

Terminal

~~PROGRESS REPORT~~

<i>PROJECT TITLE</i>	Strengthening Early Warning Systems for Extreme Weather Events to Advance Climate Risk Management in the South East Asian Region
<i>ORGANIZATION</i>	United Nations Development Programme Asia Pacific Regional Centre (UNDP APRC)

Total project budget	US\$ 381,066.40	Funding received to date	US\$ 381,066.40
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Percentage of total project budget spent	100.00% US\$ 381,066.40	Percentage of funding received to date that has been spent	100.00% US\$ 381,066.40
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Duration of Project	May 11 – Oct 14	Period covered	Up to 31 Oct 2014
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Date of signature of LoA	29 April 2011	End date agreed between your organization and ESCAP	31 Oct 2014
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Current expected date of completion	31 Oct 2014	Interest earned on funding received from ESCAP	US\$ 0
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ANNEXES

1. CamDi Users' Manual
2. Cambodia Disaster Loss and Damage Information System: Analysis Report (1996-2013)
3. CamDi Launch: Workshop Report
4. Final Project Evaluation Report
5. Regional Review Workshop Report

I certify the accuracy of the substantive and financial information contained in this report.



Ms. Caitlin Wiesen
Chief
Regional Policy and Programme Support
UNDP Bangkok Regional Hub

Date: 25-11-14

OVERALL ASSESSMENT

Briefly state the main results of the project so far. These could include key activities and, more importantly, should include any evidence of capacities the project has built. Is there any evidence that the project has reduced gender inequalities?

- RESULT 1: Provision of reliable and timely weather information to countries supported by matching national capacities for utilization of weather information.

Process and Progress:

Immediately after starting the project, discussions were held and an agreement was signed with RIMES to provide technical inputs to the project activities. The 2011 floods in Thailand negatively impacted functioning of RIMES causing delays to the implementation of activities as planned in the project. Discussions were held in mid-2012 with RIMES to re-schedule project activities. Following the joint UNDP-RIMES missions to project countries, further amendments were made to streamline RIMES' input to the project according to the revised project timeline.

Cambodia:

The Ministry of Water Resources and Meteorology (MoWRAM) has the mandate to produce and disseminate weather forecasts in the country. The capacity of MoWRAM is limited due to the lack of equipment and up-to-date communication infrastructure. Though excellent computing infrastructure is available at the Department of Meteorology but it is not accessible for the generation and interpretation of numerical weather prediction. The weather forecast usually reaches well up to provincial level but not at the commune level. The quality, usefulness and relevance of early warning needs attention and at the same time the weather forecasting capacity needs to be further improved.

On the request of UNDP Cambodia, Regional Programme Coordinator undertook a mission to Cambodia in September 2011 to formulate a concept note aimed at building the resilience of communities and agriculture sector in a flood-prone province. The concept note identified possible linkages with the ongoing regional project on early warning and other ongoing initiatives such as Cambodia Climate Change Alliance (CCCA), NAPA, etc. In October 2012, Regional Programme Specialist was on a mission to Cambodia as member of a UNDP GEF team to support development of a Project Identification Format (PIF) to access Least developed Country Fund (LDCF) for setting up an early warning system in Cambodia. The PIF was approved by the GEF Secretariat in March 2013 for developing a full proposal for the project on strengthening early warning systems in Cambodia.

Timor-Leste:

A joint mission with RIMES staff was undertaken to Timor-Leste during August 2011 to assess weather forecasting capacity of the country. Detailed discussions and consultations were held with National Directorate of Meteorology and Geophysics (NDMG), Ministry of Agriculture

and Forestry (MAF), National Disaster Operation Centre (NDOC) and other key UN, government and non-government stakeholders. Based on the discussions, the mission identified poor capacity of the NDMG for weather observation, interpretation of weather forecasts, communication of weather data and computational power. The DOM has few functional weather monitoring stations while the MAF maintains a larger number of functional weather monitoring stations. It was ascertained that several key agencies such as MAF, Red-Cross and other NGOs need processed weather information to plan their activities. The institutional roles for warning were not clearly spelled out as there was general lack of clarity and overlap of functions between DOM and NDOC.

UNDP supported National Disaster Risk Management (DRM) project started in Q1/ 2012 and it aims to develop national capacities for disaster risk management and early warning. Opportunities for collaboration with the regional project were identified during the discussions with the Chief technical Advisor (CTA) and noted in the mission report. Detailed discussion and consultations were held with the CTA during the mission by the Programme Specialist in May 2012 to ensure that the Regional Project and national DRM project work in harmony to develop capacities in Timor-Leste.

Regional Training Workshop on SOPs for Improving Climate Information for Extreme Weather Events:

Regional Training Workshop was organized in Bangkok during 29 May–1 June 2012 for the representatives from Cambodia and Timor-Leste. About 17 participants representing national hydro-meteorological services, disaster management offices, agriculture, national red-cross, provincial and district agencies from the two project countries attended the training workshop. The Regional Training Workshop focused on the processes undertaken in producing weather forecast at regional level and various forecasts available to national meteorological agencies from regional levels. The training emphasized the need for improving national capacities for interpreting, understanding and translating forecasts to meet user needs in each country. Overall, the training workshop was rated as excellent and very good by about 90% of the participants. Based on the discussions with stakeholders in each country, national plans for early warning systems for extreme weather events were prepared and are being used to follow up national level activities in each country.

Results:

- Assessment of weather forecasting capacity of Cambodia and Timor-Leste was completed.
- Opportunities for synergies with the ongoing national project in Timor-Leste were identified and discussed with UNDP Timor-Leste.
- Regional Training Workshop on SOPs for Improving Climate Information for Extreme Weather Events was completed and it imparted training to 17 participants from Cambodia and Timor-Leste.
- About 90% of the workshop participants rated the workshop as excellent and very good.
- National plans for weather forecasting, national SOP development and pilot demonstration were developed for Cambodia and Timor-Leste.
- Building on the work done under this project, UNDP helped Cambodia access the GEF funds (about USD 4 million) to strengthen early warning system in Cambodia.
- UNDP Cambodia also secured USD 250,000 funds from UNDP/ RBAP, a part of which will be utilized to carry forward the activities of this project in 2014.

- RESULT 2: Strengthening of national and local preparedness and response capacities for utilization of seasonal forecast for extreme weather events.

Process and Progress:

In Timor-Leste, the NDOC already established a disaster loss database. Due to excellent expertise and experience on the implementation of disaster loss database in Indonesia and historical, cultural and linguistic ties between Indonesia and Timor-Leste, UNDP APRC facilitated exchange of support and expertise from Indonesia to Timor-Leste in developing disaster loss database and seeking support for imparting training to the government officials in Timor-Leste. UNDP Indonesia designated its Information Management Officer to impart training to the government officials in Bahasa language in Dili during May 2012. The training was attended by 35 government officials representing several key national agencies and focal points from several districts of National Disaster Management Directorate. A senior government official from BNPB in Indonesia also shared the experiences of the Government of Indonesia in establishing and institutionalizing disaster loss database (DIBI) at BNPB.

In Cambodia, following a series of consultations and discussions between UNDP Cambodia and NCDM on UNDP support to developing NCDM's capacity for identifying vulnerabilities to disasters, a DMIS Officer was recruited in Sept 2012. Regional Programme Specialist participated and presented on disaster loss database at the DRR-Forum held in Phnom Penh in October 2012 which was attended by with about 150 stakeholders. In the efforts to institutionalize disaster loss database at NCDM, the DMIS officer organized a workshop only for the NCDM officials in Nov 2012 which further ensured greater support and ownership from NCDM officials. Subsequently, the NCDM organized a Stakeholder Consultation Workshop on Disaster Loss Database in Jan 2013 to support the process of establishing the Disaster Management Information System (DMIS) in Cambodia with about 60 participants from NCDM, government ministries, CSOs and development partners. As a result of ongoing discussions and engagement with NCDM, the DMIS was named as CamDi by the government. A technical training of national stakeholders was organized in June 2013 and was attended by 30 participants representing key national agencies. Later in July 2013, a sub-national technical training was organized for the 10 flood affected provinces which was attended by the representatives of key provincial agencies. CamDi is now hosted online at <http://camdi.ncdm.gov.kh> and is accessible to all. The database has about 8,000 data cards. CamDi Analysis Report (1996-2013) (Annex 1) CamDi Manual (Annex 2) were completed and published and shared at the official launch of CamDi on 8 July 2014 (Annex 3) by HE Nhim Vanda, Senior Minister and Vice President of NCDM together with UN Resident Coordinator Ms. Claire Van der Vaeren.

Based on the discussions with Cambodia and Timor-Leste and re-schedule of project activities with RIMES due to the 2011 floods, 2 months extensive technical training for the designated officials from Cambodia and Timor Leste was completed by Dec 2012.

Joint UNDP-RIMES missions were undertaken to Timor Leste and Cambodia in early 2103 to follow up on the recommendations of the May 2012 regional Training Workshop in Bangkok and the 2 months extensive technical training at RIMES. In both countries, extensive consultations were held with the Meteorology Department, National Disaster Management office, Red Cross and other key national stakeholders to ascertain next steps on dissemination and utilization of weather forecasts. Computing infrastructure, internet connectivity and skilled human resource were found to be the main constraints in generating and disseminating weather forecasts. Following the joint UNDP-RIMES missions and assessment of capacities in the two countries, it was agreed to procure a server and install at RIMES due to various

constraints of capacity and infrastructure in the two project countries. The server was procured and installed at RIMES in Aug 2013 with the understanding that the technical maintenance and upkeep of the server will be done by RIMES and it will be accessible to both project countries and to other LDCs in the region. The server is already being utilized by Cambodia for generating 3-days and 10-days weather forecasts using WRF model and RIMES is also using it for generating high resolution weather forecasts for 4 locations, viz. Krokor Pursat Town, Chitr Borie and Choam Khsant for utilization by ATSA (an NGO) for sharing with farmers.

A National Workshop on SOPs for Improving Climate Risk Information was organized in Cambodia in Oct 2013 and was attended by about 25 participants from key agencies such as MOWRAM, NCDM, CRC, ATSA, MAFF and others. The workshop focused on generation of warning from forecasts and applying it to selected sectors. The participants agreed to utilize the forecast for agriculture and flash flood in Cambodia. Likewise a National Workshop on SOPs for Improving Climate Risk Information was organized in Timor Leste in Nov 2013 and was attended by about 15 participants representing key national agencies such as NDMG, NDOC, and others. The participants learnt about developing a threshold for extreme events using the historical data about rainfall and floods and how they could apply it for issuing warning.

Following the completion of the project activities, a Regional Review Workshop was organized in partnership with RIMES at AIT Campus in Pathumthani on 24-25 September 2014. A total of 14 participants from Cambodia and Timor Leste representing the National Meteorological and Hydrological Services (NMHSs), National Disaster Management Offices (NDMOs), Agriculture Departments, local disaster management officials, National Red Cross participants together with UNDP, ESCAP and RIMES participated in the workshop and reviewed the project activities and project evaluation and derived lessons, gaps and identified recommendations for future interventions.

Results:

- About 30 government participants in Timor-Leste were imparted “hands-on” training on disaster loss database in Bahasa facilitating exchange of expertise from Indonesia to Timor-Leste in May 2012.
- DMIS Officer has been working at NCDM and providing technical support to the implementation of CamDi.
- About 150 stakeholders in Cambodia were introduced to Disaster Loss Database and its benefits in understanding vulnerabilities through the DRR Forum; about 60 stakeholders were consulted and provided inputs on availability of disaster data in Cambodia; about 50 national and provincial stakeholders have been provided ‘hands-on’ training on CamDi.
- Two government officials from MoWRAM, Cambodia completed technical training on weather forecasting at RIMES in Nov 2012.
- Two government officials from Timor Leste completed technical training at RIMES on interpretation of weather forecasts in Dec 2012.
- Server to support generation of weather forecasts was procured, installed and made accessible to Cambodia and Timor Leste.
- National trainings on utilization of weather forecasts for generation and application of warning were held in Cambodia and Timor Leste in Oct and Nov 2013 respectively.
- About 8,000 data cards have been entered in CamDi and the data has been analyzed to produce vulnerability profile of Cambodia.
- Regional Review Workshop was held in September 2014 to identify lessons, gaps and recommendations for future interventions

LESSONS LEARNED

Both Cambodia and Timor-Leste, being LDCs, lack capacities for weather forecasting and early warning. In order to develop ownership of activities and results, the project activities need to be implemented at a pace which helps to ensure participation of key stakeholders in order to develop national capacities. The organization of Disaster Loss Database Training workshop in Bahasa language was greatly appreciated by the participants in Timor-Leste as it increased the effectiveness of the training. Following the missions, it was ascertained that maintaining and supporting servers remain a financial and technical burden in the project countries. Running the Weather Research Forecasting (WRF) model effectively as it requires high-speed internet connection and computing resources and skilled IT staff. Notably in Timor-Leste, the NDMG lack the computing capacity and although Cambodia has recently invested in computing infrastructure, the weather forecasts products are often not accurate. The national weather forecast products utilize global outputs rather than tailored outputs specific to Cambodia.

The absorptive capacity in both countries continues to remain low and it is hoped that the new project funded by GEF will take these efforts forward to further strengthen national capacities. The independent project evaluation also highlighted lack of clear roles and responsibilities among institutions involved in the implementation of the project activities

SUSTAINABILITY

Please elaborate on any progress towards ensuring that this project results in a long-term benefit to the project stakeholders.

At national level in Cambodia and Timor-Leste, the project engages directly with the institutions mandated to perform the roles of weather forecasting and early warning. This ensures that the project activities and results directly contribute to developing capacities in the two project countries. At regional level, the project has an agreement with RIMES which is an intergovernmental organization established to develop national capacities and to provide early warning services to its member countries. The project activities ensure active participation and support from RIMES and its integration with national capacity building which ensures sustainability. By way of example, provision of server at RIMES not only helps the two project countries access the computing resources during the project period without the need of any skilled IT staff and maintenance of the server, but also later these computing resources can be further shared with other LDCs by RIMES as an intergovernmental organization. The project has helped to strengthen links between the two countries and RIMES which will continue to build on the foundations laid under this project.

In both project countries, the work undertaken by this project proved to be useful in terms of laying the foundations for strengthening early warning systems and for mobilizing additional resources for developing national capacities for improving early warning systems.

Monitoring and Evaluation: An independent project evaluation was undertaken to assess the relevance, effectiveness, efficiency and sustainability of the project and it advised the project design and objectives to be more country specific given the low capacities of both countries; appropriate pace of the implementation of activities to build ownership; stronger upstream linkages on EWS and further strengthening of downstream EWS in both countries through the active engagement of UNDP Country Offices.