Training on Forecast Interpretation, Translation and Communication

Activity Report

24-26 September 2013, Male, Maldives

The Training on Forecast Interpretation, Translation and Communication was convened by the Maldives Meteorological Services as part of the project "Reducing risks of tsunamis, storm surges, large waves, and other natural hazards in low elevation coastal zones" supported by the United Nations Economic and Social Commission for Asia and the Pacific through the Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries.

1 Introduction

Effective forecast application for managing resources and reducing disaster risks requires a process of understanding and transforming forecast information into a form that is relevant to users. This process is constrained by the mismatch between the scientific nature of forecasts and the non-scientific background of forecast users.

1.1 Training Objectives

The Training on Forecast Interpretation, Translation, and Communication was held from 24-26 September 2013 in Male, Maldives. Specifically, the training aimed to build capacity of participants to:

a) Understand the science behind hazards
b) Understand the science behind forecast generation
c) Appreciate the process of forecast generation
d) Be aware of forecast products available in the country, including associated uncertainties
e) Evaluate how these products could be useful, in view of hazard-sensitive activities and decision context
f) Apply products in identifying potential impacts to systems that could be at risk
g) Identify options to manage these potential impacts, and
h) Identify ways for closer collaboration between the Maldives Meteorological Services (MMS) and forecast user institutions.

1.2 Structure

The training program was divided into modules (M) and sessions (S), as follows:

Table 1. Forecast Translation Training Outline
M1: Weather and Climate
M1S1: Weather and Climate Dynamics
M1S2: Weather and Climate Forecasts: Generation, Interpretation, and Communication
M2: Forecast Translation
M2S1: Understanding Probabilities
M2S2: Translating Forecasts into Impact Outlook and Response Options
M3: Other Hazards: Earthquake and Tsunami
M3S1: Earthquake and Tsunami
M3S2: Earthquake Information Products: Generation, Interpretation, and Communication
M3S3: Tsunami Information Products: Generation, Interpretation, and Communication
M4: Communicating Risks
M4S1: Risk Communication

1.3 Participants

A total of 26 trainees from the following government and non-government organizations participated in the training:

- National Disaster Management Center
- Ministry of Tourism
- Ministry of Health
- Male City Council
- Maldives National Defense Force
- Maldives Police Service
- Maldivian Coast Guard
- Marine Police
- MMS
- Academe
- Media

1.4 Resources

Resource persons for the training were from MMS and RIMES.

The training employed the following methodologies:

- Presentations
- Interactive discussions
- Case study analysis
- Practical exercises

2 Highlights of the Training

2.1 Opening Session

The opening session was graced by the Deputy Minister of Environment and Energy, Mr. Abdullahi Majeed, and officials of MMS.

Mr. Ali Shareef, Deputy Director General, MMS, provided the background of the training and welcomed the participants. Subsequently, Deputy Minister Majeed delivered his remarks, wherein he highlighted the importance of forecasts in managing disaster risks and noted the gaps in forecast generation and utilization, particularly the challenge in using science-based information. He emphasized that the value of forecasts could only be appreciated once they are used. He was thankful for the opportunity provided to users by the Training on Forecast Interpretation, Translation, Communication and Application, for enhancing skill in forecast application.

Ms. Ruby Rose Policarpio, Institutional Development Specialist, RIMES, stressed that the training aims to address gaps in forecast utilization, and that this activity shall be linked to other RIMES capacity building initiatives in the country, particularly the Monsoon Forum, to allow for users' continuous learning process. She then facilitated participant introductions and expectations, and introduced the objectives, scope, and methods of the training.

2.2 Module 1: Weather and Climate

M1S1: Weather and Climate Dynamics. Dr. Zahid, Director of Climatology, MMS, introduced the climate setting of Maldives, which included weather and climate processes and drivers, normal climate characteristics, extreme events and their impacts, observed trends, and climate projections.

M1S2: Weather and Climate Forecasts – Generation, Interpretation, and Communication. Mr. Ahmed Rasheed, Meteorologist, MMS, presented MMS' forecast information products; inputs, models, and the complex process used in their generation; and uncertainty associated with these products. Participants were familiarized on terminologies, symbols, and color codes used in these products.

Importance of seamless forecasts was emphasized, i.e. the use of forecasts of different timescales. Seasonal climate outlook has higher uncertainty, hence could be used in planning. Medium- and shorter-term forecasts have lower uncertainty compared to the seasonal outlook; hence could complement, for application in contingency planning and livelihoods decisions. Two- to three-day forecasts have the lowest uncertainty.

The session also covered MMS' dissemination system, highlighting the institutional arrangement and redundant channels of communication.

2.3 Module 2: Forecast Translation

M2S1: Understanding Probabilities. This session introduced the concept of probability of exceedance or the likelihood of a certain climate parameter being exceeded, on the average, in a defined period. The session put emphasis on interpretation of historical data and constructing plausible inferences based on forecast and historical observation data. An exercise was facilitated to aid participant understanding of the concept – participants were tasked to analyze the potential rainfall for October 2013 in Male, using historical rainfall, probability of exceedance, and rainfall forecast.

M2S2: Translating Forecasts into Impact Outlook and Response Options. This session provided tools for transforming forecasts into impact outlook and management strategies/measures for application. An exercise grouped participants based on the sectors they represent (disaster risk management, tourism, and academe), and facilitated their analysis of forecast-based potential impacts and response options. Outputs from each group were then presented in the plenary.

2.4 Module 3: Other Hazards – Earthquake and Tsunami

M3S1: Earthquake and Tsunami. This session sensitized participants on the earthquake and tsunami risks in the country. The session covered earthquake triggers, Maldives' seismicity, earthquake and tsunami-prone areas, and historical earthquake and tsunami events and their impacts.

M3S2: Earthquake Information Products – Generation, Interpretation, and Communication. This session familiarized participants on MMS' 24/7 earthquake monitoring and tsunami early warning system, and covered earthquake detection, monitoring, data acquisition and analysis, and standard operating procedure (SOP) for earthquake bulletin generation and dissemination. The session assisted participants in interpreting earthquake magnitude and intensity.

M3S3: Tsunami Information Products – Generation, Interpretation, and Communication. This session presented and discussed MMS' tsunami warning system, which include SOP for warning generation based on analysis of earthquake magnitude and epicenter and on information from regional tsunami warning centers, information products, and dissemination. The session also aided participants in the interpretation of tsunami bulletins. MMS emphasized that tsunami threat in the country is from regional source, hence about 2 hours lead time is available after an earthquake from the nearest source.

2.5 Module 4: Communicating Risks

M4S1: Risk Communication. The session discussed the basics of risk communication and design of risk communication materials. Case studies allowed participants to learn from documented experiences. A facilitated exercise assisted participants in the design of risk communication materials.

2.6 Closing Session

The Director General, MMS, thanked RIMES for facilitating the training, as well as the participants for their very active involvement. He stated MMS commitment to strengthen collaboration with user institutions, for enhanced application of forecast/warning information. The distribution of certificates then followed.

3 Training Outcomes and Recommendations

All 26 participants from the disaster management, tourism, health, and education sectors, including the media completed the training. The training provided yet another venue for forecast provider and user interaction toward usable forecasts and actionable warnings. About 97% of the participants were appreciative of the relevance of the training to their work. Participants from the education sector found the training as useful input to the school emergency operation plan that they are preparing. Annex 1 provides the feedback received from participant evaluation.

Participants provided the following recommendations for future trainings:

- Training should be conducted regularly
- Focal persons at regional/ atoll level could be trained as trainers, for replicating the training at local level, including schools
- Detailed description to graphs and tables in the training manual could be provided to facilitate their understanding
- Time could be devoted for discussion of emergency operation plans
- More time need to be allotted for critique and questions and answers, subsequent to sessions
- Exercises should be conducted in another area away from the meeting room
- Larger hall should be considered in subsequent trainings

Annex: Training Evaluation

The training was evaluated based on participants' assessment of:

a) Degree to which training objective was met
b) Relevance of topics covered
c) Contents of the training
d) Time allotted for the sessions
e) Usefulness of the materials provided
f) Knowledge, competence, clarity, and level of engagement of trainers/resource persons
g) Benefits of the training

The following figures present the evaluation results:

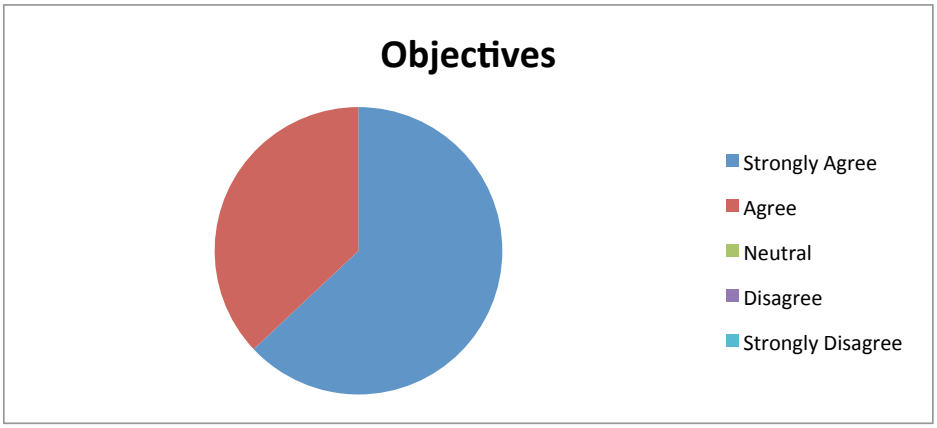

Figure 1. All participants agreed that the training met its objectives

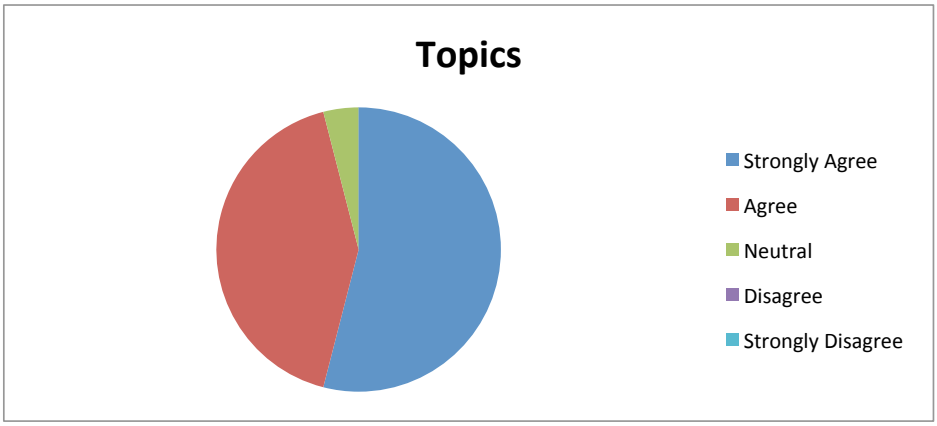

Figure 2. About 96% of the participants found the topics relevant

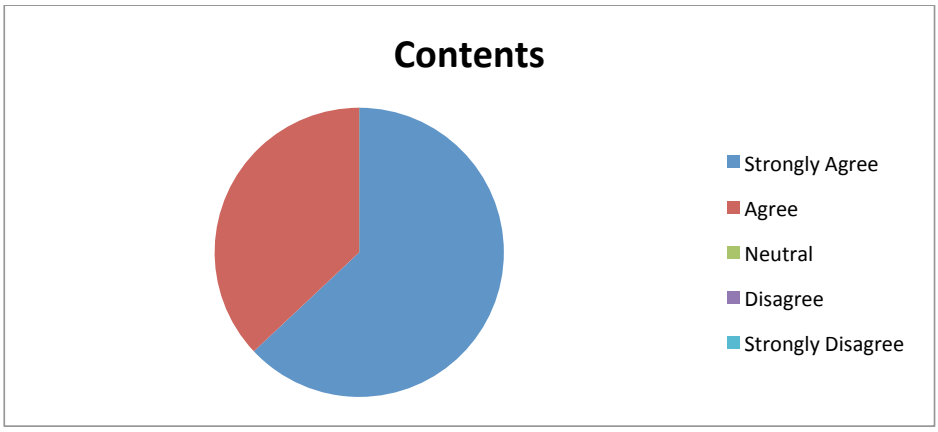

Figure 3. All participants found the contents of the training well organized and easy to follow

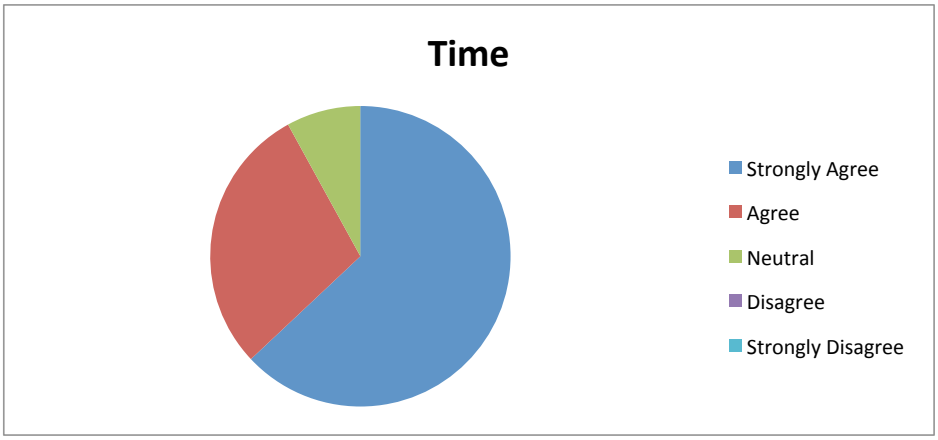

Figure 4. About 90% of the participants agreed thought that time allotted in each session was sufficient

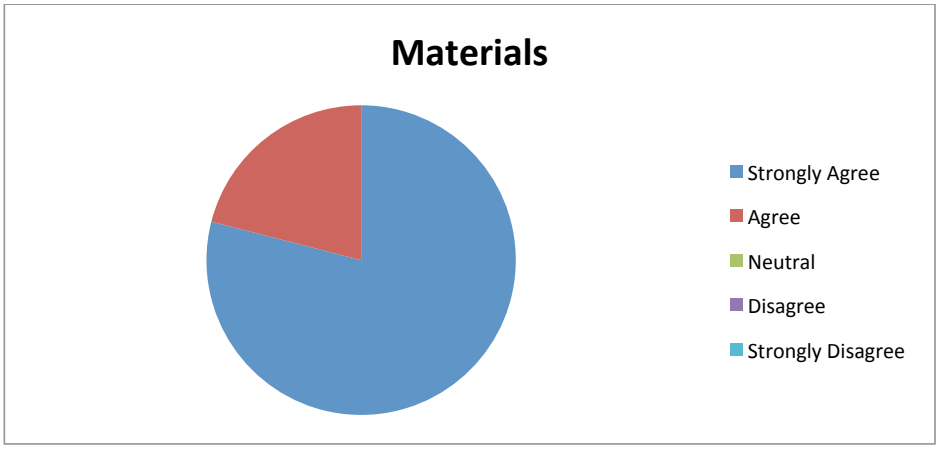

Figure 5. All participants found the materials useful and easy to understand

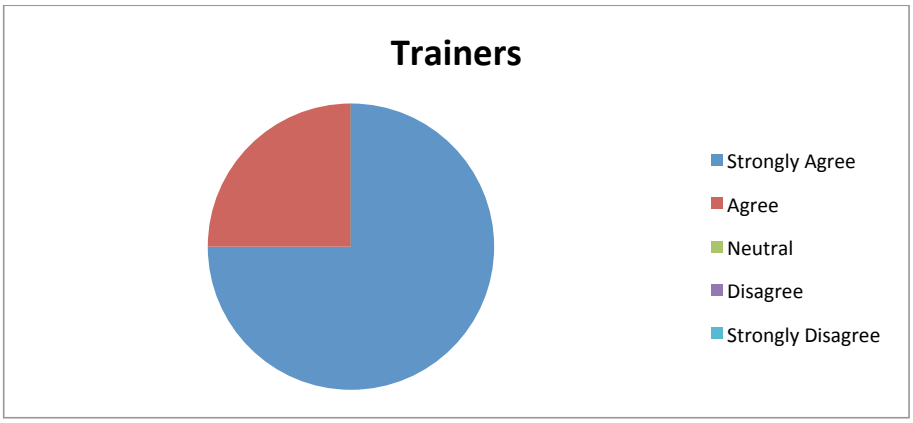

Figure 6. All participants found the trainers knowledgeable, competent, clear in their delivery of sessions, and engaged with the participants well during the training

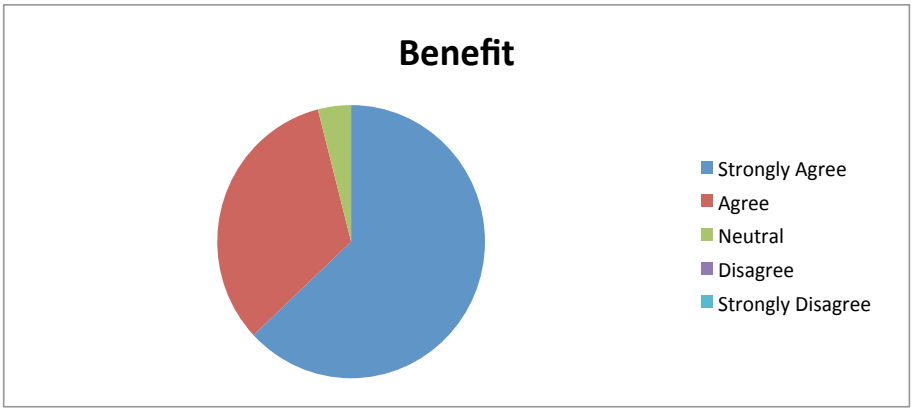

Figure 7. About 96% of the participants found the training beneficial to them and to their institutions

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