Centre for Global Equality

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UN Global Compact
COMMUNICATION ON ENGAGEMENT

Period covered by this Communication on Engagement:
From: August 2018 **To:** July 2020

The Centre for Global Equality (CGE) evolves innovative solutions to global challenges. Bringing together collaborators from civil society, academia, government and business, we mobilise intellectual, financial and social resources and focus these on the interests of the four billion people in the world who live on less than $4 a day.

CGE works directly in the UK, Ethiopia, Kenya and India. Our Cultivator projects and ventures also work in Cameroon, Colombia, Ghana, Madagascar, Sierra Leone, Tanzania and Uganda. CGE's UK activities are run from an Inclusive Innovation Hub in Cambridge, where the Cultivator is housed. To facilitate our collaborations with the University of Cambridge, we are partnering with the Department of Chemical Engineering and Biotechnology to deliver an Inclusive Innovation programme. We also collaborate with University College London, NIAB and the British Antarctic Survey.

To enable effective co-creation with potential end-users we have established Inclusive Innovation partnerships in Ethiopia and Kenya. Our most established partnership is with the Bahir Dar Institute of Technology (BIT), Bahir Dar University, in Ethiopia, where a sister Inclusive Innovation Hub is being established. Research and innovation projects in Ethiopia include the setting up of a makerspace in the BIT Business Incubation and Techno-Entrepreneurship Centre, research collaborations relating to food security, water and energy, and the establishment of an Innovation Communities programme in partnership with the Ethiopian NGO JeCCDO to enable co-creation with grassroots rural communities.

Part I: Statement of Continued Support by the Chief Executive Officer

To our stakeholders,

I am pleased to confirm that the Centre for Global Equality (CGE) reaffirms its support to the United Nations Global Compact, the Sustainable Development Goals (SDGs) and the UN Global Compact Ten Principles in the areas of Human Rights, Labour, Environment and Anti-Corruption. This is our Communication on Engagement with the United Nations Global Compact. We welcome feedback on its contents.

In this Communication on Engagement, we describe the actions that CGE has taken to support the UN Global Compact and its' Principles as suggested for an organisation like ours.

Yours sincerely,

Dr Lara Allen
CEO
Centre for Global Equality

Part II: Description of Actions & Measurement outcomes

CGE's particular contribution is to provide an enabling environment for the evolution of innovative approaches to enhance the lives of the 4 billion people who live on less than $4 a day. The term 'innovation' is broadly understood to encapsulate all forms of academic research, as well as the technological advances of products and services progressed by companies.

The tables below describe how CGE's actions relate to the Un Global Compact Ten Principals and how CGE has integrated the Ten Principles into our programmes. By forming partnerships based on mutual aims to advance UN Global Compact principals, we encourage local companies, academic researchers and civil society organisations to work sustainably and collaboratively.

Please note: due to the fact that the newly established programmes are in the early stages, most results are in the output as opposed to the outcome phase.

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CGE's partnership projects with UN Global Compact Participants	
Description of Actions	**Measurement Outcomes**
The previously established Technology for Development (T4D) Hub was evolved into the Global Goals Innovation Cultivator.	a) Supported by UN Global Compact participant Arm. b) A mechanism by CGE and Arm to introduce the UN Global Compact network to Cambridge.
The CGE Global Goal Innovation Cultivator provides support for innovative ideas from problem definition to implementation to assessment of impact, providing longer, more cyclical support than traditional incubators and accelerators.	a) The CGE Cultivator is part-funded by UN Global Compact participant Arm.
In collaboration with Team Arm, CGE presented a series of Missing Maps workshops through the period in Cambridge, and remotely for the Team Arm Champions Conference in Kerala, India.	Through the Team Arm Skills-Based Volunteering programme, CGE matched Arm volunteers with Cultivator ventures WaterScope, open-seneca, eCO-SENSE and Farming Data

CGE's collaboration with, and support of, initiatives and work streams that support the UN Global Compact Network & the UN Global Compact Ten Principals	
Description of Actions	**Measurement Outcomes**
CGE's activities take place in four programmes associated with different stages in the Inclusive Innovation process: building communities of practice; convening for ideation, capacity-sharing and co-creation; developing Inclusive Innovation through collaborative projects and programmes; and cultivating projects and ventures to develop and deliver inclusive innovations.	
Building Communities of Practice The foundation of all successful inclusive innovation is a strong community of practice. During the 2019-2020 year CGE undertook a range of activities to enable networking, convene project teams, and establish and curate ongoing institutional collaborations. Our most important institutional collaboration, however, is with the University of Cambridge. Enacting CGE's strategic shift from network-building to inclusive innovation, in October 2019 CGE's CEO Dr Lara Allen stood down as Director of Implementation and Impact for Cambridge Global Challenges, the University of Cambridge's Strategic Research Initiative for the UN Sustainable Development Goals. From August 2019 going forward, CGE's primary institutional affiliation with the University of Cambridge was through the Department of Chemical Engineering and Biotechnology (CEB), where Dr Allen leads an Inclusive Innovation Programme. Although based in one Department, this programme provides an entry point for people from across the University to take part in inclusive innovation activities. CEB provides CGE staff with University Visitor status, desk and meeting space in the Department, and a cost centre for inclusive innovation activities. Dr Allen serves on the Steering Committee of the EPSRC Centre for Doctorial Training in Sensor Technologies for a Healthy and Sustainable Future (Sensor CDT). She also lectures on inclusive innovation for the Sensor CDT. During this year she set the CDT's annual Team Challenge – to develop sensor systems to test for soil carbon and soil moisture in the field – and facilitated a collaboration with a South African consortium of environmental NGOs. The team became SoliCamb, and a sub-set of this group subsequently joined the Cultivator to explore the usability of their soil moisture sensor in developing countries. The Cultivator project open-seneca, which emerged from the Sensor CDT Team challenge the previous year, continues as an active and successful member of the Cultivator. In support of initiatives elsewhere in the University, Dr Allen serves on the Strategic Advisory Group of Cambridge-Africa, the	**Building Communities of Practice Outcomes** CGE staff conducted five visits to Ethiopia, Kenya and India between August 2019 and February 2020 to build international partnerships, plan collaborations and support the delivery of existing projects. Ongoing projects progressed through these visits included TIGR^{2}ESS in India, and the MillNETi and BiT Maker Space projects in Ethiopia. Smaller projects supported by CGE staff during these visits included the Africa Biomaker Challenge Ethiopia Workshop hosted by BiT Maker Space, a Health Makeathon at Nairobi Maker Space, and co-creation visits to Kenya by Cultivator projects Kilifi Recycle and open-seneca. Initiation of future collaborations in Ethiopia included potential projects relating to soil health, gender-sensitive architecture for rural and low-income urban families, ground water monitoring, solar powered irrigation for small holder farmers, and Community Networks to enable rural internet access. In Kenya, partnership building for future collaborations included for projects to enhance value chains for small holder farmers in Kenya through provision of solar-powered refrigerated storage and transport units, and the relationships between health and air pollution in Nairobi. All visits to partner countries planned for March to July 2020 were cancelled due to COVID-19 travel restrictions. In order to facilitate productive co-creation with end users in developing countries CGE is establishing a number of international institutional collaborations. In Kenya our primary collaboration is with the University of Nairobi, particularly Nairobi Maker Space in the University's Science and Technology Park. CGE's most established and productive international institutional partnership is, however, with the Bahir Dar Institute of Technology (BiT), Bahir Dar University (BDU), in Ethiopia, where a sister Inclusive Innovation programme is being established.

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Steering Committees of the Synthetic Biology and Cambridge Global Challenges Strategic Research Initiatives, and the Global Health Teaching Review Group. She also interacts regularly with the Global Food Security and Energy Interdisciplinary Research Centres, the Centre for Science and Policy (CSaP), the Centre for Sustainable Development and the Nano Doctoral Training Centre.

Convening for Ideation, Capacity-sharing and Co-creation

Challenge-led Ideation: CGE works with its global civil society network to identify challenges faced by low-resource communities in developing countries and facilitates events and programmes for individuals and groups interested in collaborating to evolve innovative responses to challenges faced in such communities.

Viable solutions evolved are supported through CGE's Cultivator programme.

Opportunity-led Ideation: In collaboration with Cambridge i-Teams, CGE continued to run the Development i-Teams programme, which investigates the potential of new science and emerging technologies to impact positively on the lives of under-resourced communities in low- and middle-income countries.

The tenth and eleventh Development i-Teams programmes were run in October-November 2019 and May-June 2020, drawing on technologies from Chemical Engineering and Biotechnology, Physics, Chemistry and Engineering. Three of the projects were associated with Cultivator ventures (WaterScope, SoliCamb and open-seneca), and two with research projects in which CGE is a collaborating organisation (CirPlas and Passive Thermal).

Co-creation:

Productive co-creation with end users in developing countries is key to CGE's Inclusive Innovation approach. Our institutional collaborations with partners in Kenya and Ethiopia have provided a firm basis for projects and programmes focused on international co-creation.

In Ethiopia two ecosystem-building collaborations between CGE and BiT-BDU provide a basis for effective co-creation between researchers and innovators in Cambridge and Bahir Dar. The Innovation Communities programme was established by CGE in partnership with the Ethiopian NGO Jerusalem Children and Community Development Organization (JeCCDO) to enable co-creation with rural communities. The programme is co-funded by three research consortium projects (MillNETi, Passive Thermal and APSISSFE) in which CGE leads workstreams on co-design with end-user agricultural communities.

Significant projects (discussed further below) include the establishment of a makerspace in the BiT Business Incubation and Techno-Entrepreneurship Centre, research collaborations relating to food security, water and energy, and the establishment of an Innovation Communities programme with rural communities outside Bahir Dar.

Convening for Ideation, Capacity-sharing and Co-creation Outcomes

In 2019-2020 several ideation programmes were cancelled due to COVID-19. However, CGE did facilitate the Global Challenges Pods module for the Borysiewicz Biomedical Sciences and Canada-UK Postdoctoral Fellowship Programmes run by the University of Cambridge Office of Post-Doctoral Affairs (OPDA). The postdoctoral fellows developed two projects: a collaboration with students at the University of Nairobi to investigate the health impacts of polluted air in Nairobi; and a collaboration with researchers in Sarawak to co-create a research framework for natural-based drug discovery for pain management to address the opioid crisis. CGE also facilitated a small grants scheme for the Cambridge Creative Circular Plastics Centre (CirPlas) to address contemporary challenges from the manufacturing of more sustainable materials to driving innovations in plastic recycling. One small grant team went on to collaborate with Cultivator project Kilifi Recycle and with a team at BiT Maker Space in Ethiopia.

Over the two Development i-Teams programmes 42 participants spent more than 1500 hours on the following six projects:

- Investigating the benefits of monitoring the moisture profile of agricultural land in the developing world;
- Diagnosing urinary tract infections with a low-cost microscope;
- Investigating the global pathways for plastic recycling to understand where a new recycling process would add most value;
- Identifying the market needs in Africa and beyond for a new antiviral agent capable of disinfecting flexible and rigid surfaces;
- Investigating the requirements for air quality monitoring in the developing world;
- Finding the best developing world applications for an innovative, low cost, solar-powered water pump and pasteuriser.

Co-creation Outcomes:

Ongoing project collaborations with teams working from Nairobi Maker Space, University of Nairobi Science and Technology Park, include: open-seneca's co-creation of air quality sensors appropriate for the Nairobi context; peer learning between the Nairobi and BiT Maker Spaces on designing and delivering Human Centred Design makeathons; an OPDA post-doctoral fellows research capacity building project on air quality and health in Nairobi; and the OVSI collaboration, particularly the Oxygen Concentrator module.

The establishment of BiT Maker Space is already proving effective in attracting further co-creation projects. These include the three-way collaboration between Cambridge, BiT and Twenti Maker Space in Malawi on the digital fabrication of PPE described below, and two collaborations

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	between CGE Cultivator projects and teams at BiT Maker Space: SoliCamb is planning to co-design a soil moisture sensor appropriate for small holder farmers in Ethiopia; and Kilifi Recycle is planning exchange techniques with a team of BiT students to recycle plastic into building materials. The latter two projects were postponed due to COVID-19 travel restrictions.
Developing Inclusive Innovation through Collaborative Projects and Programmes Increasingly CGE is included as a partner organisation in consortium research projects and programmes. The most significant of these collaborations during the 2019-2020 year were as follows. *TIGR^{2}ESS* (Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies) is a five-year UK Research and Innovation (UKRI) Global Challenges Research Fund (GCRF) research consortium programme led by Prof Howard Griffiths from the Cambridge Global Food Security Interdisciplinary Research Centre (IRC). *TIGR^{2}ESS* aims to define the requirements and set the policy agenda for a 'second Green Revolution' in India, framed by demographic changes affecting rural communities and feminisation of smallholder farming systems. CGE's role is to support co-creation and inclusive innovation, and to facilitate connections between TIGR^{2}ESS and MillNETi with a particular focus on enhancing rural livelihoods. *MillNETi* (Millets and Nutritional Enhancement Traits for Iron bioavailability) is a two-year Biotechnology and Biological Sciences Research Council (BBSRC) GCRF research consortium programme on biofortified millets in Ethiopia and The Gambia led by Prof Howard Griffiths from the Cambridge Global Food Security IRC. CGE is leading a Flagship Project on enabling co-creation, knowledge exchange and capability building to enhance impact, coordinating collaboration across the flagship projects in Ethiopia, and running the Innovation Communities programme. *APSISSFE* (Affordable Perovskite Solar Irrigation Systems for Small-holder Farmers in Ethiopia) project is a two-year Engineering and Physical Sciences Research Council (EPSRC) GCRF research consortium project that aims to develop a context-appropriate, solar powered irrigation pump for Ethiopian small-holder farmers. It is led by Dr Sam Stranks, Department of Chemical Engineering and Biotechnology (CEB), University of Cambridge. CGE's role is partnership facilitation with the Ethiopian academic partners and end-user co-design with Ethiopian small-holder farmers as part of the Innovation Communities programme collaboration. *Passive Thermal* (Improving off-grid energy and water access through innovative passive-thermal technologies) is a one-year Innovate UK GCRF project to test whether a novel passive thermal pump would work effectively to provide water for irrigation for Ethiopian small-holder farmers. It is led by Dr Ilan Adler, University College London. CGE's role is partnership facilitation with the Ethiopian academic partners and end-user co-design with Ethiopian small-holder farmers as part of the Innovation Communities programme collaboration. *OVSI* (Open Ventilator System Initiative) is a consortium between researchers, civil society and industry that aims to produce an affordable, context-appropriate oxygen and ventilator system to support the efforts of developing countries to manage the COVID-19 pandemic as well as possible. The system will also contribute	**Developing Inclusive Innovation through Collaborative Projects and Programmes Outcomes** The BiT Maker Space project established a makerspace and co-creation programme at the Bahir Dar Institute of Technology (BiT), Bahir Dar University (BDU), to enable the evolution of technologically focused innovations to stimulate inclusive and sustainable growth in the Amhara Region of Ethiopia. Led and delivered by the Centre for Global Equality, the project was funded by the Bill & Melinda Gates Foundation.

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to post-pandemic efforts to treat endemic respiratory conditions such as childhood pneumonia. The consortium is led by Prof Axel Zeitler, Department of Chemical Engineering and Biotechnology (CEB), University of Cambridge, and part-funded by the University of Cambridge COVID-19 Rapid Response Fund and the Cambridge-Africa Alborada Research Fund COVID-19 Emergency Awards. CGE is leading the engagement with partners in Uganda, Kenya and Ethiopia, and coordinating the oxygen concentrator work stream.

CGE is also a named partner/advisor on the following projects in which we do not play a significant role, participation does not take much staff time, and we are not paid for our contribution. However, we are acknowledged in communications, and participation enhances our impact, extends our influence, and builds our community of practice.

● Monitoring Ethiopian Groundwater with ApRES (MEGwA) aims to enhance understanding of the hydrology of the Lake Tana catchment in the Amhara Region of Ethiopia to support sustainable irrigation for small-holder farmers. Funded by the Cambridge-Africa Alborada Research Fund, MEGwA is a collaboration between the British Antarctic Survey (BAS), Bahir Dar University and the CGE Cultivator project ApRES Groundwater.
● Founded on her post-doctoral research on BiT Maker Space, Dr Lucia Corsini (Institute of Manufacturing, University of Cambridge) led two projects funded through the Cambridge-Africa Alborada Research Fund COVID-19 Emergency Awards programme to produce PPE (face masks and shields) at BiT Maker Space (Ethiopia) and Twenti Maker Space (Malawi).
● CGE's CEO, Dr Lara Allen, served on the external advisory boards for the following research projects: "Capacity building to support innovation for Persons with Disability to access mobility aids in Ethiopia" led by Dr Cheryl Metcalf, University of Southampton; "Detailed Malaria Diagnostics with Intelligent Microscopy" and "Digital Diagnostics for Smarter Healthcare in Africa", both led by Dr Richard Bowman, University of Bath.

Cultivating Projects and Ventures to Develop and Deliver Inclusive Innovations

CGE also continued to provide an enabling environment for inclusive innovation within the Cambridge ecosystem by incubating projects and start-up ventures in the CGE Cultivator.

● *Beneficial Bio* is a network of social enterprises run by biologists that reduces barriers faced by emerging economies in harnessing biotechnology to meet local challenges. By addressing inadequate supply chains and unaffordable reagents, Beneficial Bio helps to accelerate and scale local research, so increasing the agency of more people to shape biotechnology.
● *SoliCamb* is developing a low-cost soil sensing system to increase accessibility to soil health data in order to enhance crop yields and livelihoods in developing and emerging economies.
● *Sparrow* aims to implement supply chain innovation to up-cycle bicycles from 'share bike graveyards' across China for use in East Africa.

Support for projects and ventures in the CGE Cultivator includes bespoke mentorship, enterprise and product development support, opportunities to co-create with innovators, businesses and communities in developing countries to understand needs and markets, an online toolkit providing specialised materials and resources, office and meeting space in central Cambridge, and assistance sourcing grant and investment funding.

Cultivating Projects and Ventures to Develop and Deliver Inclusive Innovations Outcomes

The number of projects and ventures in the Cultivator was capped at twenty for the year. Seventeen groups continued from the previous year (ApRES Groundwater, Blue Tap, Bio Bottle Voltaic, CamNexus, Cortirio, Deploy, eCO-SENSE, Ejoka Foundation, Farming Data, Ideabatic, Kilifi Recycle, Majico, ODEN, open-seneca, The Whistle, VigyanShaala and WaterScope). Two left the Cultivator during the year as projects came to an end and venture teams left Cambridge (Dala, GCConnect), or graduated and became CGE members (Digital Verification Corps). The three new projects and ventures that joined the Cultivator during 2019-2020 were Beneficial Bio, SoliCamb and Sparrow:

Highlights during the year include support of teams conducting field trials in developing countries such as open-seneca and Kilifi Recycle in Kenya, ApRES Groundwater in Ethiopia, eCO-SENSE and WaterScope in India, and Ideabatic in Madagascar. In April 2020 a series of virtual monthly Cultivator Meet-Ups was launched to provide a forum for peer exchange and community building, which was particularly important given the potential for isolation resulting from pandemic lockdowns and other social distancing measures.

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Events coordinated by CGE that support the UN Global Compact Network and the UN Global Compact Ten Principals	
Description of Actions	**Measurement Outcomes**
Capacity-Sharing Events: CGE convened a number of capacity-sharing events during the year. For instance, in collaboration with BiT Maker Space and Biomaker Challenge, CGE co-convened the Ethiopia Biomaker Challenge workshop in Bahir Dar. This was part of the "Biomaker Africa Network", a project led by Prof Jim Haseloff, Synthetic Biology Strategic Research Initiative, University of Cambridge. In collaboration with Team Arm, CGE presented a series of Missing Maps workshops through the year in Cambridge, and remotely for the Team Arm Champions Conference in Kerala, India. Networking events in Cambridge included the CGE Christmas party and the AGM. The CGE University of Cambridge Student Society ran the annual Cambridge International Development Conference at St Johns College. Titled "Rising Tides: Meeting the Challenges of Inequality in the Age of Climate Change", the conference featured speakers from the British Red Cross, Human Rights Watch, Sourcing Justice, the Centre for Global Equality and the University of Cambridge.	**Capacity-Sharing Events Outcomes** Through the Team Arm Skills-Based Volunteering programme CGE matched Arm volunteers with Cultivator ventures WaterScope, open-seneca, eCO-SENSE and Farming Data

How CGE is engaging with companies in UN Global Compact-related issues	
Description of Actions	**Measurement Outcomes**
CGE is collaborating with Cambridge Precision, a specialist precision engineering company, and Cambs Compressors, a specialist compressed air solution provider as part of OVSI.	The collaboration with Cambridge Precision has enabled the rapid manufacture of uniquely designed and engineered parts than would be the case in a commercial market, this has led to the successful design, set up and running of O2 Concentrator test rigs in CEB, Cambridge and BiT Makerspace in Bahir Dar. Similarly, the relationship with Cambs Compressors meant that the OVSI team could engage with a market leading supplier and solve various compressed air challenges, and source the relevant components in a challenging marketplace.
Enhancement of international development practice through CGE's civil society network The University of Cambridge Student Chapter of the Centre for Global Equality ran the annual Cambridge International Development Conference. In collaboration with Humanitarian OpenStreetMap Team (HOT) and UNICEF, CGE facilitated a series of Missing Maps workshops for employees at Arm, as part of CGE's skills -based volunteering programme for Team Arm. CGE continued to contribute to '2030Vision: Technology Partnerships for the Global Goals'. As a 2030Vision Founding Partner, CGE participated in an Innovation Solvathon at the '2018 Grand Challenges Annual Meeting' in Berlin funded by the Bill & Melinda Gates Foundation.	**Enhancement of international development practice through CGE's civil society network outcomes** Titled 'Faces of Equality' the conference took place at Murry Edwards College and was attended by over 100 delegates. There were six keynote speakers, and two panels with three guest panelists on each.
Research for the UN Sustainable Development Goals (SDGs) In order to fulfil CGE's objective of enabling innovative solutions to global challenges, the organisation focused a significant portion of its resources during the 2018 -2019 year on facilitating context-appropriate academic research. ***Facilitating Implementation and Impact for Cambridge Global Challenges*** The CEO of the Centre for Global Equality continued to serve as Director of Implementation and Impact for Cambridge Global Challenges, the University of Cambridge's Strategic Research Initiative for the UN Sustainable Development	**Research for the UN Sustainable Development Goals (SDGs) Outcomes** ***Facilitating Implementation and Impact for Cambridge Global Challenges*** CGE's most substantial contribution during the year was facilitating the Bahir Dar Digital Infrastructure Initiative (BDDII) in collaboration with Bahir Dar University, Cambridge Wireless and the University of

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Goals, which CGE had co-founded in 2017. Apart from contributing to the planning and delivery of Cambridge Global Challenges' programme of activities through her role on the directorate, CGE's CEO also conducted partnership-building visits to Ethiopia, Kenya and South Africa, and supported events such as the first Cambridge Global Challenges Conference and a workshop on nutrition in Low- and Middle-Income Countries run in collaboration with the Cambridge Global Food Security Interdisciplinary Research Centre. ***Participating in Research Projects and Programmes*** The second mechanism through which CGE contributed to research for the UN SDGs was by participating in academic research consortium programmes and by supporting research projects. For instance, CGE is a project partner in TIGR^{2}ESS, a UKRI GCRF research consortium programme led by Professor Howard Griffiths, Co-Chair of the Cambridge Global Food Security Interdisciplinary Research Centre. TIGR^{2}ESS (Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies) aims to define the requirements and set the policy agenda for a 'second Green Revolution' in India, framed by demographic changes affecting rural communities and feminisation of smallholder farming systems. ***Serving in an Advisory Capacity*** The final mechanism through which CGE contributed to research for the UN SDGs was by taking on an advisory role for projects and programmes aiming to increase and deepen their focus on inclusive innovation. **<u>Inclusive Innovation for International Development</u>** Through the 2018-19 year CGE increased and deepened its focus on inclusive innovation, and enhanced programming in four activity areas: challenge-led ideation; technology-led ideation; international co-creation and partnership building; and enabling inclusive innovation ecosystems. ***Technology-led Ideation*** In collaboration with Cambridge i-Teams, CGE continued to run the Development i-Teams programme, which investigates the potential of new science and emerging technologies to impact positively on the lives of under-resourced communities in LMICas. The 8th and 9th ninth Development i-Teams programmes were run in October 2018 and May 2019, drawing on technologies from Economics, Computer Science, Veterinary Medicine, Physics and International Studies.	Cambridge Global Challenges and Trust and Technology Strategic Research Initiatives. BDDII's aim was to design digital infrastructure to prioritise inclusion and equity and advance the wellbeing and economic development of all Bahir Dar residents. This was undertaken through workshops in Cambridge and Bahir Dar. The Cambridge workshop was attended by 56 participants from three UK universities, civil society organisations based in the UK, Spain, Kenya and South Africa, and companies in the Cambridge Cluster. The workshop in Bahir Dar was attended by 55 participants from Bahir Dar University, the Municipal and State Governments, local parastatals, international business and civil society representatives from Ethiopia, the UK, the US, Kenya and South Africa. BDDII was funded by the University of Cambridge Global Challenges Research Fund (GCRF) Global Impact Acceleration Account. ***Serving in an Advisory Capacity*** During the 2018-2019 year the CEO of CGE served on the External Advisory Board of the EPSRC Centre for Doctoral Training in Sensor Technologies and Applications (Sensor CDT), Cambridge-Africa Strategic Advisory Group, the Synthetic Biology Strategic Research Initiative's Steering Committee, and the Global Health Teaching Review Group, University of Cambridge. She also served on the external advisory board of a research project led by Richard Bowman at Bath University that aims to enhance the diagnostics of malaria at the local level using low cost microscopy. Furthermore, CGE informally but actively supported relevant activities undertaken by the British Antarctic Survey and, at the University of Cambridge: the Centre for Science and Policy (CSaP), the Cambridge University Engineering Department Centre for Sustainable Development, CEB, the Energy@Cambridge Interdisciplinary Research Centre, the EPSRC Centre for Doctoral Training in Nanoscience and Nanotechnology, ideaSpace and the PublicHealth @Cambridge Strategic Research Network. **<u>Inclusive Innovation for International Development Outcomes</u>** ***Technology-led Ideation* Outcomes** Over the two programmes 42 participants spent more than 1500 hours on the following six projects: Investigating the need for blockchain technology in developing economies ● Developing antimicrobial ointment and wound dressings for the developing world ● Assessing the viability of a device for improving patient adherence to medication regimes in the developing world ● Using AI to identify new drug candidates for anti-microbials ● How to facilitate financial transactions to developing countries: Identifying the needs of refugees and migrants ● Diagnosing brain injuries at point-of-care: investigating the areas of greatest need in low- and middle-income countries

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International Co-Creation and Partnership Building As strong, trusting partnerships are key to the success of co-creation and research collaborations, CGE made the establishment of such partnerships in a few Low- and Middle-Income Countries one of the strategic objectives of the 2018-2019 year.	***International Co-Creation and Partnership Building Outcomes*** CGE staff therefore undertook eleven visits to Ethiopia, Kenya, South Africa, Ghana and India to strengthen existing relationships and identify future inclusive innovation partners and research collaborators.
Enabling Inclusive Innovation Ecosystems In the 2018-2019 year an important step was taken towards CGE's long term goal of establishing a global network of inclusive innovation programmes by initiating an inclusive innovation partnership in Bahir Dar, Ethiopia. CGE also continued to provide an enabling environment for inclusive innovation within the Cambridge ecosystem by incubating projects and start-up ventures in the CGE Cultivator.	***Enabling Inclusive Innovation Ecosystems Outcomes*** In collaboration with the Bahir Dar Institute of Technology (BiT) and supported by Alexandre L'Heureux (a University of Cambridge Masters student), CGE assessed the opportunities and challenges for inclusive innovation in Bahir Dar. The net number of projects and ventures in the Cultivator rose from 15 to 20 through the year. 10 continued from the previous year (ApRES Groundwater, Blue Tap, Bio Bottle Voltaic, Camnexus, Cortirio, Ideabatic, Majico, ODEN, The Whistle and Waterscope). 5 left the Cultivator during the year as projects came to an end and venture teams left Cambridge or pivoted away from inclusive innovation: 2 projects closed (OpenDiagnostics and MAPI), and 3 ventures graduated (Solarware, Docubricks and Voice for Good). The 10 new projects and ventures that joined the Cultivator during 2018-2019 were the following: ● Dala fosters learning outside the boundaries of classrooms, enabling children to reach minimum proficiency levels in reading by the end of Grade 3 ● Deploy is developing a low cost, mobile diagnostic laboratory that can be deployed quickly during humanitarian emergencies ● Digital Verification Corps Cambridge uses digital verification tools to advance human rights by fact-checking and verifying footage from sites of atrocity crime investigations ● eCO-SENSE aims to enhance food security in developing countries by providing farmers with an ultra low-cost soil sensing kit sustainably powered by a bio photo voltaic cell ● The Ejoka Foundation supports education in the Karamoja, Uganda, by implementing education methods based on rigorous educational and anthropological research ● Farming Data is building an online marketplace to give developing world small-holder farmers real-time local market information and the opportunity to sell at fair, transparent prices ● GCConnect aims to accelerate progress in addressing Global Challenges by connecting problem solvers with community-scale problems ● Kilifi Recycle is co-creating a process of making building materials from waste plastic with a community on the coast of Kenya ● Open-seneca is developing a global, low-cost, mobile air pollution sensor network, driven by citizen science to raise awareness, initiate behaviour change and inform policy ● VigyanShaala is making Science, Technology, Engineering, and Mathematics (STEM) inclusive and accessible in schools across India.