TERMS OF REFERENCE

External Evaluation of the Project
Coastal Hazard Early Warning and Response: Tools and Institutional Strengthening
Funded by the ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries (Ref. LOA No. 2012-0013)

1. Project Background

1.1 Context and Rationale

For countries with limited resources for disaster preparedness, as is the case for most countries in the Indian Ocean and Southeast Asian regions, identification of areas at high risk to hazards is crucial for prioritizing resource allocation. For tsunami in particular, risk assessment entails inundation modeling for a range of tsunamigenic scenarios, requiring computational capability and good quality near-shore bathymetric, topographic, and exposure datasets, which most countries in the region lack.

During the development of RIMES Master Plan 2010-2014, RIMES Member States agreed to address gaps in tsunami risk assessment capacity. Specifically, countries requested for capacity building in tsunami inundation modeling and risk evaluation, including the generation of high-resolution dataset, required in tsunami risk assessment. The countries noted the tsunami risk assessment capacity developed within RIMES Program Unit and the tools that it developed and tested. These tools include a low-cost methodology for near-shore bathymetric, topographic, and exposure surveys; a web-based tsunami propagation and inundation risk assessment tool (named INSPIRE); and a computer-based tool that integrates INSPIRE outputs into evacuation planning (named ESCAPE).

Investment of limited resources also favors ventures that are effective, efficient, and have longer-lasting impact. Hence, development of tsunami early warning systems has taken a multi-hazard approach, with resource sharing and early warning integration into broader disaster risk reduction and development among the sustainability strategies. Participating countries in the RIMES Council meeting in February 2011 emphasized the need for regional data sharing and regional interaction of forecasters during a tropical cyclone event to improve warning information generation, provision, and utilization in planning and decision-making.

1.2 Goal and Objectives

The project, hence, aims to:

a) Build tsunami risk assessment capacity in Myanmar, Philippines, Sri Lanka, and Thailand, building on UNESCO/IOC efforts in the Indian Ocean region and taking advantage of low-cost methodologies developed at RIMES;
b) Enhance tsunami warning and response capabilities in Myanmar, Philippines, and Sri Lanka; and
c) Develop mechanism for regional resource sharing, for improved warning information generation and dissemination;

toward an overall goal of strengthened early warning and response systems for tsunami and extreme weather events.

Annex 1 provides the results framework of the project.

1.3 Countries and Beneficiaries

Myanmar, Sri Lanka, and Thailand were selected from the Indian Ocean countries, while Philippines from the South China Sea countries. Philippines, Sri Lanka, and Thailand were the project countries under an ESCAP-supported project (TTF-07) that was previously implemented by RIMES; hence, necessary partnerships have already been established, and outputs from the preliminary tsunami risk assessments in Philippines and Sri Lanka could be refined through the current project. Myanmar and Sri Lanka are also project countries of an ESCAP-supported project (TTF-16) that RIMES is currently implementing; hence, the current project shall add a multi-hazard dimension to local level activities in these countries. Furthermore, Myanmar, Sri Lanka, Philippines, and Thailand represent countries of differing degree in risk assessment capabilities, from least to more capable, in terms of technical and human resource capacities. Engagement in Myanmar aims to build basic tsunami risk assessment capacity; in Sri Lanka to enhance existing capacity; in the Philippines, to offer low-cost methodology and robust tools, noting the large area exposed to tsunamigenic sources that require risk mapping; and in Thailand to provide science-based tools for risk and evacuation mapping, in response to request from the Ministry of Interior.

The project targets:

a) Technical government agencies involved in the generation of near-shore bathymetric and topographic maps and exposure data: Myanmar National Hydrographic Center and Department of Land Survey; Philippines' National Mapping and Resource Information Authority; and Sri Lanka's National Aquatic Resources Research and Development Agency (NARA) and the Survey Department
b) Technical agencies involved in tsunami risk assessment: Myanmar's Department of Meteorology and Hydrology (DMH), Philippine Institute for Volcanology and Seismology (PHIVOLCS), Sri Lanka's Coast Conservation Department, and Thailand's Department of Disaster Prevention and Mitigation (DDPM)
c) Research institutions/ universities involved in risk assessment
d) Users of risk assessment products: Myanmar's DMH and General Administration Department/ Relief and Resettlement Department; Philippines' PHIVOLCS and National Disaster Risk Reduction and Management Council (NDRRMC); Sri Lanka's Department of Meteorology (DoM) and Disaster Management Center (DMC); and Thailand's DDPM
e) Local authorities and other disaster management organizations at the pilot sites, such as the National Red Cross Society, NGOs, and CBOs
f) Members of the RIMES Council, consisting of National Meteorological and Hydrological Services (NMHSs) and/or technical agencies mandated to generate and provide early warning

1.4 Implementation Arrangement

The project is implemented in collaboration with National Meteorological and Hydrological Services (NMHSs)/ National Tsunami Warning Centers (NTWCs) as national focal points for implementation, and National Disaster Management Organizations (NDMOs) as focal points for local level activities.

1.5 Implementation Period

Project implementation commenced on 21 June 2013, and is due for completion on 31 December 2014.

2. Project Evaluation

2.1 Evaluation Objectives

The objectives of the end-of-project evaluation are to:

a) Provide an independent assessment of the relevance, efficiency, effectiveness, impact, and sustainability of the project
b) Identify key lessons and propose recommendations for follow-up actions and for consideration in RIMES future program design, implementation, and management

2.2 Use of Findings

Findings of the evaluation shall be communicated to ESCAP, as part of RIMES accountability to the ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries and its donors. Findings, particularly on the project's contributions to enhancing the country's tsunami warning system and areas that require follow-up actions, shall be communicated to national partner agencies. Findings shall also be communicated to RIMES Member States and to development partners in general, to advocate for replication. RIMES shall use findings of the evaluation for enhancing its project design, planning, and implementation strategies, as well as for guiding replication.

2.3 Evaluation Criteria

The following evaluation criteria shall be used:

a) Relevance: consistency of project outputs and results in comparison to what was expected from the project, as well as of project outcomes in relation to the beneficiaries' requirements, country needs, partners' policies, and the Trust Fund's strategic focus
b) Efficiency: the proficiency and expediency by which project outputs and results were achieved in relation to inputs utilized, including measures taken to improve implementation and maximize impact with limited resources
c) Effectiveness: extent to which the project's expected objectives/ outcomes have been achieved
d) Impact: changes and effects (positive/ negative, planned/ unforeseen) that have resulted from the project with respect to the target groups and other affected stakeholders
e) Sustainability: the degree to which the project's beneficial outcome will continue after completion of project activities

2.4 Methodology

The evaluation shall involve:

a) Review of documents, including approved project document, project agreement, progress reports
b) Interviews of project partners and direct beneficiaries
c) Analysis of data collected
d) Use of appropriate tools to inform evaluative judgments

2.5 Evaluator

RIMES shall engage an external Evaluator, with the following key tasks and qualifications:

2.5.1 Key Tasks

a) Review project-related documents, including project agreement, progress reports, etc.
b) Develop an analytical framework for the evaluation, including evaluation tools and work plan
c) Finalize the analytical framework, including evaluation tools and work plan, integrating inputs from the Evaluation Management Team

d) Undertake data collection and analysis. Ensure assessment is objective and balanced, affirmations are accurate and verifiable, and recommendations are realistic.
e) Present preliminary findings to RIMES Evaluation Management Team, and receive feedback.
f) Prepare draft final report. Acknowledge clearly where changes in the desired direction are already taking place.
g) Prepare final report, integrating/ addressing comments from the evaluation quality assessment

2.5.2 Qualifications

o At least 10 years experience in working with development organizations and donors
o At least 5 years proven experience in project evaluation
o Familiarity with institutions and with early warning and disaster management systems in Myanmar, Philippines, Sri Lanka, and Thailand
o Demonstrated experience in development of evaluation analytical framework and tools
o Strong analytical/ data analysis skills
o Demonstrated experience in research report writing and data presentation
o Excellent English communication skills

2.6 Management

The Evaluator shall report to an Evaluation Management Team, consisting of the RIMES Director, the project's technical lead, RIMES Capacity Building Specialist, and Chief of Program Management. The Evaluation Management Team shall:

o Review and comment on the analytical framework for the evaluation, including the evaluation questions, and work plan
o Provide guidance for the field visits
o Provide feedback on the initial findings
o Assess the quality of the evaluation (refer to Annex 2 for the quality assurance tool)
o Ensure independence of the evaluation process

RIMES Program Management Unit shall support the evaluation in organizing field visits, including availability of translators in the project countries, as may be needed.

2.7 Timeframe

The evaluation shall be conducted over 22 working days, commencing preferably on 1 December 2014. The tentative schedule is as follows:

a) Document review: 2days
b) Development of evaluation analytical framework and tools: 1 day
c) Consultation with Evaluation Management Team and finalization of evaluation analytical framework and tools: 1 day
d) Field data collection: 11 days
e) Presentation of preliminary findings, debriefing with Evaluation Management Team: 1 day
f) Preparation of draft final report: 5 days
g) Preparation of final report: 1 day

2.8 Expected Outputs

The following deliverables are expected:

1) Evaluation analytical framework and tools, finalized in consultation with the Evaluation Management Team
2) Preliminary findings and recommendations at a meeting with the Evaluation Management Team
3) Draft evaluation report that includes:

- Executive Summary that includes key conclusions, good practices, lessons, and recommendations
- Main text, to include:
    - Project context
    - Evaluation methodology
    - Overall project assessment
    - Analysis based on evaluation criteria
    - Key accomplishments
    - Lessons learnt/ opportunities for improvement
    - Recommendations
    - Good practices
- Appendices, to include evaluation terms of reference, analytical framework, evaluation tool, list of persons/ organizations consulted, documentation consulted, other relevant technical annexes

4) Final evaluation report, integrating comments and addressing comments from the evaluation quality assessment

2.9 Dissemination of Report

The full evaluation report shall be submitted to ESCAP, the project donor. A special short summary of the evaluation, pointing out the most relevant conclusion, lessons, and recommendations shall be shared with partners and relevant stakeholders in the project countries, as well as with members of the RIMES Council and other development partners.

2.10 Terms and Conditions

- Consulting rate is negotiable, commensurate with qualifications
- Most economical direct route airfare from the Evaluator's base location to RIMES to the project countries and return
- Reimbursable local travel, visa and terminal fees, and communication costs
- Accommodation and per diem based on UNDP rates
- Travel and health insurance

3. Expressions of Interest

Applications are invited from suitably qualified consultants. Interested individuals shall submit: a) an application letter that elaborates the understanding of the assignment, approach to be used in the evaluation, and evaluation tools to be used, and stating the consultant's daily rate; and b) current CV.

Deadline for application: 26 November 2014. Only shortlisted candidates shall be contacted.

ANNEX 1
RESULTS FRAMEWORK

Goal: Strengthened early warning and response systems for tsunami and extreme weather events

Expected Outcome 1: Tsunami risk assessment capacities built within relevant technical agencies and research institutions

Performance indicators:
- At least 6 technical staffs of technical agencies in charge of bathymetric and topographic surveys each in Myanmar, Philippines, and Sri Lanka trained in planning for and undertaking near-shore bathymetric, topographic, and exposure surveys, data quality control, DEM generation and mosaicking, building footprint interpretation, building properties estimation, and DEM and building data combination
- At least 10 technical staffs of technical agencies and research institutions involved in tsunami risk assessment each in Myanmar, Philippines, Sri Lanka, and Thailand trained in data preparation and management, tsunami simulation and risk assessment, and tsunami hazard and risk mapping, using INSPIRE
- Technical agencies in charge of bathymetric and topographic surveys in Myanmar, Philippines, and Sri Lanka received survey methodology, equipment, materials, and software used during the training
- Technical agencies in charge of tsunami risk assessment received INSPIRE system used during the training

Expected Outcome 2: Improved tsunami warning capabilities within national tsunami warning centers and response capabilities within disaster management organizations and communities

Performance indicators:
- At least 15 staffs of NTWC, NDMO, and relevant risk information user agencies and institutions each in Myanmar, Philippines, Sri Lanka, and Thailand trained in the interpretation and use of tsunami risk maps
- At least 10 staffs of NDMO each in Myanmar, Philippines, Sri Lanka, and Thailand trained in data preparation and management and evacuation mapping, using ESCAPE
- At least 20 staffs of NDMO, relevant agencies, and local authorities and disaster management organizations from one pilot site, each in Myanmar, Philippines, and Sri Lanka, practiced in tsunami evacuation using ESCAPE outputs and UNESCO/IOC guidelines
- NDMOs in Myanmar, Philippines, Sri Lanka, and Thailand installed ESCAPE system and received multi-hazard exercise planning, implementation, and evaluation manual that were used in training

Expected Outcome 3: Regional resource sharing for improved warning information generation and dissemination

Performance indicators:
- Regional data sharing policy and mechanism agreed to and adopted by RIMES Member States
- Mechanism for regional online interaction of forecasters during tropical cyclone occurrence agreed to and adopted by RIMES Member States
- At least 5 countries not covered by this proposed project learn from experiences and lessons/successes shared through RIMES Council meetings, and identify activities and funding sources for replication

Outputs:

1) Printed user manuals on:
   a) Near-shore bathymetric, topographic, and exposure field surveys
   b) DEM generation
   c) INSPIRE
   d) ESCAPE
   e) Planning, implementation, and evaluation of multi-hazard exercises

2) Tsunami hazard and risk maps for one site each in Myanmar, Philippines, Sri Lanka, and Thailand

3) Evacuation maps for one site each in Myanmar, Philippines, Sri Lanka, and Thailand

4) Training reports in:
   a) Near-shore bathymetric, topographic and exposure surveys
   b) Data generation, quality control, and preparation for tsunami risk assessment
   c) Tsunami hazard and risk mapping
   d) Tsunami evacuation mapping and testing

5) Regional data sharing policy and mechanism document

6) Mechanism for regional online interaction of forecasters document

7) Project monitoring and evaluation reports:
   a) Semi-annual progress and financial performance reports
   b) Final evaluation report
   c) Final project completion report

ANNEX 2
QUALITY ASSESSMENT OF EVALUATION REPORT

Criteria/ Rating					Score
Unacceptable (1)	Poor (2)	Good (3)	Very Good (4)	Excellent (5)	
1. Meets needs					
Too many questions on the TOR are not addressed at all	Some questions on the TOR are partially answered only	The demands in the TOR, including evaluation questions are answered adequately	The evaluation report includes a clear overview of how stated project objectives have been achieved, and has clarified the intervention logic. The report goes beyond the demands of the TOR and addresses other topics of interest.	The report meets and goes beyond the requirements of the TOR, as well as relates the evaluation to the bases of development, country policy, and regional cooperation.	
2. Relevant scope					
Several dimensions of the intervention and/ or several major effects are inadequately addressed	One or two dimensions of the intervention and/ or major effects are inadequately addressed	The report deals with the whole intervention in its temporal, geographic, and regulatory dimensions. The main intended and unintended effects are identified.	In addition to the points under "Good", the evaluation referred to other donors' interventions and project countries' policies.	In addition to the remarks under "Very Good", the report systematically examined the project's unintended effects in detail.	
3. Defensible design					
The evaluation method/ methodological choices were not in line with the results being sought	Methodological choices were made without being explained, or defended	The evaluation methodology is clearly explained and actually applied throughout the evaluation process. The methodological choices were appropriate enough to meet the requirements of the TOR.	The limitations inherent in the evaluation method are clearly specified, and the methodological choices were discussed against other options.	In addition to the points under "Very Good", a critique was made on the method and methodological choices. The report points out the risks that might have been incurred if other methodological options had been adopted.	
4. Reliable data collected and used					
Certain data are manifestly distorted/ biased/ useless. Data collection tools were not applied correctly.	Both quantitative and qualitative data provided are not very reliable regarding the evaluation question asked. Data collection tools are questionable (e.g. insufficient sample size)	Both quantitative and qualitative sources were identified. The Evaluator tested data reliability. Data collection tools were clearly explained and adjusted to the data sought after	Data was systematically cross-checked by relying on sources or data collection tools that are independent of one another. Limitations pertaining to data reliability or data collection tools are made explicit.	All biases in information provided were analyzed and rectified my means of recognized techniques.	
5. Sound analysis					
Two of the following elements are addressed inadequately: analysis approach, cause and effect	One of the three elements listed under "Unacceptable" is not well addressed	The quantitative and/or qualitative analysis is done rigourously, following the recognized and	The analysis approaches are explicit and their validity limitations are specified. Underlying cause	Every analysis bias (across 3 elements) are systematically reviewed and presented, including its consequence in	

Criteria/ Rating					Score
Unacceptable (1)	Poor (2)	Good (3)	Very Good (4)	Excellent (5)	
links between intervention and its consequences, and comparisons (e.g. before/ after, beneficiaries/ non-beneficiaries)		relevant steps depending on the type of analyzed data. Cause and effect links between the intervention and its consequences are explained. Comparisons are made explicit.	and effect assumptions are explained. Validity limitations of comparisons made are pointed out	terms of limiting the validity.	
6. Credible findings					
Credibility of analyses is poor. Some assertions in the text cannot be sustained. Extrapolations made or generalizations of analysis are not relevant.	Analysis results seem imbalanced. The context is not made explicit. Extrapolations made or generalizations of analysis are not relevant.	Findings derived from the analysis seem both reliable and balanced, especially in view of the context in which the intervention is being assessed. Interpretations and extrapolations made are acceptable. The findings acceptably reflect the reality described by the data and evidence recorded on hand, and the reality of the intervention as perceived by the actors and the beneficiaries on the other hand.	Limitations applying to interpretations and extrapolations are explained and discussed. The effects of the intervention under evaluation are isolated from the external factors and contextual constraints. Both internal validity (absence of analysis bias) and external validity (generalizability of findings) are satisfactory.	Imbalances between the internal and external validity of findings are systematically analyzed, and the consequences this has on the evaluation is made explicit. Contextual factors were identified, and their influence was demonstrated. Biases involved with the choice of interpretative assumptions and in the extrapolations are analyzed, and their consequences are made explicit.	
7. Valid conclusions *(how conclusions are reached)*					
Conclusions are not backed by relevant and thorough analysis, and are based on unproven data. Conclusions are partial because they reflect the Evaluator's preconceived ideas, rather than the analysis of the facts.	Conclusions are made from hasty generalization of some of the analyses. The limitations to the conclusions' validity are not pointed out.	Conclusions are derived form analysis, and are grounded on both facts and analysis that are easily identifiable throughout the report. The limitations to the conclusions' validity are pointed out, as well as the context in which the analysis was done.	Conclusions are debated upon in connection with the context in which the analysis was done. The limitations to the conclusions' validity are made explicit and well grounded.	Conclusions are organized along hierarchical lines, and reached in relation with the global nature of the intervention under evaluation. They take into account the intervention's connection with the context in which it takes place, considering other programs or connected public policies in particular.	
8. Useful recommendations *(how recommendations are articulated and derived from conclusions)*					
Recommendations are disconnected from the conclusions. They are biased, and mostly reflect certain players' or beneficiaries' viewpoints of the Evaluator's preconceived ideas.	Recommendations are not very clear, or are mere evidence without any added value. Their operability is arguable. The connection with the conclusions is not clear.	The recommendations follow logically from the conclusions. They are impartial.	In addition to the points under "Good", the recommendations are prioritized and presented in the form of options for possible actions.	In addition to the points under "Very Good", the recommendations are tested and the validity of limitations are pointed out.	

Criteria/ Rating					Score
Unacceptable (1)	Poor (2)	Good (3)	Very Good (4)	Excellent (5)	
9. Clear report					
Absence of summary. Illegible report and/or disorganized structure. Lack of conclusion and recommendations chapter.	The report is hard to read and/or its structure is complex. Crossed references are hard to understand or make reading difficult. The summary is too long, or does not reflect the body of the report.	The report is easy to read and its structure is logical. The summary is brief and reflects the report. Specific concepts ad technical explanations are presented in an annex, with clear references throughout the body of the text.	The body of the report is short, concise, and easy to read. Its structure is easy to memorize. The summary is clear and presents the main conclusions and recommendations in a balanced and unbiased manner.	The report can be read like a "novel", and its structure has an unquestionable logic. The summary is operational in itself.	
Overall assessment					
The report is considered unacceptable if there are over 4 unacceptable ratings.					

Adopted from EuropeAid