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Learning from the Science for Humanitarian Emergencies and Resilience (SHEAR) programme: challenges, innovations and research outcomes on forecasting and early warning

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The Science for Humanitarian Emergencies and Resilience (SHEAR) programme is an interdisciplinary, international research programme jointly funded for five years by the UK's Foreign, Commonwealth & Development Office (FCDO) and the Natural Environmental Research Council (NERC). It aims 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. SHEAR projects have been working with stakeholders to co-produce demand-led, people-centred science and solutions to improve risk assessment, preparedness, early action and resilience to natural hazards.

This session will share recently published challenges, learning and research outcomes from the SHEAR programme related to operational forecasting and early warning on: i) improvements in forecasting science, data, tools and decision making; ii) putting stakeholder needs at the centre; iii) interdisciplinary collaboration; iv) and lessons for future funding.

SHEAR projects have worked to advance the quality of the forecast information to support preparedness, by increasing the confidence, credibility and usability of forecasting science. The session will share advances made in developing new or improved forecast products for various natural hazards and their impacts in Asia and Africa.

SHEAR has also been working towards improvements in data; data plays a key role in preparing for and responding to disaster risks. With improved quality, availability, and accessibility of hazard-related data, disaster impacts can be better defined and anticipated.

The SHEAR projects have generated new knowledge through the development and use of new co-designed tools to support forecasting, early warning, and early action. The strong focus on participatory methods improved the effectiveness, the sustainability and the (policy) commitments to address risks and strengthen resilience in some of the most hazard-prone parts of the world. The co-designed, practical tools applied in SHEAR has enabled effective, appropriate and accessible transformation of knowledge into action.

The action people take based on forecasts is not always sufficient. SHEAR has worked with stakeholders at all levels and across sectors to improve anticipatory capacities and decision-

making processes to enhance action in the face of future hazards. The session will show learning and examples from SHEAR demonstrating the requirement for a dedicated processes to support stakeholders in vulnerable areas to access, understand and subsequently plan for action that can strengthen their resilience in the face of potential upcoming disasters.