatekeepers, traditional leaders and church leaders
Primary aim/s: Increased male involvement in maternal mental health thereby improving help/health seeking behaviours. Increased availability of maternal mental health information
Country: Zimbabwe
DELTAS consortium: AMARI

17. **Creating a powerpack of super scientists: reframing gender narratives to empower female scientists**
Target audience: SANTHE and wider DELTAS scientific communities and local high schools.
Primary aim/s: To increase awareness of and reframe problematic narratives that contribute to gender inequity in science.
Country: South Africa
DELTAS consortium: SANTHE

18. **Dialogues in the wilderness: camels, science and the girl child**
Target audience: Secondary school students and members of the general population in the school catchment area.

Primary aim/s: to determine the role of socio-cultural factors on gender distribution profile, gender performance and progression in formal education among school going students of Laisamis Secondary School (LSS) in Laisamis, Marsabit County, northern Kenya.
Country: Kenya
DELTAS consortium: THRIVE-2.

19. **A Mentorship program to address socio-cultural barriers on gender disparity in the science field**
Target audience: Universities, Colleges, Polytechnics and Secondary.
Primary aim/s: To address socio-cultural barriers that affect the progress of women and girls in science careers in Malawi.
Country: Malawi
DELTAS consortium: SACCAB

20. **Africa DISCUSS**
Target audience: University students, lectures, policy makers and legislators
Primary aim/s: Bringing to fore bullying, discrimination and harassments of girls and women resulting directly or indirectly in under-representation and slow progression of women in science and senior scientific career positions.
Country: Nigeria
DELTAS consortium: CARTA+

Round Three: Covid-19 Infodemic (5 awards)

21. **Living with COVID-19 in Côte d'Ivoire: engaging communities and the public on One Health**
Target audience: General Population
Primary aim/s: Provide a platform for scientists and policy makers to discuss Covid-19 and related concerns enabling the community to reach a consensus on how to stay safe and maintain their livelihoods.
Country: Côte d'Ivoire
DELTAS consortium: Afrique-One ASPIRE

22. **A Public engagement strategy to interrupt SARS-CoV-2 transmission in markets located in Kampala City, Uganda**
Target audience: Market vendors and customers
Primary aim/s: Minimize SAR-COV-2 infections in markets located in Kampala, Uganda.
Country: Uganda
DELTAS consortium: MUII Plus

23. **Public Engagement in Zimbabwe during COVID-19 through a mental health radio drama programme**
Target audience: General public, researchers, policy makers and health professionals
Primary aim/s: Provide a platform for the general public to contribute in coming up with solutions to improve their mental health during COVID-19, inform researchers on lived experiences, provide a platform for policy makers to understand the experiences of the public and how policy can contribute to better mental health outcomes and provide an informed approach in responding to the mental health needs of the general public.
Country: Zimbabwe
DELTAS consortium: AMARI

24. **COVID-19: Where art and science meet**
   Target audience: General Population
   Primary aim/s: To understand the interplay with HIV and between COVID-19 and *Mycobacterium tuberculosis (Mtb)*.
   Country: South Africa (although artists invited to participate from across Africa)
   DELTAS consortium: SANTHE

25. **COVID-19: The public as partners at the COVID-19 battlefront**
   Target audience: General Population
   Primary aim/s: Use radio and virtual spaces to drive conversations around COVID-19 research particularly the development of vaccines and unpack the processes and efforts involved.
   Country: Kenya
   DELTAS consortium: IDeAL.

Annex 2: CPE Seed Fund Outcomes Framework

M&E Domain	Indicator	Project-Level Variants	Target	Achieved[1]	Data Source	Collected By	Cohort
Participant Attitudes	%/No. of participants with improved attitudes in CPE focal area	Changed understanding and attitudes toward social inclusion of the affected	20%	NR	Survey	Awardee	1
		Percentage change in attitude towards social inclusion, stigma and discrimination of those afflicted by both substance use disorders and HIV	80%	NR	Pre- & post-survey	Awardee	1
		Improved attitudes of school owners towards supporting structures that promote senior secondary school retention	30%	78%	Pre- & post-survey	Awardee	1
		Percentage increase in interest to pursue science related careers	10%	6%	Pre- & post-survey	Awardee	1
		Number of students who indicate appreciation of science and research	20	NR	Pre- & post-survey	Awardee	1
		Percentage who indicate they will participate in future research	75%	75%	Pre- & post-survey	Awardee	1
		Percentage increase in the number of students registering an increased interest in pursuing science	10%	NR	Pre- & post-survey	Awardee	1
		Number of students considering STEM as career option	20	NR	Activity reports	Awardee	1
		Percentage of students showing interest in participating in research	50%	100%	Pre- & post-survey	Awardee	1
		Percentage change in stakeholders involved in TB awareness activities among adolescents	9%	35%	Pre- & post-survey	Awardee	1
		Percentage increase in the number of girls wishing to pursue scientific studies	25%	55%	Student post-test report	Awardee	2
		Change in parent's perception towards encouraging their daughters to pursue scientific studies	25%	90%	Parent's post-test report	Awardee	2

		Increased interest among female post-graduate scientist in career progression	80%	50%	Survey	Awardee	2
		Percentage of female students showing an interest in taking up science (health research) careers after campus	60%	NR	Pre- & post-survey	Awardee	2
		Increased interest in understanding science	NR	NR	Post participation surveys	Awardee	3
		Percent reporting strong interest in participating in scientific public engagement activities	50%	94%	post participation surveys	Awardee	3
		Percent reporting strong interest in participating in community and public engagement activities in the future	50%	90%	post participation surveys	Awardee	3
		Percent reporting enjoyment in participating in the CPE activity	80%	95%	Project documents	Awardee	3
		Improved perception towards COVID 19	75%	93%	Project document	Awardee	3
	Qualitative evidence of improved participant attitudes in focal CPE area	Evidence of improved attitudes of school owners towards supporting structures that promote senior secondary school retention	NA	NR	In-depth interviews transcripts	Awardee	1
		NA	NA	NA	Interviews with awardees	LSTM/APHRC	1,2,3
Participant Knowledge	%/No. of participants with improved knowledge in CPE focal area	Percentage increase in awareness and knowledge on the problems of substance abuse and HIV in the community	10%	NR	Survey	Awardee	1
		Number of Students expressing knowledge of VR and Augmented Reality	20	19	Activity reports	Awardee	1
		Percentage increase in the understanding of the importance of adherence segregated by (30%,50%,70%)	70%	56%	Pre- & post-survey	Awardee	1
		Percentage increase in awareness of science related careers	50%	30%	Pre- & post-survey	Awardee	1
		Percentage increase in the understanding of HIV infection commodities and risk factors	50%	49%	Pre- & post-survey	Awardee	1

		Percentage of PLWH aware about mental health	100%	157%	Pre- & post-survey	Awardee	1
		Percentage change in the reported knowledge levels by PLHIV and their support networks in mental health	100%	19%	Pre- & post-survey	Awardee	1
		Percentage of PLWH knowledgeable in mental health	100%	NR	Pre- & post-survey	Awardee	1
		Change in knowledge scores between questionnaires administered before and after watching video resource	10%	10%	Pre- & post-survey	Awardee	1
		Improved knowledge of the stakeholder groups about enablers and barriers to secondary school enrolment	70%	78%	Pre- & post-survey	Awardee	1
		Proportion of household individuals who obtained good scores (>70%) on knowledge of dog behaviour and handling techniques	30%	NR	Activity reports	Awardee	1
		Proportion of household individuals who obtained good scores (>70%) on knowledge of dog ownership practices	35%	NR	Activity reports	Awardee	1
		Percentage increase in the understanding of TB immunology and pathogenesis segregated by (30%,50%,70%)	70%	70%	Pre- & post-survey	Awardee	1
		Percentage increase in awareness and knowledge on social inclusion, stigma and discrimination of those afflicted by both substance use disorders and living with HIV	10%	NR	Survey	Awardee	1
		Percentage increase in adolescents aware of issues around TB/HIV in the Community	10%	10%	Pre- & post-survey	Awardee	1
		Number of students knowledgeable about the career choice they desire and their goals	500	402	Survey	Awardee	1
		Number of students able to design science-based projects with minimum supervision	500	39	Survey	Awardee	1
		Percentage of community members who feel they have improved capacity to demand and enforce accountability for resources and service delivery	25%	69%	Activity reports	Awardee	1

		Percentage of university students with an increase in knowledge and awareness on gender equity in science and health research	100%	NR	Pre- & post-survey	Awardee	2
		Increased awareness on antenatal depression among men who participated in the community dialogues	20%	NR	Survey	Awardee	2
		Increased awareness on mental health during COVID-19	10,000	NR	Radio Station listenership statistics	Awardee	3
		Increased key messages relayed to families regularly	1000	NR	Activity reports	Awardee	3
		Number of success stories/shared on main fears and understanding of the pandemic etc.	1	NR	Activity reports	Awardee	3
	Qualitative evidence of improved participant knowledge in focal CPE area	NA	NA	NA	Interviews with awardees	LSTM/APHRC	1,2,3
Participant Behaviour	%/No. of participants with an observed behaviour change in CPE focal area	% Reduction of perceived social stigma towards those dually afflicted with substance use disorders and HIV among participants	10%	NR	Survey	Awardee	1
		Percentage increase in adoption of proper hand washing practices	80%	NR	Pre- & post-survey	Awardee	1
		Percentage decline in diseases related to poor handwashing practices among the students	10%	NR	Pre- & post-survey	Awardee	1
		Percentage increase in ease of consent process at the sickle cell disease clinic	90%	NR	Pre- & post-survey	Awardee	1
		Percentage increase in access to age friendly means of conveying information about sickle cell disease to affected patients	90%	NR	Pre- & post-survey	Awardee	1
		Increased enrolment of girls in high school education in Laisamis	20%	NR	School register	Awardee	2
		Reduced drop-out caused by socio-cultural factors	2%	NR	School register	Awardee	2

		Increased enrolment of girls from pastoralist community	5%	NR	School register	Awardee	2
		Parents are more proactive in discussing girl's education with others in the community	50%	NR	Meeting notes	Awardee	2
		Percentage reduction in the number of reported cases of bullying, intimidation and harassment in the University of Ibadan	5%	NR	Activity reports	Awardee	2
	Qualitative evidence of participant behaviour change in CPE focal area	NA	NA	NA	Interviews with awardees	LSTM/APHRC	1,2,3
Engagement	%/No. of participants who actively engage in CPE focal area	Proportion of villagers who participate in mass dog vaccination campaigns	75%	NR	Activity reports	Awardee	1
		Number of village-based leaders involved in organizing vaccination campaigns	25%	NR	Activity reports	Awardee	1
		Number of adolescents willing and able to share experiences with others openly	2	1	Pre- & post-survey	Awardee	1
		Number of planning and decision-making meetings conducted between health facility management teams and facility governance committees.	8	14	HH survey	Awardee	1
		Increased radio show listenership	30	93	Online radio analytics	Awardee	3
		Increased radio listeners engagement	10 calls per radio show	NR	Radio call logs	Awardee	3
		Increased radio listeners engagement	5 responses per show	NR	Social media analytic reports	Awardee	3
		Increased social media reach	1,000,000	NR	Desk research	Awardee	3
		Increased social media engagement	10,000	13300	Desk research	Awardee	3
	Qualitative evidence of participant engagement in CPE focal area	NA	NA	NA	Interviews with awardees	LSTM/APHRC	1,2,3
Co-Creation	%/No. of participants engaged in producing a CPE project output	Percentage of students participating in the compilation of an updated situation analysis	10%	70%	Pre- & post-survey	Awardee	1

		document developed on the status of participants understanding on basic TB					
		Number of people involved in joint message development on COVID-19 IPC (market vendors in Kampala and science researchers.)	Not set	200	Project report	Awardee	3
	No of outputs resulting from CPE focal activity	Number of newspaper articles, new reports and social media posts on social inclusion, stigma and discrimination of youth with HIV and substance abuse in Mufakose	33	34	Desk review	Awardee	1
		Consensus on accountability and service delivery monitoring indicators	5	6	Activity reports	Awardee	1
	Evidence of participant involvement in production of CPE project outputs	Presence of a publication highlighting issues surrounding PLHIV experiencing mental health illnesses	1	1	FGD transcripts	Awardee	1
		Presence of a document on community sourced interventions that address bullying, harassment and intimidation in the University of Ibadan	1	1	Activity reports	Awardee	2
		NA	NA	NA	Interviews with awardees	LSTM/APHRC	1,2,3
	Qualitative evidence of participant involvement in production of CPE project outputs	NA	NA	NA	Interviews with awardees	LSTM/APHRC	1,2,3
Awardee CPE Attitudes	Participants' perceived importance of CPE	NA	25% +	54%	Survey	LSTM/APHRC	1,2,3
	Qualitative evidence of change in perceived importance of CPE, attributable to project experience	NA	NA	NA	Interview	LSTM/APHRC	1,2,3
Awardee CPE Knowledge	Participants' self-reported CPE knowledge	NA	25% +	73%	Survey	LSTM/APHRC	1,2,3

	Qualitative evidence of change in self-reported CPE knowledge, attributable to project experience	NA		NA	NA	Interview	LSTM/APHRC	1,2,3
Awardee CPE Practice	Participants' self-reported CPE proficiency	NA		25% +	60%	Survey	LSTM/APHRC	1,2,3
	Qualitative evidence of change in self-reported CPE proficiency, attributable to project experience	NA		NA	NA	Interview	LSTM/APHRC	1,2,3
Awardee Consortia/Institutional Impact	Qualitative evidence of impact of DELTAS CPE seed fund award on consortia CPE practices	NA		NA	NA	Interview	LSTM/APHRC	1,2,3

1. Result achieved. NR=Not Reported.

Annex 3: Semi-Structured Interview Guide - Awardees

Background Information
- To which DELTAS consortium do you belong?
- Where are you based?
- What is your current position?
- What is your highest qualification?

Pre-Award CPE Knowledge, Attitudes & Experience
- How would you describe your attitude towards CPE – as well as your knowledge or understanding of CPE - prior to applying for the award?
  Probe: key influences on CPE attitudes/knowledge, own attitudes/knowledge relative to peers, exposure to CPE training/mentorship etc
- What applied CPE experience did you have prior to applying for the award?
  Probe: Full range of experience, type of CPE activities conducted, leadership roles, context in which CPE activities completed

Award Application
- Why did you choose to apply for the DELTAS CPE award?
  Probe: specific 'points of appeal', source of information, expectations
- How did you experience the application process?
  Probe: what did the application process consist of, challenges, any support provided (e.g. advice, proof reading etc), timeliness of response, clarity of instructions, level of effort required.

CPE Project Preparation
- What supports were provided to you to assist with your CPE project preparation (prior to implementation)?
  Probe: types of support provided, how accessed, timing of support, who provided them
- How useful did you find these supports?
  Probe: most and least useful, desired supports not provided
- What type of preparation would you advise AAS to provide in future versions of this award?
  Probe: any changes from preparatory support provided to you vs support you think would be most helpful

CPE Project Implementation
- How did you find the experience of implementing your CPE project?
  Probe: consistent with expectations, challenges faced, positives, negatives, level of effort required
- What might you do differently – if anything – if you were to implement a project like this again?
  Probe: preparation, resources, time, staffing
- What additional implementation support – if any – would you advise AAS to provide in future versions of this award?

CPE Project MEL & Reporting
- How did you experience the monitoring, evaluation and reporting requirements of this award?

Probe: expectations, challenges, supports, baseline + follow-up assessment, quality and completeness of M&E data collected, utility and appropriateness of reporting template + requirements

- What additional MEL and reporting support – if any – would you advise AAS to provide in future versions of this award?

CPE Project Outcomes
- What do you consider to be the primary 'outcomes' or 'successes' of your CPE project?
  Probe: expected vs unexpected outcomes/successes, match with expectations, awareness of (future) outcomes/success
- What factors were most important in facilitating these outcomes/successes?
  Probe: approach, resources, support, staff
- Were there any outcomes/successes that you had originally hoped to achieve, but were not able to do so in full or part? If yes, why not?
- Since submitting your 'end of project report', have you had any further involvement with your CPE project? If yes, what?
  Probe: awareness of any outcomes/successes that may not have been included in your report
- In what ways, if any, has the CPE project experience influenced your own CPE knowledge, attitudes or practice?
  Probe: actual or intended CPE applications post-award
- Did the CPE project award live up to your expectations? If no, why not?

Other
- Any other comments you'd like to make re your experience as a CPE project awardee?

Annex 4: Awardees self-reported learning objectives

Do you have a specific learning objective/s, e.g. greater knowledge in a certain area or a skill/s that you would hope to gain from implementing the CPE award?

CPE Implementation
- I am hoping to be able to learn and apply different types of CPE applications
- Greater knowledge in understanding how CPE projects are implemented
- To have a better understanding of CPE, how to implement it, challenges of working in the field (behavior change) and how to navigate through them
- Improved skill in navigating community and public engagement components of my research output
- I will enhance my knowledge of the most cost-effective co-creation and community engagement strategies
- Improved ability to perform CPE

Community Engagement
- Improve prowess in engaging with the youth
- To learn how to effectively engage the community and learn from them in order to conduct research that is informed by the community
- Improved knowledge on how best to engage in research with the community and high school students
- My heart is really at bringing light to the younger generation and allowing them a better future and hence will like to learn of interesting ways of engaging with them
- The ability of engaging the community on research activities that I am part of
- Understanding the motivation behind the actions of the target audience

Communication
- Science communication
- I expect to have developed skills to effectively communicate my research to non-scientific audiences including the lay communities
- Develop my ability to change the perception of a given population facing a problem even if it is illiterate

M&E
- Monitoring and evaluation of CPE projects
- CPE Monitoring and evaluation
- M&E experience
- M&E of CPE activities
- Developing MEL frameworks & drawing a line between communication and MEL

Other
- Improve leadership skill as a junior budding scientist
- Lastly be well informed of the problematic narratives around gender equity in science that are causing women under-representation at higher positions
- CPE reporting systems
- I will be able to document the factors that influence scalability and sustainability of community engaged healthcare and health policy interventions in the context of rural remote communities