Guidance for Invited Applicants

Science for Humanitarian Emergencies and Resilience (SHEAR)

To support improved disaster resilience and humanitarian response by advancing monitoring, assessment and prediction of natural hazards and risks across Sub-Saharan Africa and South Asia, and through working with users, bringing this into use to reduce the impacts of disasters.

2015 Research Consortia Grants – Full proposals.

Critical Deadlines:
Full Proposals to be submitted by 7th January (4pm) UK Local Time (GMT / / UTC)

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Summary

The Science for Humanitarian Emergencies and Resilience (SHEAR) Programme is funded by the UK's Department for International Development (DFID) and Natural Environment Research Council (NERC). SHEAR is an international Programme which will fund world-leading interdisciplinary research to improve understanding and monitoring of disaster risk and generate more reliable prediction across South Asia and Sub-Saharan Africa. It has four main scientific objectives:

- Improving risk assessment and prediction of drought and flooding across Sub-Saharan Africa.
- Enhancing multi-hazard risk assessment and monitoring across South Asia, with a focus on the interaction of 'cascading' hazards such as landslides.
- Strengthening understanding of the underlying drivers of risk toward more integrated, multi-hazard risk monitoring and warning systems.
- Getting the right information, to the right people in the right ways – research to enhance the uptake and use of risk information in practice.

As well as delivering world-leading interdisciplinary research, SHEAR will work with users to co-produce demand-led, people-centred science and solutions to build resilience and ensure better preparation for natural hazards. The real-world application of these will be demonstrated through pilot studies co-designed with users. It is recognised that there is a considerable body of existing data, knowledge and technologies which can be harnessed to improve risk assessment, preparedness and resilience. Therefore a third aspect to SHEAR is knowledge translation to develop and apply this existing information.

This call for SHEAR Research Consortia Grants provides an opportunity for the world's best researchers to undertake large-scale, complex and interdisciplinary research targeted at improving knowledge and providing tools to support decision making and reduce the impacts of natural disasters in Sub-Saharan Africa and South Asia.

Applications are invited for funding of up to £2M Full Economic Cost (100% FEC) per consortium. This call has a total available budget of up to £8M. Projects will be funded for a maximum duration of four years with an expected start date of June 2016.

Projects will be selected through a two stage process. This document describes the second stage of the process: submission of Full Proposals. Only invited applicants may submit proposals to this call.

Full Proposals must be submitted via the Joint Electronic Submission (Je-S) system by 16:00 GMT /UTC on 7th January 2016

Abbreviations

AO	Announcement of Opportunity
Co-I	Co-Investigator
CV	Curriculum Vitae/Resume
DFID	Department for International Development
EOI	Expression of Interest
FAQ	Frequently asked questions
FEC	Full Economic Cost FTE
	Full Time Equivalent
GBP	Great British Pound
GMT	Greenwich Mean Time
HEI	Higher Education Institution
Je-S	Joint Electronic Submission
KMC	Knowledge Management and Coordination
LIC	Low-Income Country
LMIC	Lower Middle-Income Country
MIC	Middle-Income Country
NERC	Natural Environment Research Council
NGO	Non-Governmental Organisation
PDRA	Post-Doctoral Research Assistant
PEC	Programme Executive Committee
PI	Principal Investigator
PMU	Programme Management Unit
RC	Research Council RCUK
	Research Councils UK
RO	Research Organisation
RPC	Research Programme Consortia
ROD/S	Research Outputs Database/System
SHEAR	Science for Humanitarian Emergencies and Resilience
TRAC	Transparent Approach to Costing
UMIC	Upper Middle-Income Country
USD	United States Dollar
UTC	Co-ordinated Universal Time

1. Introduction

1.1 Background to the Research Consortium Grants Call

Applicants should be aware that this document only describes the process of submission and review of Full Proposals to the SHEAR 2015 Consortium Grants Call. All information on the SHEAR programme, the SHEAR components, important terminology, the programme objectives, programme vision, themes, and the scope of the call remain the same as in the Announcement of Opportunity for Outline Proposals, and therefore that document should be read in conjunction with this guidance document. Any duplication between the two documents serves to emphasise important requirements.

1.2 Programme Objectives

1.2.1 The goal of the **SHEAR 2015 Research Consortia Grants** Call is to fund large scale (up to £2M FEC), interdisciplinary research and knowledge translation projects to support improved disaster resilience and humanitarian response by advancing monitoring, assessment and prediction of natural hazards and risk across Sub-Saharan Africa and South Asia, and through working with users, bring this into use in reducing the impacts of disasters.

1.2.2 The central objective of SHEAR is to build toward more integrated, multi-hazard and risk-based assessment, monitoring and warning systems. As part of this, it will advance scientific knowledge of the characteristics of natural hazard risks, with a focus on flood and drought risks in Sub-Saharan Africa and cascading hazards such as landslides in South Asia. It will also increase the availability of risk information in these data-scarce regions. Specific scientific objectives include:

- Improving risk assessment and prediction of drought and flooding across Sub-Saharan Africa.
- Enhancing multi-hazard risk assessment and monitoring across South Asia, with a focus on the interaction of 'cascading' hazards such as landslides.
- Strengthening understanding of the underlying drivers of risk toward more integrated, multi-hazard risk monitoring and warning systems.
- Getting the right information, to the right people in the right ways – research to enhance the uptake and use of risk information in practice

1.2.3 For SHEAR, it is equally important that projects deliver development impact as well as world-leading science. As such, the Programme has a significant focus on delivering demand-led science and solutions with demonstrated application and impact in the real-world; including high quality data, knowledge, tools, capacity and products that are co-produced with users and tailored to application in building resilience and better preparing for natural hazards. The box below provides examples of applications of SHEAR science that are of particular interest to the funders. These draw upon the priorities identified in the Sendai Framework for Disaster Risk Reduction.

SHEAR priority areas for bringing science into use

SHEAR aims to provide knowledge, tools and products that will support the goals of the Sendai Framework to substantially reduce disaster risk and losses in lives, livelihoods, assets and health. This solution-centred approach will be critical for all successful proposals under this call. Examples of priority areas of application include:

- Integrating disaster risk information into the planning, development and implementation of land-use policy, critical infrastructure, urban planning, basic services (e.g. health care, education, utilities), rural development planning, housing (building codes and standards), social safety nets, environmental and natural resource management, fiscal and financial instruments, sustainable use of ecosystems, business resilience and protection of lives and livelihoods.
- Use of disaster risk information in preparedness and contingency policies, plans and programmes and within humanitarian response, recovery, rehabilitation and reconstruction, including supporting programmes to "build back better". This includes simple, low-cost, scalable early warning systems.

Disaster risk information here refers to risk assessment, monitoring and prediction, so includes early warning systems.

Applications will involve relevant institutions, sectors and stakeholders through a co-production approach, particularly as part of the pilot studies. SHEAR aims to generate products and services that are tailored to the needs of users, including social and cultural requirements, particularly gender.

1.2.4 In this call, applications are invited for funding of up to £2M (100% FEC). A total budget of up to £8M is available. Final projects will be funded for a maximum duration of 4 years, with a required start date of June 2016. In administration of the grants, standard NERC terms and conditions, with call specific exceptions, will apply.

1.3 Detailed scope of the call for SHEAR 2015 Research Consortia Grants

1.3.1 SHEAR will seek to achieve the aims of the Programme through structuring research around two main themes:

- World-leading research into hydrological controls on landslide hazard in South Asia as part of multi-hazard risk assessment and toward warning systems
- Enhancing flood and drought risk-based monitoring and warning systems in Sub-Saharan Africa; including better understanding the complex drivers of risk, modelling the social and economic impacts of floods and droughts, and assessing the reliability of medium to long-range forecasts for use in warning systems.

As well as one or more of the cross-cutting themes:

- Monitoring of vulnerability and risk using novel sources of data, e.g. satellite monitoring, social media, socioeconomic data, big data and others.
- Economics, behavioural and social science research on the communication and use of risk information in disaster resilience, preparedness and response

- Improving the reliability of forecasts and their application in multi-hazard early warning systems.

This research is complemented by activities focused on the application of this knowledge in decision making including the generation of new knowledge, products and tools for practitioners in local communities and humanitarian and development organisations. Such activities will be focused on one or more pilot studies where products will be co-developed, tested and refined in practice with users, and their potential impact demonstrated and evaluated in a real decision making context. There is a considerable body of existing data, knowledge and technologies which can be harnessed to improve monitoring, risk assessment and prediction. It is expected that proposals will include a significant element of adaptation and translation of existing data, information and technologies to support decision makers in preparing for and reducing the risk of natural disasters.

All research consortia <u>must address each of these three main components (i.e. main theme, cross-cutting theme and pilot study) as well as articulate how the utilisation of existing data, knowledge and technologies will contribute to the project's o utcomes</u>. Each of these is described in detail below.

1.3.2 Main themes. Details of the two main themes of SHEAR are outlined below. Individual research consortia should focus their proposals on one of these themes. SHEAR expects to fund both themes with successful projects expected to work together with the KMC (Knowledge Management and Coordination) unit in delivering the broader objectives of the programme.

Theme 1: Hydrological controls on landslide risk as part of a multi hazard risk assessment and toward warning systems

Recent science and technological developments offer new opportunities to overcome long-lived barriers in characterising and mitigating landslide hazards and provide relevant risk focused information to communities and managers. Research building upon these, into sub-seasonal and seasonal prediction, remote sensing, new datasets for model development, hind-casting, model validation and the development of science-based approaches to up-scaling and down-scaling will improve:

- Spatial, temporal and intensity forecasting of weather event sequences which influence slope stability in landslide prone regions, including convective storms and other high-intensity rainfall events.
- Integration of current meteorological, hydrological, hydro-geological and slope stability models for more accurate forecasting.
- Creation of hazard baseline inventories, e.g. through interpretation of multi-temporal stacks of remote sensing images, coupled with field surveys.
- Characterization of the hydrological preconditioning of landslides and contribution to mechanical processes such as progressive failure at sub-seasonal to seasonal time scales.
- Forecasting of the maximum spatial extent of landslides at landscape[1] scales across different neo-tectonic, geomorphic and human interaction settings, to provide relevant information to communities and managers.
- Scenario-based characterisation of cascading hazard events[2] associated with landslides, including evaluation of potential synergies arising from multiple triggers[3].
- Probabilistic decision making frameworks for landslide forecasting, through design of coupled model frameworks that incorporate evaluation of uncertainty.
- Multi-scale assessment of hydro-meteorological triggers, response event signatures and

1 Between 10m and 10km.
2 For instance generation of debris flows and downstream flooding, or flooding following valley blockage.
3 For instance from earthquakes (e.g. combined with hydro-geologically significant weather events).

slope conditions, exploiting recent advances, for instance in remote sensing.

Theme 2: Enhancing flood and drought risk-based monitoring and warning systems in Sub-Saharan Africa

Many areas of Sub-Saharan Africa have at best moderately effective or in many cases, ineffective flood and drought risk assessment, monitoring and warning systems. This theme aims to improve the availability of risk information for flood and drought preparedness and resilience in Sub-Saharan Africa and build toward more risk-based, integrated and multi-hazard monitoring and warning systems through conducting world-leading scientific research in the following types of areas:

- Improving understanding of the complex underlying drivers of risk and how these interact; hydro-meteorological but also social and economic (e.g. food prices, conflict and fragility, poverty, gender etc.).
- Innovative methods for probabilistic risk assessment, for example the use of weather forecast ensembles and hindcasts to generate databases of possible events and probabilities.
- Harnessing innovations in flood risk modelling for data scarce areas.
- Enhancing modelling of the social and economic impacts of floods and droughts in Sub-Saharan Africa at different timescales, from household-level poverty and health to macro impacts on economic development.
- Assessing the reliability of forecasts at different lead-times (seamless forecasting) for use in disaster preparedness and response; both from a statistical perspective but also a socioeconomic perspective.
- Evaluating the application of sub-seasonal to seasonal prediction of high-impact weather for informing preparedness and early response to humanitarian emergencies (e.g. planning humanitarian interventions, forecast-based financing, and insurance).
- Building toward multi-hazard and risk-based monitoring and warning systems.

1.3.3 Cross-cutting themes

These cross-cutting themes connect the landslide focused research in Theme 1 with research into new applications of flood and drought risk assessment modelling in Africa as part of multi-hazard risk assessment in Theme 2[4]. Each research consortia should address <u>one or more</u> of these crossing-cutting themes:

a: Monitoring of vulnerability and risk; including:

- Development of systems to periodically assess risk (including automated systems) to provide a more dynamic view of risk.
- Improving understanding of the underlying drivers of risk over different timescales and multiple dimensions of risk (e.g. economic loss, mortality, morbidity, impacts on physical, social, cultural and environmental assets and services, differential gender impacts, macroeconomic and poverty impacts).
- Application of novel sources of data to monitor risk in real-time (or near real-time), including remote sensing, social media information and communications technologies (ICT) and big data.

4 This will explore the use of new technologies and data sources to improve the assessment of drought and flood risk in data scarce environments like sub-Saharan Africa. Examples of inputs include big data, new satellite missions (including nanosatellites) and new computational advancements in flood modelling [Linking to cross-cutting theme a]. It will also conduct research to explore how innovations in operational flood forecasting systems developed for Europe can be applied in developing countries. [Linking to cross-cutting theme b].

- Use of big data analytics to combine different sources of data to improve the assessment of societal vulnerability to hazards and risk.
- Evaluating the utility of traditional, indigenous and local knowledge.

b: Economics, behavioural and social science research on the communication and use of risk information in disaster resilience, preparedness and response

- Political economy, behavioural and social factors that affect the uptake and use of risk information and predictions in disaster preparedness, resilience and response (including institutions, governance, accountability, trans-boundary and conflict issues, legitimacy, sustainability).
- Development and applications of methods to evaluate what works in the delivery, dissemination and communication of risk information to create insight and behavioural change, including robust comparisons of different approaches like serious games, visualisations etc.
- Developing and evaluating the use of information and communications technologies to enhance dissemination of risk information and warnings.
- Use of novel methods, such as social media and big data, to monitor the uptake and use of risk information and how it influences decisions related to disaster preparedness and resilience.
- Ethnography/behavioural science analysis of how people interpret and act upon risk information and predictions in developing countries and how this is affected by different modes of communication and presentation, in particular the role of uncertainties. Dependence on social economic status and risk aversion.
- Assessing if and how co-production of risk information affects uptake and the contribution of indigenous knowledge.
- Evaluating early warning systems and emergency communications mechanisms with a view to strengthening sustainable, scalable systems.

c: Improving the reliability of forecasts and their application in multi-hazard early warning systems; including:

- Evaluate and enhance the prediction of hydro-meteorological characteristics most relevant to landslide and flood preconditioning, such as convective storms and high-intensity rainfall, and changing patterns of runoff / infiltration in a changing climate, with focus on medium to long-range forecasting.
- Apply new methods and tools in forecasting for the first time to landslide and floods, including drawing upon the valuable new hindcast data available from the WCRP 'Sub-seasonal and Seasonal Prediction Project' to generate predictions using 'preconditioned' slope stability and water cycle models and verify against observations.
- Understanding systematic errors and biases in forecasts, particularly in the sub-seasonal to seasonal forecast range, and comparing, verifying and testing multi-model combinations from these forecasts and quantifying their uncertainty
- Investigating the potential sources of increased predictability at sub-seasonal timescales through improved representation of the Madden-Julian oscillation, land surface and stratosphere-troposphere interactions.
- Evaluating the benefits of downscaling for seasonal forecasting of high-impact hazards. Integrating meteorological and non-meteorological data to create risk forward outlooks, for example integrating information on food prices, vulnerability projections etc. Understanding the main sources of uncertainty.

1.3.4 Targeted pilot studies.

At least one pilot study will be conducted by each research consortia. The pilot studies have several purposes:

- Enable better understanding of user needs and the information required by decision-makers and how research can meet these
- Put research into practice through the co-development, testing, and refinement (and co-implementation) of tools and products with user communities
- Demonstrate the use of knowledge and products in a real decision making context, and evaluation of its potential impact
- Build capacity and capability in the user community through the process, including raising general awareness of risks, developing specific knowledge and providing training in the interpretation and use of products and services developed by the programme.

The pilot studies should be targeted at a specific user group and decision making application; for example: use of a refined drought early warning system in disaster preparedness at local government and community levels in country X; application of real-time risk monitoring in international humanitarian response; use of flood risk assessment in urban planning in city Z; application of landslide risk assessment and warnings in disaster response in county Y. The pilot studies should draw upon and inform the research under components 1 and 2. Pilots should be selected where there is potential to demonstrate real development impact.

It is expected that the pilot studies will be delivered through a co-production/co-exploration process with users. Active stakeholder engagement will be critical to the success of these pilots. Stakeholders may include all levels of government (domestic and international), civil society, NGOs, communities and/or the private sector. Intermediaries, such as NGOs, may play an important role here in achieving the right engagement and impact.

There will be a degree of flexibility in the approach that projects take to this activity – it is recognized that they may evolve as the research progresses and stakeholder networks are strengthened. The consortia should retain flexibility here to learn what works and evolve the pilot to deliver the maximum impact.

1.3.5 Knowledge Translation

There is a considerable body of existing data, models, knowledge and technologies which can be harnessed to improve risk assessment and increase preparedness and resilience to natural hazards. However this valuable resource is often not readily accessible, is not in a form to enable it to be readily used, or requires further development or fusion with other (e.g. local) knowledge. Proposals are expected to incorporate an element knowledge translation to develop and apply this existing information.

1.3.6 Supporting Capacity Development and Knowledge Sharing

Proposals are expected to support capacity development of all partners and particularly those from low and lower middle-income countries across sub-Saharan Africa and South Asia. Within the project, consortia are expected to (i) develop meaningful research partnerships with/between researchers in low and lower-middle income countries across sub-Saharan Africa and South Asia and demonstrate strong leadership of Africa/Asia-based institutions in the development of the project, and (ii) deliver specific knowledge sharing activities (to be proposed by the consortia) such as secondments, fellowships, workshops, ‘cross-discipline hops’ and/or scientist exchanges.

Consortia will also be expected to contribute to and participate in cross-programme knowledge sharing activities and will be expected to collaborate with the KMC Unit on cross-programme outputs.

1.4 Outputs of SHEAR 2015 Research Consortia grants

1.4.1 Proposals submitted to the SHEAR 2015 Call will identify approaches to contribute to achieving the following outputs:

- Improved understanding of risk across Sub-Saharan Africa and South Asia, communicated through peer-reviewed academic papers, briefings and stakeholder engagement.
- Greater reliability of sub-seasonal to seasonal forecasts of drought and flood risk across Sub-Saharan Africa.
- More accurate and detailed multi-hazard risk maps and monitoring systems for Sub-Saharan Africa and South Asia, including regional disaster risk assessment and mapping
- Strengthened systems to monitor and predict changing risk from natural hazards to enable earlier interventions.
- New tools and products, co-developed with users, which put research into practice and have demonstrable benefits for users.
- Case studies (drawn from the pilot studies) which demonstrate impact on user communities.
- Operational systems for monitoring and predicting risk at demonstration stage.
- Increased availability and accessibility of non-sensitive information related to hazard, vulnerability, exposure and risk.
- Increased and innovative use of information and communications technologies, big data to enhance the measurement, collection, analysis and dissemination of data.
- The right knowledge and tools delivered to the right people in the right ways, based upon new world-leading research and utilizing relevant existing data, knowledge and technologies.

1.5 Required approach

1.5.1 Projects are expected to be focused on, or applicable to, landslide risk in South Asia or flood and drought risk in sub-Saharan Africa. Research will normally be conducted in one or more low or low-middle income country and such proposals may be prioritised above those conducting research in other countries in the assessment process. Where research is conducted in a middle-income country, research proposals will need to demonstrate how the results have the potential to benefit people in one or more low-income country and describe what projects will do to ensure that this happens. Justification of why the proposed research activities could not be implemented in a low income country should also be provided.

1.5.2 The aims of SHEAR will require interdisciplinary teams of researchers working with users to deliver. Proposals should set out the roles that team members will play and identify their disciplinary and/or interdisciplinary experience and how they will contribute to delivering the research. Proposals should lay out their framework for ensuring interdisciplinary working. They should also show evidence of the end-to-end nature of their research and state how this approach will be integrated into the project.

1.5.3 Putting research into use is a key output of SHEAR. In order to maximise impact, the research programme will need to be designed to inform real-world decisions. This will require identification of and engagement with sectors that are involved in the use of risk assessment and prediction in their decision-making. Sectors could include (but are not limited to): humanitarian; water; health; amenity; insurance. It should therefore be informed by the evolving policy and delivery agendas. SHEAR expects to see sustained user engagement and a co-production/co-exploration approach to the research – users should have a role in defining the research questions and make a commitment to working as part of the consortia to ensure the research pulls through into use through the utilisation of co-production processes. SHEAR expects the development of new knowledge, tools and products which, through the pilot studies, have demonstrable benefits for users.

1.5.4 Projects are expected to demonstrate how relevant existing data, knowledge, tools and technologies will be utilised and developed in combination with new research to achieve the aims of SHEAR.

1.5.5 SHEAR expects to see activities related to capacity development and international knowledge sharing within consortia, such as scientific exchange visits, fellowships, secondments or 'Discipline hop' visits.

1.5.6 SHEAR will be a strongly integrated Programme and the expectation is that PIs of funded projects will work together, with NERC, DFID and the KMC Unit as required. This includes participating in cross-Programme activities. Applicants should incorporate some flexibility into their application budget in order to carry out these cross programme integration activities including, for example, joint workshops and science meetings.

1.6 Summary

SHEAR 2015 Consortium grants applications must:

- include clear hypotheses and objectives that determine the design of the project;
- include clear rationale for the methods proposed;
- bring together developing and developed country scientists and clearly outline how these partnerships will be formed;
- include elements that cover one of the two main themes, at least one cross-cutting theme and at least one pilot study;
- take an interdisciplinary approach, bringing in, where relevant, experts in the natural and social sciences (and beyond);
- demonstrate an understanding of the issues facing decision-makers and how the project will have impact on these real-world decisions
- take a co-production/co-exploration approach to engaging users and outline how sustained user engagements will be achieved throughout the project.
- demonstrate where existing data, knowledge, tools and technologies can be harnessed to meet the project goals.

2. Focus and Geographic Scope of this Call

2.1 Focus of the Research and its Location

2.1.1 SHEAR's research should contribute knowledge and evidence to enhance the resilience of sub Saharan African and South Asian people to natural hazards.

2.1.2 It is a requirement for funding that SHEAR 2015 Research Consortia Grants demonstrate how the results of proposed research will have pathways to impact that can improve the lives of poor people in low and lower middle-income countries, even if research covers one or more upper middle-income country (see Annex 1 for definitions).

2.2 Where can research be conducted?

2.2.1 SHEAR projects are expected to have a clear and significant role for African and Asian researchers and/or institutions. This should represent meaningful engagement which supports capacity development for all partners.

2.2.2 It is not essential for any project teams to include researchers or research institutions based in the United Kingdom or any other developed countries.

2.2.3 There are no other restrictions on where researchers are located or their nationality. Similarly, there are no geographic restrictions on where research institutions are based, as long as they meet the administrative eligibility requirements for funding (for further information or to check your eligibility, please contact the SHEAR Secretariat directly at SHEAR@nerc.ac.uk or see Sections 4-5.)

2.2.4 SHEAR actively encourages collaboration between academic and non-academic organisations and/or community groups and the active involvement of African/Asian stakeholders in the design and implementation of projects.

3. Organisation Eligibility

3.1 Overview

3.1.1 To apply for the SHEAR Research Consortia Grants, Research Organisations must be registered as users of the Research Councils' Joint Electronic Submission system (full details of the system are available at: https://je-s.rcuk.ac.uk/Jes2WebLoginSite/login.aspx) and have had their costing methodology validated.

3.1.2 SHEAR will fund UK and non-UK organisations where these are found to be eligible. Participation of low-income country (LIC) researchers is strongly encouraged.

3.1.3 Most UK higher education institutions and some other independent UK research organisations are already eligible to apply for, and hold, UK Research Council grants. Details on which UK organisations are currently eligible for research council funding is available on the RCUK website.

3.1.4 Non-UK organisations (and other UK organisations not currently eligible[5] to receive Research Council funding) that are interested in applying will only be eligible to directly receive SHEAR funding (i.e. be named as PI) if they satisfy all of the following conditions:

(1) The organisation must be a legal entity.

(2) The organisation must meet the accountability and audit requirements of the SHEAR funders. This requires your organisation to provide, on request, full documentation to give assurance of the:

- Institutional governance and accountability structures;
- Audit and accountability procedures;
- Sources of core funding and other funding.
- CGIAR Research Centres are eligible to apply, but must follow the funding conditions set out in Section 4.1.7.

3.1.5 **Organisations that do not meet these requirements may not act as the lead organisation** (i.e. as a PI) and will not directly receive funds from the awarding body. However, they may be named as a Co-I, Project Partner or sub-contractor organisation (and receive funds through the lead organisation) — that is, they can serve as one of the SHEAR Grant institutions, but not be the lead institution on an application. All organisations that are to receive funds through SHEAR (i.e. SHEAR Grant Institutions) must meet minimum financial and management due diligence criteria. Further information will be provided in due course.

[5] Research Organisations normally ineligible to receive funding from the UK Research Councils (RC) may be eligible under this call for proposals. Note that funding for these organisations will come from DFID and not the Research Councils. These organisations will not be eligible for any other RC funding, unless specifically stated by an individual Council.

4. Research Roles and Eligibility

4.1 Overview

4.1.1 All research applicants must ensure that they accurately define their roles within the grant so that there is no confusion at later stages of the process.

4.1.2 With the exception of project partners and 'staff' such as researchers and technicians, individuals may be named on a **maximum of two** SHEAR 2015 Research Consortia Grants submitted, and may be named as a **lead Principal Investigator (PI) on only one**. The total time commitment across the applications with which they are involved should not exceed 100%. If individuals are named on more than two submitted proposals then additional proposals will be rejected, which may be to the detriment of both the individual and projects concerned.

4.2 Role Descriptions and Eligibility

4.2.1 Full information on individual eligibility and role descriptions can be found under Section C (pages 14 to 19) of the NERC Grants Handbook.

5. Including Associated Studentships on a Proposals

5.1 Overview

5.1.1 Associated studentships (either Masters or PhD studentships) cannot be funded from SHEAR grants.

6. Demonstrating the Pathway to Impact

6.1 Overview

6.1.1 SHEAR's projects are expected to deliver *both* academic impact (for example research papers, significant new data and understanding) and a pathway to significant and sustainable development impact in order to address a central goal of NERC and DFID; excellence with impact.

6.1.2 Development impact from SHEAR projects will be measured by the way the research is directly relevant to, and able to demonstrate likely contributions to, the specific outcomes and impact described below, with the ultimate goal of supporting the goals and targets of the Sendai Framework for Disaster Risk Reduction.

6.2 Outcomes of SHEAR 2015 Research Consortia Grants

6.2.1 Proposals submitted to the SHEAR 2015 Research Consortia Grants Call will identify approaches to achieve the following outcomes for sub Saharan Africa and Asia:

- Decision makers using new risk data and tools to inform disaster resilience and preparedness
- Integration of more reliable risk monitoring and prediction into decision making
- Catalysing earlier and more effective action to respond to imminent natural hazards, and greater and more effective investment in disaster resilience and preparedness

6.3 Impacts of SHEAR Research Consortia Grants

6.3.1 Proposals submitted to SHEAR 2015 Consortia Grants Call should contribute to the following impacts through strengthening the availability and use of disaster information: **contributing to saving lives and reducing the impact of natural hazards on livelihoods, poverty levels and economic development**. By better understanding risk and anticipating hazards, governments, communities and individuals can make more informed and effective decisions.

6.4 Defining a Pathways to Impact Strategy

6.4.1 An acceptable Pathway to Impact is required before a grant may start. A clearly articulated demand for the proposed research is expected. The Pathways to Impact strategy is expected to identify target beneficiaries from the proposed research over different timescales, how they will benefit and what actions will be taken within the project to increase the likelihood of the research reaching the identified beneficiaries and maximise the likelihood of the identified benefits being achieved. This should include reference to the specific objectives and outputs of SHEAR.

6.4.2 An acceptable Pathway to Impact will:

- be project-specific and problem-specific and not generalised;
- be outcome-driven;
- identify and actively engage the key relevant research end-users and stakeholders at appropriate stages;
- demonstrate a clear understanding of the project-relevant needs of end-users and consider ways for the proposed research to meet these needs;

- contain evidence of existing engagement with relevant end users, for example via letters of support or supporting statements;
- detail the planning and management of associated activities including timing, personnel, budget, deliverables and feasibility.

6.4.3 It is expected that the pilot study (section 1.3.4) will constitute a key, but not the only, aspect of a project's Pathways to Impact strategy.

6.4.4 DFID and NERC have several resources available to support the development of Pathways to Impact including:

- DFID Research Uptake Guidance.
- NERC Pathways to Impact policy and guidance.
- RCUK Pathways to Impact guidance.

6.4.5 The requirement to demonstrate the potential for impact will extend to all projects commissioned under the SHEAR Programme, including the Consortium Grants, against three key areas: academic impact, development impact and capacity development impact. Proposals should consider including a Research Uptake Manager with appropriate expertise and experience to oversee the development and implementation of the Pathways to Impact strategy during the course of the project.

Academic Impact

6.4.6 Successful applicants will be required to demonstrate how their team(s) of researchers intends to deliver academic impact from their research. All projects are required to demonstrate their potential to produce research that can be published in high-profile international peer-reviewed academic journals. Publications should be published in open access format.

6.4.7 In addition to peer-reviewed publications, it is expected that projects will also deliver academic impact through the generation of new high-quality datasets as well as new tools, approaches and methods (including models). All new data should be placed in the public domain, including where possible being deposited in one of the UK Research Council data centres.

Development Impact

6.4.8 We expect Projects to deliver development impact both through their own activities (with targeted scope in terms of sectors, regions and decision makers) and through contributions to cross-Programme activities (with broader scope) that will be co- ordinated by the KMC Unit (including, for example, wider stakeholder workshops, user training and cross-Programme publications and data products).

6.4.9 Effective engagement with potential users of SHEAR outputs will be an important factor contributing to the subsequent development impact pathways of all SHEAR projects. SHEAR encourages a co-production/co-exploration approach, particularly as part of the pilot studies. This may require projects to work with a range of knowledge intermediaries, NGOs and government departments and agencies, as well as communities and other stakeholders.

6.4.10 Consideration should also be given to how the findings of the research can be made available more broadly to interested parties.

6.4.11 The KMC Unit will be available to provide advice and support to the projects in terms of sharing their expertise in research impact and stakeholder networks during the project. However, this is not a replacement for Consortia's own Pathway to Impact.

Capacity Development Impact

6.4.12 The Consortia are expected to contribute to capacity development of all partners. Proposals should lay out the strategy for capacity development and allocate appropriate time and resources, including the following types of activities:

- Specific professional development activities targeting early career researchers, particularly those from low and lower middle-income countries in sub-Saharan Africa and Asia, such as secondments, mentoring, 'cross-discipline hops' and/or scientist exchanges.
- International knowledge sharing activities for all partners, such as workshops, secondments and/or scientist exchanges.
- Contributions to cross-Programme activities, such as workshops.

6.4.13 Applicants will be expected to detail their plans for achieving impact in the Pathways to Impact statement as part of a Full Proposal.

7. Summary of the Full Proposal Application Process

7.1 Overview

7.1.1 The SHEAR 2015 Research Consortia Grants will provide funding of up to £2M for a maximum duration of 4 years. It is a requirement of funding that projects start in June 2016. This budget limit refers to the total (100%) financial costs incurred to undertake the project (including overheads and any NERC facility costs). This is known as the Full Economic Cost (FEC).

7.1.2 The application process for funding of SHEAR 2015 Research Consortia Grants involves two distinct stages, which are designed to support potential applicants to develop excellent proposals relevant to the call. Submission of Consortium Grant Outline Proposals, now concluded, constituted the first stage of the process. The second stage of the process is the submission of Full Proposals, which is detailed below. Only applicants successful at the Outline Stage will be eligible to submit Full Proposals.

7.2 SHEAR Research Consortia Grants Full Proposals

(Closing Date 7th January 2016, 16:00 UK local time (GMT/ UTC)

7.2.1 Full Proposals will need to be submitted through the Joint Electronic Submission (Je-S) system (https://je-s.rcuk.ac.uk) by 7th January 2016 (4pm) UK Local Time (GMT/UTC). Full guidance on submitting applications through Je-S can be found in Annex 4.

7.2.2 This call has been allocated a total available budget of £8M, which may be revised subject to the discretion of the Programme Executive Committee (PEC).

7.2.3 Projects will be funded for a maximum duration of 4 years, with an expected start date of June 2016. Projects will not be eligible to delay their start from this date. In administration of the grants, standard NERC terms and conditions, with call specific exceptions, will apply.

7.2.4 In order to be named on a proposal, all applicants must register for an account on Je-S.

7.2.5 Applicants may submit their proposals as a single Je-S application, or a joint application; submissions of joint applications should be 'linked' on Je-S by using the unique reference number given to you (contact the Je-S helpdesk for further advice).

7.2.6 SHEAR will award funds to the lead institution named on each application, which will then be responsible for disbursing funds to other institutions/organisations named on that application.

7.2.7 UK based organisations cannot be named on an application that is led by a non-UK organisation and, in this case, it will be necessary to submit a joint application.

7.3 Summary of Required Documents

7.3.1 The application has several elements, some of these must be completed online (for example the pro-forma), while others can be completed offline before being uploaded as attachments to the Je-S form. See Annex 4 for further information.

7.3.2 The pro-forma is an online form comprising a number of structured boxes for key information. It is common to all applications, and for joint applications this will need to be completed by all of the components.

7.3.3 All applications must be completed in English and must be in single-spaced typescript of minimum font size 11 point Arial font or other sans serif typeface of equivalent size to Arial 11, with margins of at least 2 cm. References must now also be presented in minimum font size 11 point. Please note that Arial narrow and Calibri are not allowable font types, as they are smaller, and any proposal which has used either of these font types within their submission will be rejected. Applicants referring to websites should note that referees may choose not to use them.

7.3.4 Applicants should ensure that their proposal conforms to all eligibility and submission rules, otherwise their proposal may be rejected without peer review. More details on NERC's submission rules can be found in the NERC research grant and fellowships handbook and in the submission rules on the NERC website.

7.3.5 The elements described below should be completed off-line and uploaded as attachments to the Je-S form. They are described in more detail in Sections 7.6 to 7.11 and are summarised below. **Page limits are absolute and any applications which exceed limits will be rejected.**

- The Case for Support is comprised of two parts:
  I. Previous Track Record of organisations – up to 3 sides A4. (Common to all proposals in a joint application – submitted by lead only).
  II. Description of proposed research - up to 16 sides A4. (Common to all proposals in a joint application – submitted by lead only).

- Data Management Plan – up to 1 page A4. This section includes information about how the project will manage data produced and submit this to the relevant centres. (Common to all proposals in a joint application - submitted by the lead only).

- Justification of Resources requested – up to 2 sides of A4 for each component application. This section includes details of how projects will deal with fluctuating currency markets (See Section 4.8). (Submitted by each individual application).

- Pathways to Impact attachment – up to 2 sides A4 (see Section 4.9). (Common to all proposals in a joint application - submitted by lead only).

- CVs for all named research staff: PIs, Co-Is, Researcher Co-Is, named Researchers and Visiting Researchers (up to 2 sides A4 for each CV, and should include current and previous positions, key publications and research funding obtained). It is recommended that CVs use a consistent template within projects.

- Letters of support from any named Project Partners – up to 2 sides A4 each (see Section 4.11). (Common to all proposals in a joint application -submitted by lead only).

- Application forms for any NERC Facility/Ship-time requested (only applicable for organisations normally eligible for Research Council funding).

- A business case for any single items of equipment costing more than the OJEU threshold - up to 2 sides A4. This should be accompanied by three equipment quotations. The current OJUE thresholds can be found on the OJEU website.

7.3.6 Please note that on submission ALL non-PDF documents are converted to PDF and the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document. Additionally where non-standard fonts are present, and even if the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (for example scientific notation or diagrams), the document should be converted to PDF prior to attaching it to the proposal.

All applications must be submitted in English and costed in pounds sterling (£/GBP).

All applications must be submitted using single-spaced typescript of minimum font size 11 point Arial font or other sans serif typeface of equivalent size to Arial 11, with margins of at least 2 cm. References must also be presented in minimum font size 11 point. Page limit restrictions apply and should be adhered to.

Failure to adhere to these guidelines will result in rejection of your application.

7.4 Je-S pro forma

7.4.1 In order to prepare a Je-S proposal submission, the person preparing the proposal has to log onto Je-S and create a new proposal. Note that this person must have previously created an individual Je-S account for themselves. **This can be done at any time, and should be done well in advance of the application deadline as there may be some delay in the approval of an individual's Je-S account.**

7.4.2 Full step-by-step guidance on how to complete a Je-S application form can be found on the Je-S website or in Annex 4.

7.4.3 On logging into Je-S, select the Research Council – NERC.

- Select Document type 'Standard Proposal'
- Select Scheme - 'Directed - International'.
- Select call 'Science for Humanitarian Emergencies and Resilience JAN16'.

7.4.4 Please note that applications submitted to the wrong call cannot be considered.

7.4.5 The following information should be common to all application pro-formas in a joint project proposal:

- Title of proposal
- Objectives
- Summary
- Academic Beneficiaries

7.4.6 Some information is common to the whole project but if you submit a joint proposal, the following should only be included in the lead Research Organisation application pro forma and submitted as attachments to the lead Research Organisation application only. These are:

1. Nominated referees
2. Project Partners
3. Letters of support from Project Partners
4. Description of Proposed Research (Part 2 of the Case for Support, up to 16 sides A4).
5. Data Management Plan
6. Pathways to Impact (up to 2 sides A4)

7.4.7 The attachments named in 7.4.6 must not be attached to any component application. Where such an attachment is a mandatory requirement of the Je-S system, a dummy attachment must be submitted. This document should be annotated with "Refer to Lead Research Organisation Application".

7.4.8 For each other component application (if submitting a joint proposal), we require as separate attachments, or in the relevant pro forma, the following.

- A separate Justification of Resources. This should be attached to the relevant component Research Organisation application (up to 2 sides A4 for each individual component application) and should provide a justification for all funds requested on that component application.
- CVs for named research staff (including PIs, Co-Is and Researcher Co- Investigators) and Visiting Researchers named on that component application (up to 2 sides A4 for each CV).These should be attached to the relevant component Research Organisation application.
- Business case and equipment quotations for items costing more than the OJEU threshold.

7.4.9 Applicants should include information of Project Partners listed individually within their pro forma, and any in kind and or leveraged support that has been secured for the proposal through the attachment of a letter from the Project Partner.

7.5 Project Finances

7.5.1 The financial cost of the proposed project should be identified through the following components:

- Je-S pro-forma
- Justification of resources document

7.5.2 All applicants should enter the 100% full economic costs of the proposed research into the budget sections of the Je-S form. All costs should be in pounds sterling (£).

7.5.3 The budget limit on grant applications under this scheme refers to the total financial costs incurred to undertake the project – known as the full economic cost (FEC). All of the UK Research Councils' research grant applications are awarded on a full economic cost (FEC) basis. This will apply to SHEAR; UK organisations receive 80% of the FEC of a project, while non-UK organisations can request 100% of Direct Costs. Further information can be found in Annex 2.

7.5.4 For Projects which choose to submit a joint application (i.e. more than one component application into Je-S), the Full Economic Cost of all submitted applications comprising the project combined must not exceed the maximum budget of £2M. *Note, for example, that if each of four component applications claims £0.5 M in costs on their application, this would show on our system as the project bidding for £2M.*

7.5.5 Research grant funds are provided to meet the costs incurred by the specific research project. Funds may not be used to meet costs on any other project or activity. All costs associated with the project must be itemised and fully justified. This should be done in the 'Justification of Resources' document (see Section 8.8).

7.5.6 Requested funds will be scrutinised during the assessment process and, if recommended for funding, NERC, on behalf of the SHEAR Programme Executive Committee (PEC), will request adequate evidence of the costing basis for all direct and indirect costs. Note that budgets may be reduced if considered excessive.

7.5.7 Successful projects, along with proposing excellent science research that fits the objectives and scope of this call, are expected to also provide excellent value for money. This includes fully justified and reasonable financial requests, appropriate time commitments of all research participants, and clear plans which aim to provide the maximum output of science excellence and impact from the monies requested.

7.5.8 SHEAR funding is available for eligible UK and non-UK organisations, if they are to receive funding directly.

7.5.9 The UK Research Councils, which includes NERC, are able to provide funding for UK organisations that are recognised as eligible to receive UK Research Council funding, including UK Higher Education Institutes (HEIs) and other recognised UK Research Organisations (ROs). For a list of organisations that eligible to receive Research Council funding are available on the RCUK website.

7.5.10 Organisations that are currently ineligible to receive funding directly from UK Research Councils may still be eligible to apply for and receive funding from SHEAR, if they meet the organisation eligibility criteria in Section 4.1. This funding will be covered by DFID's contribution to SHEAR.

7.5.11 CGIAR Research Centres are eligible to apply for funding and be involved in projects. However, under DFID funding rules they should not apply as developing country partners since they have competitive international terms and conditions and are able to recruit internationally. Full cost recovery should be based on the CGIAR system wide guidance on cost (set out in Financial Guidance No5, and it is expected that the 2% system wide cost levy is to be absorbed within all their projects). It is also expected that a clear position with regards to alignment of all research projects with the 15 CGIAR Research Programmes (the CRPs) is provided, since the Fund Council expect all CGIAR research to fall within the CRPs in due course regardless of funding modality.

7.5.12 Further information regarding the financial conditions applicable to these grants can be found in Annex 2.

7.5.13 Further Guidance on fund headings is provided in Annex 2.

7.5.14 UK Organisation Budgets

- UK organisations will receive 80% of the full economic cost (FEC) of the project, as per standard Research Council funding rules.
- UK universities are required to calculate the FEC using the "TRAC" (Transparent Approach to Costing) methodology. Other recognised UK research organisations (ROs) use an equivalent methodology, which has been validated by the Research Councils. For more information, please go to the RCs' Dual Support Reform web page, which includes guidance notes and FAQs (RCUK FEC FAQs). Other organisations will be required to explain their methodology for calculating any estates and indirect costs, if they are successful.

- Overseas travel and expenses costs incurred by members of UK institutions will be paid at 80% and must be included as costs related to that UK institution (not included as costs relating to an overseas organisation).
- All applicants should enter the full economic costs of the proposed research into the budget sections of the Je-S form, as per normal Research Council applications. **All costs should be in pounds sterling (£).**

7.5.15 Non-UK Organisation Budgets

- Non-UK organisations are expected to be able to comply with full and transparent costing for budget elements.
- Non-UK organisations will be supported at 100% FEC for the direct costs of the research.
- In addition, indirect costs (including estates costs) may be charged on staff salary and other staff-related costs (i.e. statutory contributions analogous to UK National Insurance or Superannuation contributions).
- Overheads may not be charged on non-staff related direct costs, for example, equipment, travel and subsistence, consultancies, conferences, etc.
- The following rates for indirect costs should be applied: - for applicants from low and middle-income countries, the rate is 50% (Annex 1); - for applicants from high-income countries, the rate is 20%.
- For further guidance on what overhead budgets can be used for please see Annex 2.
- Non-UK organisations should not enter any costs in the 'Estates' section of Je-S. All overheads should be entered as an 'Other Directly Incurred cost' on Je-S.
- In order to mark costs as payable at 100%, applicants should tick the 'Exceptions' box under the relevant category in Je-S.
- If an application involves costs from both UK and non-UK organisations, they should be entered as separate items. For example T&S costs for field work should be entered as two separate lines, i.e. that related to UK organisations payable at 80%, and that related to non-UK organisations, which will be payable at 100% by ticking the 'exceptions' box within the Je-S form.
- All applicants are advised to consult their institutional finance officers when completing the financial parts of the application.

7.6 Case for Support

7.6.1 The Case for Support should include the following two components: Track Record and Description of Proposed Research. These components should be uploaded as a single attachment on Je-S by the lead applicant.

7.6.2 Track record

- The Track record should be a maximum of 3 sides of A4.
- This section should include a brief outline of the organisations involved in the consortium, as named on the component applications, and address the following aspects.
- It should include details on the nature of the organisations named (i.e. university, research institute, NGO, etc).
- Importantly, the track record should concentrate on the key named individuals/researchers, their role in the project and details of relevant experience and how they are best suited to conduct the research proposed. You may also wish to include details of any external funding held for key individuals and their organisations,

and details of any relevant past collaborative work with other beneficiaries should also be given.
- Indicate where your previous work has contributed to progressing the field of research, and/or providing impact, evidenced by including the top 3 – 5 relevant publications per PI, Co-PI and Co-I.
- Outline the specific expertise available for the research at the host organisation and that of any associated organisations and beneficiaries.

7.6.3 The Description of the Proposed Research

- The Description of Proposed Research should be a maximum of 16 sides of A4.
- The Description of Proposed Research included in the Case for Support contains the substance of the research application. It is essential that a coherent exposition of the proposed project is presented, addressing the intellectual and academic case and potential for impact on the SHEAR research agenda.
- As well as meeting the core criteria of the call (Section 1), the Description of Proposed Research should address the following points:
    - Underlying rationale, scientific, technological, social and developmental issues to be addressed. This should cover the research question and objectives and highlight the overarching policy questions/evidence challenges that will be addressed.
    - Specific objectives, hypotheses and research questions of the project, including their potential relevance to international research work in the field, relevance to the SHEAR aims, and anticipated achievements and outputs, including datasets.
    - Methodology and approach; this should include methods and location of data collection (as appropriate), and details on the use and manipulation of data.
    - Description of the pilot studies - where products will be co-developed, tested and refined in practice with users.
    - Where existing data, knowledge, tools and technologies will be harnessed to meet the project goals.
    - Programme and/or plan of research.
    - Management of both project and resources, identifying the training and career development opportunities for personnel working on the project and the management structure within the project team.
    - Any associated collaborations, partnerships or co-funding (either proposed or secured) that may be used in the project.
    - For proposals requiring access to data from elsewhere applicants are asked to provide evidence in their proposal of agreed access.
    - Identification of datasets that the research will produce and which will be of potential long-term value and which the NERC data centres will need to manage and make available to enable re-use after the end of the research.
- Applicants are advised that they should pay attention to the environmental implications of their research. The SHEAR Programme Executive Committee (PEC) will consider funding the cost of low-carbon approaches to collaboration (including, where appropriate, the costs of technology or of less economic, but more environmentally friendly means of transport). Note that SHEAR will apply the Research Council policy on carbon offsetting which currently states that projects may not claim the cost of offsetting carbon emissions arising from travel associated with research grants. Institutions may choose to use their own resources to cover such costs if required by their environmental policy. Where the project has control documents, reports and paper outputs, these should be printed on paper made from sustainably managed forests and/or recycled paper.

7.7 Data Management Plan

- The Data Management Plan should not exceed 1 side A4 and should be submitted by the lead applicant only.
- The Data Management Plan should include a detailed description of the proposed data management structures, plans and responsibilities.
- Four issues should be addressed in the Outline Data Management Plan:
    1. Data management procedures to be followed during the lifetime of the grant. Consider potential issues, such as:
        - Metadata - will you document discovery (what, where, when, why, who) and descriptive (how collected, how processed, how stored, how linked) metadata?
        - Data storage – have you access to enough storage and backup? Will you need specialist help with database design?
        - Data quality - will there be an earmarked data manager within the team, what data quality checks will be used, will student data be integrated in the data plan?
        - Ethical and access issues – are there special data security or licencing issues and how will you address these?
    2. Existing datasets to be used by the project (comment on any restrictions on reuse)
    3. Datasets likely to be created by the project which will be made available to the Funder's Data Centre(s) at the end of the grant. Projects will need to speak to the SHEAR Programme Management Unit once funded, as they will help projects with their data management processes.
    4. Planned release dates of the data (data should normally be deposited within a data centre within 2 years of creation) and identification of the possible user types who may want to use the data you produce.
        - Please note, the entire Case for Support for successful proposals will be made available to the NERC Environmental Data Centres and, where appropriate, used by them to draft, in collaboration with the Principal Investigator, a full Data Management Plan (DMP). This full DMP should be mutually agreed between the Data Centre and the Principal Investigator within three months of the start date of the grant. At the end of an award Investigators are required to offer the appropriate Data Centre a copy of any dataset generated, so that the data can be made available for other researchers to use.
        - Applicants should refer to the NERC data policy (http://www.nerc.ac.uk/research/sites/data/policy/data-policy.pdf) for information on open access to data.

7.8 Justification of Resources

7.8.1 The Justification of Resources should not exceed 2 sides A4. This document is submitted by each component application on Je-S.

7.8.2 The Justification of Resources must be uploaded on Je-S as part of the application.

7.8.3 This should state the full cost of the project and explain why the requested resources are needed, including identifying why the proposal presents value for money. It should include justification for all Directly Incurred Costs, Investigator effort, use of pool staff resources and any access to shared facilities and equipment being sought.

7.8.4 No justification of Directly Allocated Estates and Indirect Costs is required.

7.8.5 It is not sufficient merely to list what is being requested. Where you do not provide sufficient justification for any item, it may be cut from any award made. In short, you must demonstrate why you are requesting the funds you are, and how they will be used to deliver the cutting edge research with impact that you are proposing.

7.8.6 Please note that if successful, the amount awarded to a project is limited to the amount requested at the time of application, and the final award amount agreed by the funders. This will not be increased at any time. Therefore applicants should set out how they will deal with any changing currency fluctuations that may occur during the duration of their project and the possible impact this may have on the plan of work.

7.8.7 An example of a well-written Justification of Resources can be found on the NERC website. Guidance on what should be included is also available on the Je-S Helpdesk.

7.8.8 For all items of equipment costing between £10,000 (including VAT) and the OJEU threshold, but excluding that to be used for instrument development, the Research Organisation will need to provide evidence of an evaluation of the use of existing relevant capital assets. The Justification of Resources should be used to:

- Confirm that the piece of equipment is not readily available for use within the host institution, or any other accessible location (for instance by making reference to any asset registers consulted);
- Provide evidence that all other reasonable options have been considered;
- Explain, if the equipment requested will replace existing equipment, what will happen to the existing equipment;
- Set out what contribution the Research Organisation will be making towards the cost of the equipment. Contributions of the order of 50% from the Research Organisation will be expected.

7.8.9 Whilst it is not expected that SHEAR projects should require large items of equipment, for requests for all single items of equipment costing more than the OJEU threshold (excluding that to be used for instrument development) Research Organisations must complete a business case outlining why NERC should invest in this item of equipment. Further guidance on the detail required in the business case and the rules pertaining to application for items of equipment, can be found on the RCUK website.
The business case will be subject to peer review and separate consideration for funding. The business case should be no more than 2 sides A4 and is additional to the Justification of Resources and the Case for Support. There may be duplication between the Case for Support and the business case but it is important that the business case is a standalone document and contains sufficient information to allow separate peer review assessment. A separate justification must be provided for every capital item of equipment over the OJEU threshold. These should be submitted by the lead Research Organisation in any joint applications. All applicants intending to include a business case for equipment in a research grant application must contact the SHEAR Secretariat (SHEAR@nerc.ac.uk) to discuss the request well in advance of any proposal submission.

7.8.10 RCUK and DFID have recently adopted new policies on open access publication. It is now required that all publications be open access. SHEAR expects that all academic journal publications be open access (gold or green), and where possible this should include book and book chapters. Further information is available from the RCUK Open Access Policy and the DFID Research Open and Enhanced Access Policy.

7.8.11 Costs associated with open access should be considered a legitimate research expense and included in the overall research budget as long as:

- The costs are proportionate, reasonable and represent value for money. The funders would expect that most costs are likely to be Article Processing Charges ('APCs', 'author fees' or 'publication fees'). The price of an APC varies widely, but the Government Finch Report suggested a current average APC price of £1450+VAT.
- Existing arrangements and resources at the host institution are used first when available and appropriate. UK institutions covered by the block grant from RCUK for open access costs cannot claim the costs, but other UK organisations can. Where open access is sought for publications from multiple organisations, some of which receive the RCUK block grant and some which do not, it is the responsibility of the organisation of the lead author to lead on any costs.

7.9 Demonstrating the Pathways to Impact

7.9.1 The Pathways to Impact attachment should not exceed 2 sides of A4.

7.9.2 All applicants are required to include a 'Pathways to Impact' attachment as part of their research proposal that describes how the proposed work will achieve impact and build capacity.

7.9.3 In addition, the Pathways to Impact section should address the following:

- Who are the intended beneficiaries of the research? This should include at least a description of the intended ultimate beneficiaries of poor people in Low and Lower-Middle Income Countries as well as the intermediate direct users of research.
- Who will use SHEAR's research and new knowledge? Identifying and, wherever possible, involving these people at an early stage of the design and implementation of the research is essential for impact of the research. During later stages of projects it may be appropriate to also consider other groups who may act to help implement and put research into use.
- How will SHEAR's new knowledge be used? Determining, early in the process, how the different stakeholders are likely to use the research is important. Working with direct users of research and other beneficiaries ensures that research results can be presented in ways and formats that are tailored to meet their needs.
- The Pathways to Impact section should include, but not be limited to, details of the pilot study component, which will be targeted at a specific user group and decision making application.

7.9.4 Capacity development activities may also be considered in the Pathways to Impact.

7.9.5 It is important that applicants also consider tracking of their impacts and outcomes with the appropriate metrics as part of the Pathways to Impact plan. This will feed into the programme reporting and is not optional. Without contributions to this reporting there is a risk that the funding source to the programme will be cut. More information will be available at the SHEAR programme launch workshop. A template of the reporting format (subject to change) is available in Annex 5.

7.9.6 The SHEAR Research Consortia are expected to contribute to cross-programme activities co-ordinated by the KMC Unit and this may be recognised within the Pathways to Impact plan. There are no additional funds for this work and all associated costs, including staff time, must be built into the overall cost for the programme of work. There will also be the expectation that projects contribute to the SHEAR website. Applicants should be aware that they may need to remain flexible for this element of activity and they should build contingency in their funds.

7.9.7 In addition to the Pathways to Impact activities developed by individual projects, it should also be noted that SHEAR may wish to sponsor additional outreach activities involving one or more projects in order to increase the impact of their research outcomes. All grant holders will be expected to cooperate with the Programme Executive Committee (PEC) in contributing to the wider SHEAR programme of knowledge sharing, uptake and communication activities. They will also be expected to represent the scheme and their project through involvement, where appropriate, in third-party events.

7.10 CVs

7.10.1 CVs are required for all named research staff; PIs, Co-Is, Researcher Co-Is, named Researchers and Visiting Researchers.

7.10.2 Up to 2 sides A4 are allowed for each CV, and should include current and previous positions, key publications and research funding obtained.

7.10.3 It is recommended that CVs use a consistent template within each project.

7.11 Letters of Support

8.11.1 Each Project Partner must provide a detailed signed letter of support of up to 2 sides of A4.

7.11.2 The letter of support should confirm the organisation’s commitment to the proposed project, identify the value, relevance and possible benefits of the proposed work to the partner, the period of support, the full nature of the collaboration and how the partner will be involved in the project and provide added value.

7.11.3 Partner contributions, whether in cash or in kind, should be explained in detail in the case for support, including the equivalent value of any in-kind contributions.

7.11.4 The letter should be written when the proposal is being prepared and targeted specifically to the project.

7.12 Summary of Requirements

7.12.1 Summary of requirements for Single application

Document Type	Required	As necessary	Number limit
Title of proposal (pro forma)	✓		150 characters
Type of proposal (pro forma)	✓		n/a
Objectives (pro forma)	✓		4000 characters
Summary (pro forma)	✓		4000 characters
Academic Beneficiaries (pro forma)	✓		4000 characters
Impact Summary (pro forma)	✓		4000 characters
Nominated referees (pro forma)		✓	Max 4
Project Partners (pro forma)		✓	No Limit
Previous Track Record (part 1 of the case for support)	✓		Max 3 sides A4
Description of Proposed Research (Part 2 of the Case for Support)	✓		Max 16 sides A4
Data Management Plan	✓		Max 1 side A4
Justification of Resources	✓		Max 2 sides A4
Pathways to Impact	✓		Max 2 sides A4
Letters of Support from project Partners		✓	Max 2 sides A4 each
CVs for named research staff and Visiting Researchers from all component Research Organisations	✓		Max 2 sides A4 each
CVs for all Principal and Co-I Investigators from all component Research Organisations	✓		Max 2 sides A4 each
Equipment Quotations		✓	n/a
Facility forms (Ship-time/Marine Equipment, Aircraft ASF/FAAM)		✓	n/a

7.12.2 Summary of requirements for Joint Application

Document Type	Common to all proposals	Submitted by lead only	Submitted by Individual components	Number limit
Title of proposal (pro forma)	✓		✓	150 characters
Type of proposal (pro forma)	✓		✓	n/a
Objectives (pro forma)	✓		✓	4000 characters
Summary (pro forma)	✓		✓	4000 characters
Academic Beneficiaries (pro forma)	✓		✓	4000 characters
Impact Summary (pro forma)	✓		✓	4000 characters
Nominated referees (pro forma)		✓		Max 4
Project Partners (pro forma)	✓	✓		No Limit
Previous Track Record (part 1 of the case for support)	✓	✓		Max 3 sides A4
Description of Proposed Research (Part 2 of the Case for Support)	✓	✓		Max 16 sides A4
Data Management Plan	✓	✓		Max 1 side A4
Justification of Resources			✓	Max 2 sides A4
Pathways to Impact	✓	✓		Max 2 sides A4
Letters of Support from project Partners	✓	✓		
CVs for named research staff and Visiting Researchers from all component Research Organisations	✓		✓	Max 2 sides A4 each
CVs for all Principal and Co-I Investigators from all component Research Organisations			✓	Max 2 sides A4 each
Equipment Quotations			✓	n/a
Facility forms (Ship-time/Marine Equipment, Aircraft ASF/FAAM)			✓	n/a

8 Je-S Registration

8.1 Registering an Organisation on Je-S

8.1.1 If your organisation is already registered on the Je-S system, you do not need to re-register. However, if this is your first application for funding, you should follow the steps in Annex 3 to ensure that your organisation is registered on Je-S.

8.2 Registering an individual on Je-S

8.2.1 All individuals that will be named on an application (with the exception of Project Partners and sub-contractors) must create an individual Je-S account for themselves in order to be added to an application. See online Je-S helptext guidance (https://je-s.rcuk.ac.uk/Handbook/Index.htm) on how to register on Je-S. It is necessary for an individual's organisation to have been registered before they can register themselves.

8.2.2 If you have registered as an individual with Je-S through a previous call, you will not need to do so again.

9 Submitting your proposal

9.1 Overview

9.1.1 Applications must be completed in full before final submission. The Je-S system has a validation procedure which will identify sections that have not been completed. An exception to this is for any ‘Other Attachments’, so applicants must ensure for themselves that any such documents have been included.

9.1.2 Changes to the Je-S registration process mean that for certain schemes, such as SHEAR, any organisations that are not currently Je-S registered, may self-register their organisation (see Annex 3). For these self-registering organisations there is no need to establish a submitter pool. Therefore these applicants can submit the application directly to the Council (NERC).

9.1.3 However, please note that for organisations that are already Je-S registered, your application will be routed through your existing submitter route. Therefore when a researcher submits his or her application, a message will be sent to their host organisation’s designated ‘submitter’, who must then complete the submission process to Council.

9.1.4 Thus, there is a further layer of administration between the researcher submitting the application and it being received by NERC, via Je-S. This layer of administration is at the applicant’s host institution, and NERC cannot accept responsibility for any delays which may occur as a consequence. The process can be shown as: Applicant → Submitter (within the applicant’s institution) → NERC.

9.1.5 Note: each component application comprising a joint proposal will need to go through the same submission process. The PI on the lead application should ensure that all joint application components have submitted their part of the joint proposal.

> If all applications are not FULLY submitted by the deadline, i.e. all component parts from all PI/co-PIs, they will not be accepted.
>
> The deadline for all Je-S research applications to this call is 16:00 (4pm) UK Local Time (GMT/UCT), 7th January 2016.

9.1.6 Applications can only be accepted by electronic submission in the manner indicated on the form and accompanying guidance notes, and it must be clear and unambiguous that full submission took place prior to the deadline.

9.1.7 Electronic acknowledgements will be sent to the lead Principal Investigator and submitting organisation from the Je-S system.

9.1.8 Applicants must ensure they know whether their application will be routed through a submitter pool. We strongly advise that you check with Je-S whether or not you need your host institution to submit your completed application on your behalf. You can check this in Je-S by opening your Je-S application and selecting ‘Document Actions’ at the top and then ‘Show submission Path’.

9.1.9 We strongly advise applicants whose applications will be routed through a submitter pool to secure confirmation from their relevant administrator that the application has been submitted successfully to NERC.

9.1.10 This call documentation aims to provide comprehensive instructions to support SHEAR proposal preparation and submission via Je-S. Queries regarding the process of Je-S registration, or uploading of applications onto the Je-S system, should be directed to the Je-S helpdesk

JeSHelp@rcuk.ac.uk in the first instance.

10. Selection Criteria (Full Proposals)

10.1 Overview

10.1.1 The Full Proposals will be sent out for external peer review. The Secretariat will seek between 3 and 6 reviews for each application. Applicants will have the opportunity to nominate potential reviewers on the Je-S form.

10.1.2 Applicants will have the opportunity to respond to the reviewer comments. All reviews received by 14th March 2016 (TBC), will be sent to the lead PI for comment. This must be completed by 21st March 2016 (TBC). If you do not expect to be available during March 2016, please contact the SHEAR Secretariat (SHEAR@nerc.ac.uk) to notify them of a suitable alternative contact. Reviews received after the initial date will be sent for comment as soon as they are received.

10.1.3 The Proposals, reviews and responses will be considered by an independent panel of experts. The panel will interview the applicants; applicants will be given the opportunity to present their projects to the panel and this will be followed by a short question and answer session. The interviews will take place in April 2016 (dates TBC) and each team can have a maximum of two representatives at the interview. The panel will take the following criteria into account:

Research Excellence - incorporates but is not confined to:

- assessment of the problem to be addressed and how novel/exciting/ambitious it is;
- approach for addressing problem and identification and mitigation of risk;
- use of innovative approaches;
- interdisciplinary approaches; and
- suitable expertise to achieve the aims and objectives.

Fit to Call – incorporates:

- alignment of the proposed research with the programme's scientific objectives;
- potential for significant and sustainable improvements in scientific understanding of risk across Sub-Saharan Africa and South Asia;
- understanding of multi-hazard risk in sub-Saharan African and South Asia and how to better integrate this science into decision making;
- recognised value added to other past and on-going initiatives;
- recognition and utilisation of existing data, knowledge and technologies;
- identification of pathways to development impact;
- breadth and depth of consortium partners, including inclusion of African/Asian institutions and involvement of partners from low and lower middle-income countries;
- involvement of stakeholders and approach to the wider development agenda;
- value for money.

10.1.4 The moderating panel will take into account all of the review information and will award a final grade for both of the criteria outlined above using a 0-10 scale for Research Excellence and a 0-6 scale for Fit to Call. Proposals will be ranked according to these scores, with Research Excellence and Fit to Call scores carrying equal weighting.

10.1.5 Pathways to Impact are no longer scored by reviewers and are no longer used as a secondary criterion for ranking proposals. Reviewers will provide comments on Pathways to Impact and the panel will discuss these comments and deem them acceptable/unacceptable. An acceptable Pathways to Impact plan is a condition of funding. Grants will not be allowed to start unless unacceptable Pathways to Impact plans are enhanced to an acceptable level within 2 months of notification of the panel outcome. See the [Pathways to Impact] policy and guidance for more information.

10.1.7 The SHEAR PEC will take the recommendations of the panel into account along with the SHEAR portfolio and the available budget in making their final decision. The decision of the PEC will be final.

10.1.8 Applicants will be given full feedback from the panel outlining the reasons that they were successful/unsuccessful. No further feedback will be available.

11 Full Proposal Call Timeline

11.1 Overview

11.1.1 The table below summarises the proposed timeline, the application requirements, and assessment procedures that will be employed at each stage.

Date	Stage	Applicant responsibilities	Assessment
14th September 2015	Successful Outline Proposal applicants invited to submit Full Proposal	Applicants to prepare Full Proposals	
4th November 2015	Workshop for successful Outline Proposal applicants (virtual meeting?)	Attendance of virtual workshop for successful Outline Proposal Applicants	
7th January 2016	Deadline for submission of Full Proposals	Applicants to submit proposals via the Joint electronic Submissions (Je-S) System	
14th March 2016	PI invited to respond to reviews	PI to respond to reviewers	
21st March 2016	Deadline for PI response	PI to respond to reviewers	
12th April 2016 (tbc)	Moderating panel and interviews	Project members to attend interview in person or through video-conference	Assessment panel
May 2016	Consortium Grants Awarded		
June 2016	Consortium Grants Started	Applicants must have returned starting certificates	

NB: Please note that these dates may be subject to change.