

**Annex I**  
**Terms of Reference / Work Plan and Budget**



ESCAP Trust Fund for Tsunami, Disaster and  
Climate Preparedness in Indian Ocean  
and Southeast Asian Countries

**A. Overview**

1	ORGANIZATION SUBMITTING PROPOSAL	Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)
2	FOCAL POINT AT ORGANIZATION AND RELEVANT CONTACT INFORMATION	A.R. Subbiah Director Outreach Bldg., Asian Institute of Technology Campus 58 Moo 9 Paholyothin Rd., Klong Nung (PO Box 4) Klong Luang Pathumthani 12120, Thailand
3	PROJECT TITLE	Capacity Building on Generation and Application of Downscaled Climate Change Projections
4	BENEFICIARY COUNTRIES	Myanmar, Pakistan, Sri Lanka
5	TARGET GROUP(S)	National meteorological and hydrological services, climate-sensitive sectors, and planning departments
6	TIME FRAME	20 November 2014 - 30 September 2016
7	TOTAL BUDGET (US\$) AND BREAKDOWN OF FUNDING SOURCES	Total cost for ESCAP: USD 329,115 RIMES contribution: USD 187,780 Total project cost: USD 516,895

**Executive Summary**

Climate change risks are difficult to assess in the absence of usable climate projections, thus constraining the development of effective adaptation and risk management strategies. Several initiatives are ongoing to generate regional climate scenarios and have scenario products and climate datasets available to the application community. These products, however, need to be customized to the country's geographical domain and at a scale that is relevant for local level risk analysis. In addition, the cascade of uncertainty in climate projections, due to approximations used in climate modeling, is a key issue, requiring user capacity for climate projection interpretation and application.

The proposed project, hence, shall build capacity of: a) national meteorological and hydrological services (NMHSs) in customizing regional climate projections; b) sectoral users on interpretation and application of customized climate projections for risk analysis; and c) planning departments for integrating risk-informed adaptation into the

development planning process, with pilots in Myanmar, Pakistan, and Sri Lanka, countries with robust Monsoon Forums, and where users have demanded for these products and capacity building services and where NMHSs have requested RIMES to assist in responding to these demands. In addition, the project shall strengthen Monsoon Forums, the institutional mechanism in the countries for delivery of climate information and multi-hazard risk information, and a platform for dialogue between forecast and risk information providers and users.

The proposed interventions shall contribute to climate-resilient development and resource management processes in the project countries.

## **B. Need Assessment**

The Fund's Strategy Note 2013-2016 highlighted increased risks from climate change. These risks are, however, difficult to assess in the absence/lack of usable climate projections, thus constraining the development of effective strategies to manage risks. Several initiatives are ongoing to generate regional climate scenarios and have scenario products and climate datasets available to the application community. Of note is the Coordinated Regional Downscaling Experiment (CORDEX) of the World Climate Research Programme by WMO, International Council for Science, and UNESCO/IOC, which aims to provide impact and adaptation communities with regional climate scenarios for 30-year time slices from 1951 until 2100 for 14 regions in the world that includes South, East, Southeast, and Central Asia. Products for the South Asian region are already available through the work of the Centre for Climate Change Research of the Indian Institute of Tropical Meteorology (IITM), CORDEX focal point for the region.

The challenge that most, if not all, users have is usability of climate scenarios. Although regional scenarios are at 50 km resolution, these still need to be customized to a country's geographical domain, preferably at a scale relevant for local level risk analysis. The cascade of uncertainty in climate projections due to approximations used in modeling, from selection of demographic, socio-economic and environmental futures and emission scenario, to model assumptions, simplification and internal variability, and quality and quantity of observation data, in addition to the climate system's inherent variability, is a key issue. User capacity to interpret and apply scenario products is, hence, a necessity.

The proposed project shall address these needs, in line with ESCAP Trust Fund's Strategic Pillar II on specific country needs, relating to institutional strengthening and applications.

## **C. Problem Analysis**

Demand for usable climate projections, articulated by users from climate-sensitive sectors, has been integrated in the RIMES Master Plan 2010-2014 (Attachment 1), wherein Bangladesh, Bhutan, Kenya, Maldives, Myanmar, Nepal, Pakistan, Philippines, Seychelles, Sri Lanka, and Timor-Leste, identified, as a priority, the study of climate change trends and how risk patterns evolve under such change, for guiding adaptation and risk reduction efforts. In Myanmar, users re-articulated this demand in the 9<sup>th</sup> Monsoon Forum, held in Nay Pyi Taw in October 2012, particularly for region- and state-specific climate projections to guide locally appropriate adaptation (Annex 2). Attachment 3a communicates Myanmar's Department of Meteorology and Hydrology's

(DMH) request from RIMES to assist in responding to this demand. Sri Lanka's Department of Meteorology (DOM) articulated similar demand during the first meeting of the RIMES Task Force from 21-22 February 2014 (Attachment 4, page 5). Attachment 3b communicates DOM's request for RIMES capacity building assistance on generation of downscaled climate projections, and in training users for application. In Pakistan, the Pakistan Meteorological Department (PMD) has been recently reaching out to users through the Monsoon Forum. PMD values the provision of a range of climate information products at different timescales and building user capacity for application. Attachment 3c provides PMD communication to RIMES in this regard.

#### D. Target Group

The table below identifies the target groups for the proposed project components.

Project component	Target group
Generation of downscaled projections	Department of Meteorology and Hydrology, Myanmar Pakistan Meteorological Department Department of Meteorology, Sri Lanka
User capacity building for application	Planning departments in climate-sensitive sectors
Strengthening Monsoon Forums for climate information delivery	Department of Meteorology, Cambodia Department of Meteorology and Hydrology, Lao PDR Pakistan Meteorological Department Users in climate-sensitive sectors in Cambodia, Lao PDR, and Pakistan, which includes disaster management, agriculture, water, health, environment, power, etc.

Myanmar's DMH and Sri Lanka's DOM are beneficiaries of the project "Reducing risks of tsunami, storm surges, large waves, and other natural hazards in low elevation coastal zones" (TTF-16). The project is assisting these institutions in improving availability of climate information products of up to seasonal scale and on enhancing interactions with users through the Monsoon Forum. The project also builds capacity of users in the application of long-lead climate information. The proposed project shall complement TTF-16, with addition of downscaled climate projections. Myanmar and Sri Lanka are low-capacity countries, but with robust Monsoon Forums, with active user participation.

Pakistan's PMD, although technically capable, lacks in engaging users for ensuring that information provided are user-relevant. PMD has recently taken active initiative to reach out to users through the Monsoon Forum. RIMES supported the first two forums in 2013 and 2014. The proposed project shall support the Forum and add downscaled climate projections to PMD's products.

Capacity building for application of downscaled climate projections in adaptation planning shall target planning departments of user-sensitive sectors. The proposed project shall train users in applying downscaled climate projections, which have increased uncertainty, in assessing future climate risks and identifying adaptation actions. In Myanmar and Sri Lanka, this shall build on the training under TTF-16 on translating seasonal forecasts into potential impacts and impact management options.

Monsoon Forums in Cambodia and Lao PDR were initiated in 2011, with support from the Food and Agriculture Organization (FAO), to enable users to apply seasonal forecasts for improving food security. Three Forums were supported from 2011 to 2012. Sustained support is needed for meaningful user engagement, until Cambodia's DOM and Lao PDR's DMH are able to fund the forums on their own.

#### **E. Project Strategy**

*Capacity building on generation of usable climate projections.* RIMES shall build capacity of NMHSs in customizing available regional climate projections and having these customized products easily available to users.

CORDEX outputs for South Asia shall be accessed through IITM, CORDEX focal point for the region and an agency under the purview of the Government of India's Ministry of Earth Sciences, which is RIMES Council Chair. CORDEX Southeast Asia has just organized itself, with the first meeting in Jakarta in November 2013. Hence, CORDEX outputs for this region are not yet available. Thus, for Myanmar, RIMES shall assist in generating climate projections, using the regional climate model available from University of Hawaii's International Pacific Research Center (IPRC), which has been validated over the Indian Ocean region. RIMES has ongoing partnership with IPRC on climate research. Through this partnership, RIMES gained access to global and regional climate models available from IPRC, and used these for the project on "Development of high-resolution regional climate model for the Maldives through statistical and dynamical downscaling of global climate models to provide projections for use in national and local planning", which was funded by UNDP through the Maldives Ministry of Housing and Environment.

User consultations through Monsoon Forums shall confirm the demographic, socio-economic, and environmental futures and emission scenario used in generating the regional scenario (for Pakistan and Sri Lanka)/ seek stakeholder guidance for these inputs into the regional climate modeling (for Myanmar), and assess user needs on required climate parameters and resolution relevant for risk analysis.

NMHS professional staffs from Myanmar, Pakistan, and Sri Lanka shall be seconded to RIMES for capacity building on validating and customizing regional climate projections for the countries. Validation shall be made against observation data available in the countries. Customization shall use statistical downscaling techniques. Methodologies and tools (e.g. data quality control, climate downscaling techniques, development of indices/ thresholds for extreme events, uncertainty analysis, GIS techniques for product visualization, etc.) shall be transferred to the NMHS. Customized products shall be delivered to users through the Monsoon Forum, as well as through the NMHS website.

*Capacity building on interpretation and application of high-resolution climate projections.* In collaboration with the NMHS, training shall be provided to sectoral users on interpretation of climate projections and their use in risk analysis, considering inherent uncertainty. The training shall include potential impact assessment and evaluation of adaptation options and risk management strategies in key sectors, such as agriculture, fisheries, water resources, ecosystems, environment, health, infrastructure, and disaster management. The training, involving sectoral experts in the country, could be organized back-to-back with the Monsoon Forum, after the receipt of customized scenario products.

Training outputs shall feed into a report that shall be prepared for the national planning agency, as input to their planning process. Additionally, output from a policy and institutional analysis shall be provided for integrating adaptation into the national planning framework. Attachment 5 provides the analytical framework for climate-resilient development planning. A workshop shall share experiences in climate proofing development plans. RIMES experience in Tamil Nadu in India shall be highlighted as an example on how past climate and impact information were used in quantifying losses in key sectors to assess sectoral sensitivity to climate-related hazards, and how future climate could impact these sectors and affect development targets (Attachment 6). The Tamil Nadu Planning Commission, during the implementation of the TTF-16 project, adopted a climate risk management framework in the development of the State's Twelfth Five-Year Plan (2012-2017) (Attachment 7, page 19) and Tamil Nadu 2023 vision document (Attachment 8), informed of these potential risks.

*Strengthening of Monsoon Forums.* Monsoon Forums are avenues for users to articulate their needs and demands for products that are relevant for application. In Sri Lanka, under the TTF-16 project, efforts are now ongoing to reduce the duration of the Forum to half a day to enable DOM to host it on its own. Increased user awareness and active interaction with DOM and invaluable support by the Ministry of Disaster Management have made this possible. In Myanmar, further assistance would be required before it reaches this point. RIMES' flood forecasting project, funded by the Government of India, shall continue providing support when TTF-16 support ends. In Pakistan, the Forum was established in 2013, with technical and financial assistance from RIMES. RIMES proposes for continued catalytic support to Pakistan through this proposed project.

The Forums in Cambodia and Lao PDR, established in 2011, engaged sectors relevant to food security. Under the proposed project, participation to the Forum shall be expanded to include other sectors, such as transport, infrastructure, and environment, and cover hazards other than climate-related.

For these low-capacity countries, RIMES shall advocate for financial support from the countries' respective ministries in-charge of the NMHS, for improving NMHS computing and human resources and in sustaining Monsoon Forums, to complement RIMES efforts in building technical capacity of NMHS forecasters and ESCAP's catalytic support for the forums. Integration of the forums with regional systems, such as the South Asian Climate Outlook Forum (SASCOF) and the ASEAN Climate Outlook Forum (ASEANCOF), is underway. NMHSs participate in these regional forums to receive regional climate outlook products and provide feedback on user needs and application. ASEANCOF, which convened for the first time in December 2013, has indicated its intent to participate in national forums.

## **F. Results Framework**

The project shall contribute to climate-resilient development planning and improved resource management in the target countries.

Expected outcome of the project is capacity in climate risk-informed development planning and resource management processes. At the end of the project:

- National planning agencies in Myanmar, Sri Lanka, and Pakistan adopt a climate risk management approach in development planning process
- At least 3 sectoral climate change adaptation programs that are informed by climate risk assessments
- Potential losses minimized in the target countries from application of climate risk information in resource management

Expected outputs of the project, with corresponding performance indicators are:

- Availability of downscaled, customized climate projections for Myanmar, Sri Lanka, and Pakistan
  - Scenario products delivered to users through the Monsoon Forums and are available from the websites of the Department of Meteorology and Hydrology (DMH, Myanmar), Department of Meteorology (Sri Lanka), and Pakistan Meteorological Department (PMD)
  - At least 10 staffs each from DMH, DOM, and PMD (total of at least 30) trained on climate downscaling and visualization of climate scenario products
- Enhanced capacity within climate-sensitive sectors in Myanmar, Sri Lanka, and Pakistan on climate risk analysis and adaptation planning
  - At least 10 institutions in each of the countries trained on the use of climate projections in risk analysis and adaptation planning
  - Technical guide on climate projections-informed risk analysis and adaptation planning
- Robust climate information provider – user forums in Cambodia, Lao PDR, and Pakistan
  - Monsoon Forums convened before the start of the Southwest and Northeast Monsoons each year in each of the countries, with wider user participation
  - Articulation of user needs and demands, and NMHS actions in response to these demands
  - Written commitment from each country to financially sustain the Forums

## **G. Contribution to Regional Coordination/Cooperation**

The project contributes to mainstreaming of climate change adaptation into long-term development planning, strengthening capacities in climate change adaptation and disaster risk reduction, and effective use of information and communications technology for disaster risk reduction, consistent with ESCAP Resolution 69/12 on enhancing regional cooperation for building resilience to disasters in Asia and the Pacific.

Monsoon Forums link forecast generators, warning providers, and users, and provides a platform for dialogue for ensuring that forecasts and warnings are received and used at national down to local levels. The Forums are/shall be linked with regional climate outlook forums for integration of user needs in the development of regional climate products. Climate risk information and adaptation and risk management strategies shall be included in climate field school curriculum and in local level forecast producer-

user dialogues under TTF-16 and RIMES-supported programs, for raising awareness and influencing local actions.

## **H. Gender Considerations**

Training on climate risk analysis and adaptation and risk management assessment shall include a module on gender considerations, based on the guidelines developed by ISDR-UNDP-IUCN (Attachment 9).

## **I. Partners**

The following institutions shall be involved in project implementation:

- Indian Institute of Tropical Meteorology/Centre for Climate Change Research for access to regional climate projections for the South Asian region
- University of Hawaii/International Pacific Research Center for access to regional climate model for use in generating climate projections for Myanmar
- NMHSs of Cambodia, Lao PDR, Myanmar, Pakistan, Sri Lanka, Timor-Leste, and Vietnam as national focal points for project implementation and convener of the Monsoon Forum, and for taking steps to sustain the Monsoon Forum. Additionally:
  - NMHSs of Myanmar, Pakistan, and Sri Lanka shall provide staff for secondment at RIMES for validation and customization of regional climate projections for their country, and make customized products available to users through their website and the Monsoon Forum
- Sectoral institutions in the target countries for active participation in the Monsoon Forums, providing staff for training, providing domain knowledge for sectoral impact analysis and evaluation of adaptation options, and integrating climate risk assessment into resource and disaster risk management and planning processes
- National planning agencies of Myanmar, Pakistan, and Sri Lanka for providing staff for training and to use risk information and tools for integrating adaptation in development planning
- India Meteorological Department and ASEAN Specialised Meteorological Centre, conveners of SASCOF and ASEANCOF, respectively, for linking national Monsoon Forums to ensure that user needs and demands are considered in the generation of regional climate products

## **J. Capacity**

Methodologies/tools/outputs/experiences from the following projects shall be used/referred to in implementing the proposed project:

*Climate information generation and application:*

- Development of high-resolution regional climate model for the Maldives through statistical and dynamical downscaling of global climate models to provide projections for use in national and local planning, March-December 2011, funded by UNDP through the Ministry of Housing and Environment, Maldives. Relevant activities undertaken include: review of climate change modelling information for the Maldives and identification of evident gaps;

- finalization of climate variables and GCM scenarios; statistical and dynamic downscaling; model tool validation and customization; training on downscaling and visualization techniques; communication of findings to national and local level planners and decision-makers; training on interpretation and translation of climate projections; and expansion and strengthening of composite disaster risk profiles of at least 10 islands, based on the revised regional climate model
- Climate risk management technical assistance support project, January 2010–August 2012, covering Bhutan, India, Mongolia, Nepal, Pakistan, and Sri Lanka, funded by UNDP. Relevant activities undertaken include: analysis of historical and current climate variability and trends using observation data; prediction of climate variability and extremes to capture observable trends; selection of GCMs that confirm observed trends; generation of climate projections; institution, decision, and policy research; and consensus-based identification and prioritization of risk management actions
  - Enhancing early warning system for community-based response in Bangladesh, April 2012–September 2014, funded by USAID through CARE. Relevant activities include: Development of flash, 10-day, 25-day, and seasonal flood forecasting systems; capacity building of sectoral experts on translation of probabilistic forecast information into impact outlooks
  - Development of weather forecast modeling and flood forecasting system for Nepal, June 2009–May 2011, funded by Danida. Relevant activities include: model customization, validation, and improvement; flood risk mapping; capacity building on weather and flood forecasting and application; technology transfer
  - Enhancing capacities of National Red Cross Societies in Indonesia, Philippines, and Vietnam on early warning information interpretation translation, and application for preparedness, July 2010–June 2011, funded by American Red Cross. Relevant activities include: training of National Red Cross Society headquarter personnel on early warning information interpretation, translation, communication, and application.

*Monsoon Forums:*

- Reducing risks of tsunami, storm surges, large waves, and other natural hazards in low elevation coastal zones, May 2011–April 2014, covering Bangladesh, India, Maldives, Myanmar, Sri Lanka, and Thailand, funded by ESCAP. Relevant activities include: institutionalization of early warning multi-stakeholder national forums, catalyzing the institutionalization of regular user dialogues
- Support to the generation and use of climate forecasts for climate risk management and food security, April –August 2012, covering Cambodia, Lao PDR, and Myanmar, funded by FAO. Relevant activities include: Conduct of pre-monsoon forums.
- Support for climate risk management and forecasting in Cambodia, Lao PDR, and Myanmar, November 2011–March 2012, funded by FAO. Relevant activities include: Conduct of post-monsoon forums .
- Linking information and decision-making to improve food security in selected countries of the Greater Mekong Sub-region, August 2010–August 2011, covering Cambodia, Lao PDR, Myanmar, funded by FAO. Relevant activities undertaken include: institution, decision, and policy research; identification of opportunities for climate risk management; and technical assistance in convening monsoon forums.



Knowledge, skills, and experience of RIMES professionals who shall be involved in the project are as follows:

Position in the Project	Reporting Line	Roles and Responsibilities	Qualifications
G. Srinivasan, Ph.D. Project Lead and Climate Scientist	Director	<ul style="list-style-type: none"> <li>• Provides strategic direction</li> <li>• Builds institutional partnerships for the project</li> <li>• Development/ customization of climate projections</li> <li>• Training of NMHSs</li> <li>• Interpretation of climate projections</li> <li>• Policy and institutional analysis</li> <li>• Training on climate risk analysis and adaptation options assessment</li> <li>• Project monitoring and evaluation</li> <li>• Advocates with national level institutions for sustaining project initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• 20 years experience on development of climate change scenarios, assessment of climate variability and change, climate change impact assessment, evaluation of climate change adaptation options, development of decision-support tools and data and information exchange system, linking climate and institutional and policy development</li> <li>• 15 years experience in operational meteorology</li> <li>• Education and training in atmospheric sciences and agricultural meteorology</li> <li>• Post-doctoral research on GCM performance and land-surface process in climate models</li> </ul>
A.R. Subbiah Climate Risk Management Expert	Project Lead	<ul style="list-style-type: none"> <li>• Climate risk analysis and adaptation and risk management options assessment</li> </ul>	<ul style="list-style-type: none"> <li>• 38 years experience in resource and disaster risk management</li> <li>• 15 years experience in climate risk analysis and information application</li> <li>• Education and training in agriculture and disaster management</li> </ul>
J Elaine Layug GIS Specialist	Project Lead	<ul style="list-style-type: none"> <li>• Climate data preparation and quality control</li> <li>• Database development</li> <li>• Climate products visualization using GIS tools</li> <li>• Training on GIS tool application</li> </ul>	<ul style="list-style-type: none"> <li>• 12 years experience in GIS tools, geospatial analysis, database development, data quality control and error handling, development and delivery of training on GIS tools</li> <li>• 4 years experience in GIS-based decision-support tools</li> <li>• Education and training in remote sensing and GIS</li> </ul>
Ruby Rose Policarpio Capacity Building Specialist	Project Lead	<ul style="list-style-type: none"> <li>• Assist NMHSs in organizing and facilitating Monsoon Forums</li> <li>• Facilitate curriculum development and delivery of training on climate risk analysis and adaptation</li> </ul>	<ul style="list-style-type: none"> <li>• 8 years field experience in the application of short- and medium-term and seasonal forecasts for resource and disaster risk management, training curriculum development</li> </ul>

Position in the Project	Reporting Line	Roles and Responsibilities	Qualifications
		<ul style="list-style-type: none"> <li>options assessment</li> <li>• Policy and institutional landscaping</li> </ul>	<ul style="list-style-type: none"> <li>and delivery</li> <li>• Education and training in development communication</li> </ul>
Pemjit Aphimaeteethomrong Data Visualization Specialist	System Developer	<ul style="list-style-type: none"> <li>• Data visualization training</li> </ul>	<ul style="list-style-type: none"> <li>• 4 years experience in data visualization for computer-based applications development</li> <li>• Education and training in computer engineering</li> </ul>
Lolita Bildan Project Coordinator	Project Lead	<ul style="list-style-type: none"> <li>• Coordination of RIMES technical inputs</li> <li>• Donor reporting</li> </ul>	<ul style="list-style-type: none"> <li>• 10 years experience in project management</li> <li>• Education and training in environmental engineering, community-based disaster risk management</li> </ul>
Sujinda Rungrungaroon Administrative and Financial Coordinator	Project Coordinator	<ul style="list-style-type: none"> <li>• Travel arrangements</li> <li>• General administrative support</li> </ul>	<ul style="list-style-type: none"> <li>• 3 years experience in providing general administrative and financial support services to project staff</li> <li>• Education and training in business administration</li> </ul>
To be named Information and Communications Specialist	Project Coordinator	<ul style="list-style-type: none"> <li>• Layout and printing of training and information materials</li> <li>• Packaging of lessons, good practices, and successes for wider dissemination</li> </ul>	<ul style="list-style-type: none"> <li>• At least 3 years experience in development communications</li> <li>• Education and training in communications</li> </ul>

A project implementation committee shall be constituted at project initiation, in each target country, involving the NMHS (as Chair) and representatives of at least 3 key sectoral users (e.g. planning, agriculture, and water resources departments). This committee shall provide guidance to and monitor progress of project implementation, ensure synergy of project activities with ongoing initiatives in the country, and report project progress in the Monsoon Forum.

## K. Knowledge Management and Results Dissemination

Project results and experiences shall be documented through:

- a) Monthly update meetings and reporting of the project team
- b) Quarterly feedback from project partners
- c) Participation of RIMES Information, Communications and Knowledge Management (ICKM) Specialist in major activities
- d) NMHS, NDMO reporting in the Monsoon Forum
- e) NMHS reporting in the annual RIMES Council meeting

Communication of project results and experiences shall be through:

- a) The RIMES website and Facebook page
- b) Twitter on alerts on updates
- c) Semi-annual project updates by email to project stakeholders
- d) Project updates in the Monsoon Forum
- e) Project brief in print, published annually, featuring the project framework, partners, results, and experiences
- f) Presentation materials for RIMES visitors, partners, meetings, and relevant conferences to which RIMES is invited
- g) Progress reporting to ESCAP

ESCAP support shall be acknowledged in all information and knowledge products, for example: "Produced with financial assistance from ESCAP under the Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asia". As may be allowed by ESCAP, its logo can be prominently displayed in all information and knowledge products, including banners during workshops, alongside logos of RIMES and national focal points and partners.

#### **L. Sustainability**

The capacity building approach taken by RIMES, wherein development of climate products involves the NMHSs for transfer of knowledge, skills, methodologies, and tools, shall ensure availability of trained personnel within the country for product development. RIMES shall continue to provide technical guidance remotely, along with country visits, as may be needed. This shall include guidance in updating climate projections as and when regional products are updated, or new climate change evidence becomes available. This handholding approach after project completion has been demonstrated in Bangladesh during the development of its flood forecasting systems.

The secondment arrangement for training builds institutional and personal ties between the seconding institution and its staff-trainees with RIMES and its staffs, facilitating remote access to RIMES expertise and technical guidance. This has been demonstrated in a number of RIMES Member and Collaborating States, where technical personnel from the countries seek guidance remotely via messaging and teleconferencing systems (e.g. Google talk, Skype, etc.).

Linkage of the Monsoon Forum with regional forums shall ensure sustained integration of user needs into regional climate product development and shall lead to increased usability of projections and forecasts for adaptation and risk management. RIMES, through its Council and Secretariat, shall advocate with concerned ministries in the target countries for sustained financial support for the Monsoon Forum (success of the Sri Lanka experience is an example).

#### **M. Counterpart Contributions**

Expected counterpart contribution from RIMES totals USD 187,780 from technical inputs and management services.

Project partners shall contribute through continued payment of salaries and benefits to staff participating in the project (e.g. staff seconded to RIMES, technical inputs in the Monsoon Forum and in the training programs, meetings of the project implementation committee, coordination of in-country activities, etc.).

#### **N. Monitoring, Evaluation and Audit**

Arrangement for project monitoring and evaluation includes:

- a) Monthly meetings of the project team for reporting of progress updates, including delivery of outputs, problems met and solutions needed, and activity planning and coordination.
- b) Quarterly reporting from project partners on progress of in-country activities, including efforts in sustaining project activities.
- c) Semi-annual meetings of the project implementation committee to review project progress against the project framework, including follow-up actions, and receive feedback. These meetings could be organized back-to-back with the Monsoon Forum, when possible.
- d) Final project review by the project implementation committee

Six monthly progress reports will be provided to ESCAP according to prescribed format. External project evaluation shall be undertaken towards the end of the project, according to the guidelines provided by ESCAP. Financial audit shall be undertaken on the last month of project implementation.

#### **O. Attachments**

Attachment Number	Attachment Name
1	RIMES Master Plan 2010-2014
2	Report of the 9 <sup>th</sup> Monsoon Forum, Myanmar
3a	Support letter from Myanmar's Department of Meteorology and Hydrology
3b	Support letter from Sri Lanka's Department of Meteorology
3c	Support letter from Pakistan Meteorological Department
4	Summary Report of the first meeting of the RIMES Task Force, 21-22 February 2014
5	Analytical Framework for Climate-Resilient Development Planning
6	Climate Risk Management in Tamil Nadu
7	Tamil Nadu Twelfth Five-Year Plan (2012-2017)
8	Tamil Nadu Vision 2023
9	Guidelines on Making Disaster Risk Reduction Gender Sensitive