International Federation of Red Cross and Red Crescent Societies

Southeast Asia Climate Change Master Training

Session Plan of Session 6: Understanding and using weather and climate information - Early Warning Early Action / Bangkok Country Cluster Support Team / 2016

# Session Plan on Session 6: Understanding and using weather and climate information - Early Warning Early Action

Objective: At the end of this activity, the participants are able to:

1. Identify the four key elements of Early Warning and Early Action
2. Use weather and climate information on short, medium and long timescales for addressing climate risk today
3. Identify early actions National Societies can take in programming areas like health, disaster risk reduction and disaster management
4. Feel confident in enhancing or forming relationships with climate information providers and be able to describe the benefits and limitations of using forecasts

Key terminologies to cover in the session:

* Hourly, daily, monthly, seasonal and decadal forecasts.
* Seasonal forecasts on climate variability due to El Nino and La Nina (ENSO forecasts).
* Understanding the probabilities, level of confidence and determining the threshold for actions.
* Use of forecasts in action planning -daily, weekly monthly and seasonally.

Proposed Methodology:

Games, exercises, group work, presentations and lecture

Tips to Facilitator:

This module also links to Session 4 on mainstreaming CCA, adaptation projects and practices in urban and rural contexts. Also, focus on RCRC work on adaptation and tools like VCA and Session 5 on climatic risks and adaptation at community level

Reference materials:

* EWEA case study and guideline (IFRC\_Early Warning Early Action 2008, IFRC\_Early Warning Early Action Guideline SE Asia 2010, IFRC\_Community Early Warning System 2013, IFRC\_Case Study Whatever the Weather)
* IFRC\_Case Study\_Bridging the Gap integrating climate change and DRR (see in Session 5 Folder)
* Paying for Prediction game (Game\_Paying for Predictions\_Rules and Facilitation Guidelines and a power point presentation on it)
* Video: Pacific adventures of the climate crab (see the Pacific-adventures-of-the-climate-crab-large in Session 3 Folder).
* Game: Paying for Prediction (PowerPoint presentation and Rules and Facilitation Guidelines)

Duration: 3 hours, interrupted by coffee break

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| **Timing** | **Purpose/ Objective** | **Methodology** | **Material/facilitator** |
| *\*From when to when**(min)* | *What the activity aims at* | *How the activity is conducted, including the methods to be used (e.g. brain storming, group discussion, role play, etc.), questions, time duration, expected information, what the participants should do, etc.* *If case study or role-play will be used, explanation or information should be provided as well.* | *What materials, facilities, equipment are required to conduct this activity (e.g. flip charts, marker pens, color cards, etc.)* |
|  *10 mins* | *Introduction of module key objectives* | 1. Facilitator presents session and session objectives. (Slides 1 & 2)

*Important here to start showing the participants the relationships of this session with below modules discussing the* links: * Session 2 on the impacts of climate change,
* Session 4 - mainstreaming CCA, adaptation projects and practices in urban and rural contexts. Also focus on RCRC work on adaptation and tools like VCA
* Session 5 on climatic risks and adaptation at community level
 | *Power point slides**Do not teach here, just introduce the key objectives and link with between the sessions (2, 4 and 5 )* |
| 1.5 hrs |  | 1. **Activity 1: Gameplay vs PowerPoint**

[Gameplay: PAYING FOR PREDICTIONS](Game/Game%20Paying%20for%20Prediction.pptx)Understanding the probabilities, level of confidence and determining threshold for actions.Set-up the rooms and table ready for the activity. Explain to the teams the concept and objective of the game, how and who developed the paying for prediction game. Explain why it is important to conduct the prediction game first before we start this session. Handout the score sheets to each group and explain the roles of the observer. Emphasize that there will be a debriefing to discuss the lesson learned.At the end of the activity, debrief with the participants and record the lesson learned on Flip charts for the next activity discussion.([Instructions to the facilitator](Game/Game_Paying%20for%20Predictions_Rules%20and%20Facilitation%20Guidelines.pdf) on how to run the Gameplay is included in the resources section) | *Game PowerPoint & equipment (dice, score sheets etc.) (See Game Paying for Prediction.ppt and Game\_Paying for Predictions\_Rules and Facilitation Guidelines.pdf)**- Questions to facilitate discussion**- You need observers to provide feedbacks on each group.*  |
| 30 mins | *Introduction to Early warning early action concept* | 1. Facilitator ask participants what is their understanding or definition of Early Warning and Early Action
2. After gathering some answers, facilitator presents definition of Early Warning System (slide 3)
3. Facilitator further explains that as the climate changes, we can expect more extreme weather events more often which will impact on our health, livelihoods, water, security and others, hence the need for Early Warning and Early Action (slides 4 – 7)
4. Facilitator presents early warning system elements (slide 8) *(see trigger questions in notes page of PowerPoint presentation)*
* ***Risk Knowledge****: Collecting data to understand risks*
* ***Monitoring****: Collaboration with hazard monitoring services*
* ***Warning Communication****: Sharing information about hazards*
* ***Response Capability****: Preparing for pending hazards.*
1. Facilitator explains ***Element 1: Risk Knowledge*** (slide 9)
* Critical questions to ask on risk knowledge include:
* Are hazards well known?
* Are vulnerabilities well known?
* What are their patterns and trends?
* Are risks maps and data available?
* Risks could be at regional, national, sub-national and local levels.
* (For help incorporating climate information into a Vulnerability and Capacity Assessment, please see the Climate Centre’s “VCA and Climate Change: A summary for practitioners.” Please see Resources in Session 12, or download from <http://www.climatecentre.org/downloads/File/VCA%20guidance/VCA-CC-for%20practitioners-JUN2012.pdf>)
1. Facilitator explains ***Element 2: Monitoring*** (slide 10)
* Is the logical follow-on activity to keep up to date on how those risks and vulnerabilities change through time
* Hazard monitoring can include, for example, river gauges for floods and scientific forecasts for extreme rain or drought
* Forecasts issued for days, weeks and months in advance
* Collaboration with national meteorological service is crucial

***Note:*** Questions to consider when designing an Early Warning Early Action Plan:* Are the right indicators of the hazard being monitored?
* Can accurate and timely warnings be issued?
* Collaboration is crucial. While National Society disaster managers should have a basic understanding of forecasts, in order for the most efficient and effective results strong collaboration with information centers such as the national meteorological services and national disaster management offices is crucial.
1. Facilitator explains ***Element 3: Communication*** (slide 11)
* EW, EA means Using climate and weather information to take action before a disaster strikes, in order to reduce negative impacts (slides 12-13)
* Show the slides and discuss the bridging time scales slide with participants (slide 14)

To the left on the slide you will find the formal definition, but to put it simply: making use of climate and weather information before a disaster strikes and act sooner than you would do without this information. This concept will explain itself better in the coming slides.1. Facilitator explains ***Elements 4: Action***
* Forecasts caveats – it is time to take action versus specificity. (Slides 15-17)

When considering forecast information, it is important to understand the benefits and limitations of forecasts in order to manage our own expectations and inform our decision-making. * *3- 10 days forecasts*
* Forecasts on 3-, 7- and 10-day timescales are examples of ‘short’ lead-time forecasts, but they are very specific in terms of location and predicted outcomes, such as amount or duration of rainfall.
* *Monthly and Seasonal forecasts*
* Monthly and seasonal forecasts are longer lead-time forecasts that have the benefit of providing more time to take early action. However, they are less specific in terms of location – possibly covering regions of a country or regions of multiple countries as shown – and they are less specific in terms of outcome.
* We can predict that an area is more likely to have extra rain over a season, but not specifically but we say how much or which exact locations in the region will receive extra rainfall. This information is still very useful in helping to manage risks.
* When seasonal forecasts project a likely change in the normal (like more rain or drought), they are also an incentive to pay more attention to shorter-term weather forecasts (weeks/days), alerting us to upcoming hazardous events like emerging and approaching strong cyclones and associated rainfall and storm surges.
* *Climate Change predictions (even more lead time, less specific)*
* Climate change gradually increases the risks to weather-related disasters over long time scales, but it is difficult to predict exactly where, how and how much.
* Long-term forecasts are not precise – they can only tell what is more likely to happen in general. Nevertheless, long-term forecasts can help preparing for contingency planning for more extreme events and prepare for long-term changes in health risks etc.
* *Long lead-time forecasts can’t say it all about the future (Slides 18)*
* Therefore, we still need to pay attention to shorter-term weather forecasts (weeks/days) alerting us to upcoming hazardous events like emerging and approaching strong cyclones and associated rainfall and storm surges.
* Long-term forecasts are not precise. They can only tell what is more likely to happen over a large area. (slide 18)
* We need to also monitor shorter-term weather forecasts to better anticipate when, where or how severe.
 | *Power point with EWEA slides**- White board**- EWEA booklet**- Movie – movement experiences from West Africa**Map source: Yusuf and Francisco, 2009, Climate change vulnerability mapping for Southeast Asia.* |
|  | *Participants to understand the availability of weather and climate information across different timescales* (i.e. Hourly, daily, monthly, seasonal and decadal forecasts) as well as limitations and opportunities they bring | 1. Which forecasts are useful for humanitarian decision? What kind of early action should be taken in? – Short term, mid-term or long term (slide 19 - 20)
* This is the introduction to the ”scenario exercise” based on the separate word file with four scenarios.
* Matching the early warnings (at all timescales) with appropriate early actions (at all timescales) is the crux of an efficient Early warning, Early Action approach. For example, it does not make sense to plant trees against landslides when there is a short-term cyclone warning, nor to evacuate today a low-lying region because of warnings of rises in sea levels. The next slide will give some concrete examples.
* At slide 21 on the ENSO/La Nina, show video [climate crab](../10-MISCELLANEOUS%20-%20International%20Research%20Institute%20%28IRI%29%20and%20El%20Nino/Pacific-adventures-of-the-climate-crab-large.mp4)

**Different actions are appropriate at different level** (slide 24 - 32)* Early actions, when forecast uncertainty is still high, should be *low-cost* but beneficial, even if a particular disaster does not happen (‘no- or low-regrets options). These actions lay the groundwork for enhanced preparedness and response, which can be scaled up/intensified according to forecasts on shorter timescales. (Table source: *2009 World disasters Report*)
1. Group Exercise – Timescales (Slides 33-34)

***Activity 1-******Groups discussions,*** *divide the group into mix regional National Societies and ask groups to answer these questions:** Why do we need to use and understand weather and climate information better?
* What is early warning and early action?
1. Presentation of IRI skill maps which indicate where seasonal forecasts would be of most use in Asia Pacific <http://www.scribd.com/doc/239388098/Presentation-Slides-International-Research-Institute-IRI-RCRC-and-Seasonal-Forecast>
* Limitations in downscaling climate information
* Brainstorm on the types of information that are available to participants at different timescales
 |  |
| 30 mins |  | **Optional activity****Activity 5: Transforming early warning into early action in your country**This is a good time to start linking this activity to the final session on Day 7 on Next step on developing action planParticipants take home a plan for how the early warning early action concept can be translated into their country context.* Participants can spend time creating a draft agenda and to do list for creating an early warning early action training in their country. ALTERNATIVELY, they could spend time thinking about a particular forecast that they have access to that they could link with pre-determined early actions.

**Examples:** Installation of rain gauges and snow gauge stations, Contingency planning, raising awareness of farmers and other users through Climate Field Schools, Training volunteers and response teams on EW, upstream-downstream communication, preparing for the uncertain, short, medium and long term preparedness activities. | *Additional reading:* * *Tuvalu case study on acting upon seasonal forecasts*
* *IFRC Pacific drought* *checklist*
* *IFRC case study on making climate information user friendly for disaster managers*
 |
| 20 mins | *Review the Module objectives* | 1. **Review** (slides 35-37)

Review the sessions with the participants by presenting *the module objectives and discussed with participants to check their understanding and learning from this session.**Ask participants to share with you examples they learned related to the objectives****Module Objectives*** * *Use weather and climate information on short, medium and long timescales for addressing climate risk today*
* *Identify early actions National Societies can take in programming areas like health, disaster risk reduction and disaster management*
* *Feel confident in enhancing or forming relationships with climate information providers and be able to describe the benefits and limitations of using forecasts*

**Conclusion**Thank the participants for their active participants and informed them that you are available should they need to discuss further or clarified (for their learning and understanding) any key areas covered during the sessions.* Good places to check for those interested to learn more about the prediction game.
* Refer them to reference materials lists (maybe you can pre-prepare a list)
* Hand over to the key facilitators for the daily evaluation/critique
* Ask the participants to complete the session daily evaluation
 | *Power point slide* |