



Asia Regional Resilience to a Changing Climate (ARRCC) Met Office Partnership newsletter

September 2020



Welcome

Welcome to the latest edition of our ARRCC Met Office Partnership newsletter. This edition covers the period from July to September 2020, highlighting some of our key activities and events during this time. We hope you will find the articles informative.

If you have been forwarded this email and would like to receive ARRCC newsletters direct in future, please [email us](#) with your details and consent.

The Met Office ARRCC team

[Impact-based forecasting \(IBF\) - work package 1](#)



New Guide on 'Future of Forecasts: Impact-based Forecasting for Early Actions' launched

Red Cross Red Crescent and the Met Office have developed a comprehensive guide on Impact-based Forecasting for Early Action combining the forecast-based financing [trigger methodology](#) with the impact-based forecasting technical expertise of the Met Office and other experts in this field. The guide was formally launched during the [Climate Red Virtual Summit](#) session on *Future of Forecasts: Impact-based Forecasting for Early Action*. More than 100 participants from across the globe attended this [launch session](#).

Read the [web story](#) of the guide launch from Red Cross Red Crescent Climate Centre. The full guide can be accessed from [here](#). You can also read the [summary document](#) of the guide separately. Also do watch a 5 minute short explainer [video](#) to get a quick overview of impact-based forecasting that can enable anticipatory actions.

The guide is a part of larger package of ARRCC knowledge products and a toolkit for current and future training and capacity building on the co-production of impact-based forecasting services in South Asia and other regions.

Innovative new crowd sourcing tool for gathering crop disease reports developed in South Asia

An innovative new crowd sourcing data tool has been developed by CIMMYT's Asif Al Faisal under an ARRCC climate services initiative to develop an early warning system for food security threatening crop disease epidemics in South Asia. This [web-dashboard](#) automatically harvests media reports on wheat rust disease occurrence and locations from the media in India, Nepal, Pakistan and Afghanistan. These data then provide information to drive disease forecast models. Pilot testing of the tool has resulted in promising results, producing clear indications of where wheat rust diseases are appearing and spreading, significantly aiding meteorologically-aided disease forecasting work.

Impact-based forecasts scaling up anticipatory actions in Bangladesh



Image: Community people lined up to receive unconditional cash, ahead of the flood event

The latest monsoon season has witnessed for the first time a large-scale coordinated effort of anticipatory humanitarian actions triggered by impact-based forecasts and warnings. This came about thanks to years of in-depth forecast & risk analysis from Red Cross Red Crescent and partners, and at a time when the ARRCO programme is having dialogues with national meteorological and hydrological services to pilot impact-based forecasting (IBF) services in Bangladesh.

Earlier, during the last week of June, the Bangladesh Red Crescent Society (BDRCS) used impact-based intervention maps to prioritise the three most at risk districts in the Jamuna flood plain, and distributed cash with forecast-based funds from the International Federation of Red Cross (IFRC).

On 11 July there was again a forecast of a flood peak in Jamuna for the next 5 days, predicting that more than 40% of the population was likely to be affected and/or 20% of household assets would be damaged. Based on the same IBF process developed by the Red Cross Red Crescent, the United Nations (UN) immediately released \$5.2 million from their Central Emergency Response Fund (CERF) to help communities urgently prepare and protect themselves.

With the help of a flood impact map, the Red Cross and four UN agencies (World Food Programme, Food and Agriculture Organization, UN Children's Fund (UNICEF) and UN Population Fund (UNFPA)) were able to prioritise the five most at-risk districts and began giving communities the means to protect themselves and their livelihoods from the worst effects of the floods.

A multi-agency impact evaluation of these forecast-based actions is currently being undertaken. This also involves the ARRCC programme, which will further investigate approaches and ways of mainstreaming impact-based forecasting approaches within national hydro-met systems.

Strengthening Climate Information Partnerships South Asia (SCIPSA) - work package 2



SCIPSA remote science exchange begins!

Recognising the needs of Nepal's Department of Hydrology and Meteorology (DHM), the Bangladesh Meteorological Department (BMD) and stakeholders in the agricultural sector for long term training (>1-month) identified at co-production workshops undertaken in 2019-20, a science exchange visit was initially planned to be held at the Met Office in the summer of 2020. In light of travel restrictions due to COVID-19, it was decided to carry out the exchange by trialling a series of online training modules.

Image: A very comprehensive presentation was delivered by Bikash Nepal – DHM, Nepal

There are eight participants from each national meteorological and hydrological service (NMHS) ranging from complete beginners to those with intermediate experience. Module 1 commenced on Monday 31 August focused on drivers of climate variability, where a series of video tutorials, quizzes and an assignment were carried out via the Google Classroom platform. The first part of module 1 was completed on Friday 11 September where assignment results were presented by participants and feedback provided by the Met Office SCIPSA team. The feedback so far from participants has been very positive, for example; "The materials will for sure improve our knowledge on Seasonal Forecasting. I hope this material will be available for a longer period if we need to share it with our other colleagues". The modules will evolve over the coming months and training will be delivered on product output design and familiarisation and practice with co-production processes.



Image: Presentation delivered by Md. Abdul Hannan – BMD

"He is the junior most officer in BMD, and hasn't finished his professional training as of yet, he has delivered a very good presentation and carried out a good job". Feedback by lead focal point at BMD Quamrul Hassan

Seasonal forecast videos

In the last newsletter we introduced a new series of explainer videos on 'Seasonal forecasts: from Science to Services'. These are now available via the [SCIPSA](#) webpage and the [Met Office Science and Services YouTube](#) channel.



Climate Analysis for Risk Information & Services in South Asia (CARISSA) - work package 3

Training on CORDEX regional climate projections with ICIMOD and IITM-Pune

A series of training activities are planned under CARISSA to build the capacities of individuals at targeted institutions, developing skills and knowledge to analyse climate projections and produce information for use in different sectoral applications. The first training will take place between 12 and 21 October – [see ICIMOD website](#) – and aims to build underpinning knowledge and skills for analysing regional climate model simulations from the Coordinated Regional Climate Downscaling Experiment (CORDEX). It will cover an introduction to climate change science, modelling, and downscaling, accessing and using CORDEX datasets, and practical introductions to tools for analysing and visualising climate change projections.

Collaboration with Institute of Water Modelling (IWM) in Bangladesh

IWM are beginning a collaboration with the Met Office and other ARRCC partners on applied research to assess the impacts of climate change on relative sea level rise along the coast of Bangladesh. This will result in improved understanding and provision of tools to assess the impacts of climate change on sea level rise in the Bay of Bengal and support adaptation planning for key ministries, agencies and climate sensitive sectors in Bangladesh. Outputs are also expected to support updates and inform activities under the Bangladesh Delta Plan 2100. The work will build on new sea level science and projections for South Asia, available on the [CARISSA webpage](#).

VALUE - work package 4

SCIPSA evaluation work

This September, researchers from Work Package 4 will attend the Climate Services User Forum where they will launch their evaluation of the activities being pursued under Work Package 2 - SCIPSA. The SCIPSA evaluation will examine how the seasonal climate forecast (SCF), produced during the South Asia Climate Outlook Forum (SASCOF) is disseminated from the producers to the end-users.

Focusing on Nepal, WP4 will conduct a social network analysis to map out the complex network of stakeholders involved in the process of dissemination. Using a mixed method approach, the researchers will probe connections and relationships within the network in order to:

- identify key actors involved in the production, translation, communication, dissemination and use of SCF in Nepal;
- identify the most frequently used linkages in the information chain and explore ways to capitalise on them; and
- determine key barriers and 'bottlenecks' in the process of disseminating seasonal climate information.

The ARRCC programme

The UK aid-funded ARRCC programme is being led by the Met Office and the World Bank and aims to strengthen weather forecasting systems across Asia. The programme is delivering new technologies and innovative approaches to help vulnerable communities use weather warnings and forecasts to better prepare for climate-related shocks.

Asia is highly vulnerable to natural disasters and this vulnerability is expected to increase. The ARRCC Met Office Partnership (MOP) programme is targeting the most vulnerable countries in the region, primarily Bangladesh, Pakistan, Nepal and Afghanistan, and will support:

1. enhancing regional collaboration and capability for provision of weather and climate services;
2. development of regional and sub-regional forecasting and early warning systems;
3. improving capacity in focus countries to develop and disseminate impact based forecasting (across multiple timescales) to climate sensitive sectors and vulnerable communities;
4. development of new technologies to deliver climate information to vulnerable groups; and
5. the mobilisation of additional resources for building climate and environmental resilience.

The Met Office is working closely with a number of key partner organisations in the region to support delivery of ARRCC, including:

- UN bodies such as the World Meteorological Organization (WMO), the World Food Programme (WFP) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP);
- existing regionally mandated organisations involved in development of weather and climate services, including the International Centre for Integrated Mountain Development (ICIMOD) and Regional Integrated Multi-Hazard Early Warning Systems (RIMES) and research organisations such as the International Maize and Wheat Improvement Center (CIMMYT);
- NGOs such as the Red Cross Climate Centre (RCCC); and
- National Meteorological and Hydrological Services (NMHS) and related agencies with responsibility for disaster risk management.

Find out more on the [ARRCC Met Office Partnership webpages](#).

Meet the Met Office ARRCC team



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