

Section A: Official Development Assistance (ODA) and GCRF strategy

The strategy

1. Summarise the key aspects of your three year **strategy for development related and GCRF research activity**, including:
 - a. Your institution's strategy and priority objectives for all development related research activity funded through all sources for three years from 2018-19.
 - b. A summary of the key aspects of your three year strategic plan for QR GCRF, in light of the criteria and objectives for the GCRF outlined in the guidance.
 - c. How activity funded through QR GCRF fits into your broader strategy and priorities for all development related research activity.
 - d. How activity funded through QR GCRF relates to the UK strategy for the GCRF.¹
 - e. How your development-related and GCRF strategies relate to your wider institutional strategy for using QR.
 - f. Likely key barriers and enablers to implementing your strategy.
 - g. The key activities by which you will realise your objectives, such as capacity and capability building; mono-disciplinary, interdisciplinary and collaborative research; generating impact from research; meeting the full economic cost of GCRF activity funded through other sources; rapid response to emergencies with an urgent research need; and pump priming.
 - h. The main developing countries, included in the Development Assistance Committee (DAC) list, which you intend to collaborate with.

Maximum 3,000 words

Strategy and Priority Objectives

Writtle University College (WUC) has not previously received funding from the Global Challenges Fund. This new funding will be used to support our current research and development work with our longstanding partnerships with researchers and agencies involved in development work overseas. Several successful research projects have been conducted by researchers from a number of developing countries working either in collaboration or under the supervision of academic staff employed by WUC. These projects have generated many direct benefits and impacts on the livelihoods of people on Development Assistance Committee (DAC) countries list, examples of completed or current projects include:

¹ UK Strategy for the Global Challenges Research Fund,
<http://www.rcuk.ac.uk/funding/gcrf/challenges/>

- Environmental assessment of whole farm system management as a model for sustainable agriculture - target country in Africa tbc (PhD Project Commencing 2018/19)
- Environmental and socio-economic condition analysis in small farming communities in high risk landscapes - Cameroon (PhD Project Commencing 2018/19)
- Conservation of orchids in Malaysia by developing a nature-based design model for the sustainable production of native Borneo orchids – Malaysia (PhD Project, in progress)
- Investigation of institutional innovations to reduce transaction costs and risks between smallholder farmers and traders in rural markets - Ghana (PhD Project, in progress)
- Implementation of medical marijuana farming - Jamaica (PhD Project, in progress)
- Effect of impact and vibration on quality and extent of damage in strawberries - Thailand (Completed 2016).
- Urban green spaces: bridging cultural, ecological and political planning gaps to make the city of Colombo a leading 'Greener-City' - Sri Lanka (Completed 2016).
- Comparative evaluation of the effects of whole essential oils and their active constituent compounds on metabolism of fats and fermentation characteristics of rumen microbes - Nigeria (Completed 2016)
- The use of hot water treatment by small holders for the control of *Alternaria alternata*, the cause of black mould disease of tomato - Nigeria (Completed 2015)
- Effect of dietary n-3 PUFA on lipid composition and characteristics of semen and tissue of rams – Libya (Completed 2013)
- The effect of temperature and carbon dioxide on the postharvest life of cut roses – Botswana, completed 2011
- Characteristics and mechanisms of *in vitro* induced variation in landraces of East African highland bananas – Tanzania (Completed 2007)
- Effects of postharvest treatments on the physiology, electrical impedance and quality of mango fruit (*Mangifera Indica Linn.*) – Tanzania (Completed 1999)

It is evident from the examples cited above WUC has a sound track-record of conducting applied research that directly benefits the livelihoods of people from developing countries. It is therefore aim to continue to initiate and develop new partnerships with stakeholders in developing countries, as well as to nurture and support our existing links such as those cited above. Based on our historic involvement in development-related work and our current capabilities, we have identified six themes where WUC can make contributions to global challenges through development related research activity. Our future priority objectives for the next 3 years are:

1. Ecosystem management, biodiversity, land use and environmental sustainability.
2. Post-harvest loss and supply chain management in horticultural/agricultural produce.
3. Innovations in livestock nutrition and production practices and technologies.
4. Addressing animal welfare issues in livestock reared for food and work.
5. Wildlife conservation and animal reserve management
6. Capacity building to develop systematic review skills in academics, practitioners and policy makers in DAC List countries to enhance livelihoods and food production practice.

The areas listed above are indicative and not exhaustive; they have been identified based past development-related activity conducted by WUC academics. WUC intends to use the allocated QR GCRF funding to support any of the six areas listed above.

How the 3 year strategic plan for QR GCRF meets criteria and objectives for the GCRF

The themes listed above are all focussed on key problems faced by developing countries. For example, issues associated with environmental degradation, worsening global warming and rapidly growing world population all have disproportionately negative impacts on sustainable land use and food security in developing countries. The post-harvest losses of farm produce and barriers in agricultural supply chains are recognised major problems to food security in developing countries. Animal welfare and respect for animal freedoms is a significant concern in developing countries where it is hardly recognised. Hence, the development of knowledge, awareness and capacity for implementing and meeting appropriate health and welfare standards is crucial for sustainable livestock farming and for access to markets in developed countries. Feeding livestock with precision is the basis for achieving high and sustained livestock productivity and the development of technologies and practices to improve animal nutrition is fundamental in developing countries.

WUC has a good record of success doing research in these areas. For example, our Centre for Economics and Ecosystem Management (www.centreforeconomics.org) has done some ground-breaking research in the field of ecosystem management, biodiversity, land use and environmental sustainability. In the relation to livestock nutrition and production, animal welfare and wildlife conservation we have expertise based in our Centre for Equine and Animal Science (<http://writtle.ac.uk/CEQAS-Staff>). In the past WUC has supported numerous researchers from a number of Developing Countries (e.g. Botswana, Tanzania, Ghana, Nigeria, Thailand, Malawi, Zimbabwe, Swaziland, Sri Lanka, Libya, Uganda, Kenya etc. through our PhD training programmes. Recently, one of our academics has completed work on the medical marijuana farming in Jamaica which received high profile coverage in the media and publications in high impact journals.

How activity funded through QR GCRF fits into our broader strategy and priorities for all development related research activity

The ambition and vision as set out in the Writtle University College Strategic Vision are to be “Nationally acclaimed and internationally recognised as a distinctive University College in our specialist fields”. As an institution Writtle aspires to be acclaimed for the quality of both its teaching and research. It also aims to, develop third stream income, build sustainable partnerships and to create opportunities through research and consultancy. WUC participated in the Research Excellence Framework (REF) in 2014 and intends build on this by taking part in the next REF in 2021. WUC’s institutional Research Strategy 2015-2020 has a several objectives that are clearly aligned and enhanced by our active participation in QR GCRF funded research opportunities. As outlined above, WUC has trained and worked with a number of researchers from DAC countries, and these links DAC list country researchers, sets a firm foundation on which to build future QR GCRF projects. WUC aims to support and enhance existing areas of research excellence in its staff; and also to identify and develop emerging interdisciplinary areas of research both nationally and internationally. WUC also aims develop enduring collaborative research partnerships as a mechanism to increase both the quality and range of the research outputs it produces by affiliating with other academic institutions,

industry partners and other relevant organisations. These aspirations are clearly aligned with QR GCRF funded research objectives.

Likely key barriers and enablers to implementing our strategy.

The likely key barriers for WUC would be funding constraints mainly due to size of institutional allocation of the GCRF of £2195.00 per year. The relatively small size of the allocation places significant limits on what is feasible to achieve. Inevitably, an allocation of this magnitude will predominantly limit our activities to low cost research engagements such as capacity building focussing on training and skills development. Technical exchanges where staff can travel to institutes in developing countries to train local researchers, practitioners and policy makers are possible within this budget. The other challenge would be academic staff time in light of their other contractual commitments. The other challenge could be the identification of collaborators (researchers, policy makers and practitioners) in developing countries to work with.

The limitations imposed by our small institutional allocation could be alleviated by applying for other funds from alternative sources to enhance our engagement with research overseas in developing countries. The other enablers for overcoming the barriers include the identification of mentors within the institution with good track-records of working overseas in developing countries to assist less experienced colleagues in the identification of collaborators. Embracing peer support and team approach to research would also be important to our success. Also, institutional adoption of protected “research time” and changes to how research is recognised through the performance development review (PDR) process would also positively enhance our success.

The key activities by which we will realise our objectives

As outlined above, WUC will initially focus on predominantly low cost activities to achieve its objectives, such as capacity and capability building and/or pump priming of promising research projects. In terms of capacity building WUC researchers will travel to universities and/or research institutes in DAC countries to conduct training workshops in areas such as Evidence-Based Practice and MARISCO training (<https://www.marisco.training/>). MARISCO represents a toolbox and an approach to adaptive ecosystem-based management which was developed in collaboration with researchers from Writtle University College. MARISCO was designed to ensure that the impact of climate change is taken into account in the strategic management of given sites, an area of research which is of significant importance in developing countries. Pump priming of projects will also be done as means of topping-up some of the research costs (e.g. travel for consultation, questionnaire forms, data collection, fieldwork, analytical costs for test materials, laboratory supplies movable equipment etc.) for projects conducted at WUC in collaboration with researchers from DAC countries who are conducting research that is compliant with GCRF requirements.

The main developing countries, included in the Development Assistance Committee (DAC) list, which you intend to collaborate with.

Writtle University College has longstanding ties several researchers and organisations in a number of lower and middle income countries on the DAC list. The countries which will be considered for collaboration include: Borneo, Cameroon, Costa Rica, Ethiopia, Ghana, Iraq, Jamaica, Kenya, Lesotho,

Malawi, Malaysia, Namibia, Nigeria, Pakistan, South Africa, Sri Lanka, Swaziland, Tanzania, Thailand, Uganda, Ukraine, Uzbekistan, Zambia, Zimbabwe.

2. Provide details of the main intended **outcomes and impacts** of your strategy.

Maximum 500 words

Our research will engage a number of stakeholders from DAC countries such as local NGOs, charitable organisations, communities, academics, private and public sectors and policy makers with an interest in the research areas identified.

The types of benefits envisaged include high quality research papers jointly authored with academics and policy makers in the participating DAC countries. We will conduct knowledge transfer workshops and training sessions to develop the capacity of local academics e.g. in areas of training such as evidence-based research techniques. We will also disseminate some of our GCRF funded work at forums such as scientific conferences. For example, some of our current work on the implementation of medical marijuana in Jamaica has recently been published in 2017 in the International Journal of Drug Policy, a highly rated journal. This work is already being widely cited, to influence and inform policy changes in this area.

Our past work on the reduction of post-harvest losses in horticultural produce has already produced demonstrate impacts, for example 8 PhD graduates from DAC List countries such as Nigeria, Tanzania, Thailand and Ghana have returned to their home countries to lecture in Universities and to implement some of their findings. An increase in support and training of PhD graduates from DAC countries continues to be an essential part of our institutional strategy.

One of our new and key emerging areas is the training of staff in the area of evidence based practice, particularly in methods and skills for conducting meta-analysis and systematic reviews. Using some of the QR GCRF allocated funds to allow WUC staff to travel to train academics at Universities in DAC List countries would have significant impact. The use of systematic reviews is an emerging science whose impact could be significant in developing countries where resources and facilities for conduction empirical research are limited. The advantage of tools such as meta-analysis and systematic reviews is they are a low-cost which makes them more amenable for adoption.

Opportunities to be able to evaluate the extent of animal welfare issues in domestic livestock reared used for food and work in DA C countries is an important area. Improving the recognition and awareness of animal welfare problems in DAC countries is of great importance because it is viewed as a low priority in many countries. WUC staff have worked in the past with organisations such as SPANA to offer training in countries such as Ethiopia in an effort to increase capacity among academics to pursue these kinds of research.

Management of GCRF

3. How will your HEI **monitor** and **evaluate** its progress and compliance in ODA and GCRF activity, including assessing geographical distribution of activity, outputs, outcomes and economic and social impacts?

Please describe the policies, procedures and approach you have in place to measure progress, evaluate outcomes, identify lessons learned, and ensure ODA compliance.

Maximum 1,500 words

The Writtle University College Research Committee will act as the key committee for managing any QR GCRF funded research work and activities. The Research Committee will be responsible for coordinating all institutional activity and advising Academic Board on all matters relating GCRF funding in-line with our Research Strategy. The Research Committee will identify priority research areas for the University College to promote after evaluating likelihood of success and compliance GCRF guidelines. The Research Committee will prepare guidelines and forms for use by internal (WUC) applicants wishing to apply for our allocation of £2195.00 of the GCRF funding. The Committee will evaluate submitted projects based on the acceptable use of the funds in line with the UK GCRF Strategy. The Research Committee will prioritise those areas that have the strongest pathways to impact and where there is the strongest demonstrable expertise to deliver maximum benefits to the global poor.

All investigators wishing to apply for funding will be required by the Research Committee to provide information such as:

- *Title of project*
- *Details of principal investigators and their DAC country collaborators*
- *Total funding requested from GCRF allocation*
- *Project details (start date, duration and location)*
- *Global challenges area(s) being targeted*
- *ODA countries targeted by the research*
- *General outline of the project with planned dates for some key measurable milestones in reaching intended targets/objectives (500 words)*
- *Outline of the economic development or well-beings areas to be promoted (500 words)*
- *Declaration of any other funding sources (e.g. grant support, cash or in-kind contributions) – amounts and sources required.*
- *Details of current collaborators (names, organisations etc. as applicable).*
- *Any other relevant information on the project, such as fit with institutional priorities, REF 2021 potential case study etc.*

On completion of the project, investigators will be required to provide a report outlining expenditure, key findings and impacts of the work to the Research Committee to allow the committee to evaluate outcomes, identify lessons learned and ensure ODA compliance.

Section B: Use of QR GCRF 2018-19 allocation and future QR GCRF priorities

4. Please complete the table in Annex A2 detailing the expected spending and activities for QR GCRF in the academic year 2018-19. Note that the total QR GCRF spending must equal the indicative allocation (available in Annex C), and all activities must be ODA-compliant for strategies to be assessed as ODA-compliant overall.

5. Please add here any explanatory notes on how you have completed the table in Annex A2 that will help inform assessment of ODA compliance.

Maximum 200 words

6. How would your **priorities and activities** for 2018-19 QR GCRF change if the funding level differs from that outlined in indicative allocations? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

Maximum 500 words

In light of the low level of funding allocated to Writtle University College of £2195 in 2018-19 QR GCRF, our priorities are unlikely to change but the scale and scope of planned activities will be changed accordingly in response to changes in funding allocated.

7. Based on indicative funding allocations, what are your **priorities** for QR GCRF activity in 2019-20? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

Maximum 1,000 words

Same as above

8. Based on indicative funding allocations, what are your **priorities** for QR GCRF activity in 2020-21? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

Maximum 1,000 words

Same as above