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Enhancing regional cooperation on disaster risk reduction in Asia and the Pacific

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

Note by the secretariat

Summary

The present document contains a brief outline of the background, objectives, scope and operational principles of the ESCAP Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries. It provides an overview of projects supported by the Fund and the results achieved. The document also discusses unmet needs in end-to-end early warning systems for the subregion covered by the Fund. It concludes with a number of issues that the Committee may wish to consider.

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I. Overview of the ESCAP Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries

A. Background

1. The “Multi-Donor Voluntary Trust Fund on Tsunami Early Warning Arrangements in the Indian Ocean and Southeast Asian Countries” was established in 2005, originally to support tsunami early warning systems through a multi-hazard approach. The Fund received contributions from the Governments of Thailand (\$10 million), Sweden (\$2.6 million), and Turkey, Bangladesh and Nepal. ESCAP acts as its administrator. The formulation of policies and the making of decisions on allocation of financial resources rest with the Fund’s Advisory Council.¹

2. In 2008, an evaluative review² of the Fund proposed broadening its scope to include overall disaster and climate preparedness within its core areas of support. This recommendation was made against the background of an increase in extreme weather events occurring in recent decades and the potential benefits of early warning systems. The number of disasters in the region has been increasing, mainly as a result of larger numbers of people living in hazard-prone locations as well as unplanned settlements and environmental degradation. Climate change is altering the face of disaster risk through increased weather-related risks and sea-level rise; investment in disaster risk reduction is a way of adapting to climate change.

3. The strategic plan³ of the Fund was approved by the Fund’s Advisory Council in June 2009, in line with the proposed expanded scope, while the two key donors, Sweden and Thailand, were considering the proposal. The expanded scope was approved by the founding donor, the Government of Thailand, in November 2010. As a consequence of the agreement between ESCAP and that Government being signed on 7 March 2011, the revised name “ESCAP Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries” entered into effect.

B. Objectives and scope

4. The objective of the Fund is to ensure a comprehensive and coordinated approach to resource mobilization for building and enhancing capacities at various levels for tsunami, disaster and climate preparedness in accordance with the needs of Indian Ocean and South-East Asian countries. The Fund primarily focuses on early warning of coastal hazards, such as tsunamis, coastal zone flooding, storm surges and cyclones, adopting a multi-hazard approach. The Fund is expected to contribute to the narrowing of capacity gaps, including through the development of an integrated regional warning system comprising a network of collaborative centres connected to subregional and regional centres and linked to other centres

¹ For further information on the Fund, see E/ESCAP/CDR/INF/6.

² The *Evaluative Review 2008: Final Report* is available from www.unescap.org/pmd/tsunami_index.asp.

³ Economic and Social Commission for Asia and the Pacific, *ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness: Strategic Plan* (ST/ESCAP/2546) (New York, 2009).

outside the subregion covered by the Fund, such as those in the Pacific Ocean. The geographical scope of the Fund covers Indian Ocean and South-East Asian countries extending from the Islamic Republic of Iran to Timor-Leste.⁴

5. End-to-end early warning, defined broadly, is the overall framework for the Fund. Complete and effective early warning comprises four interrelated elements: risk knowledge; monitoring and warning services; dissemination and communication; and response capability. Early warning can encompass a broad range of activities, but within a clear framework that can be tested in an operational context, such as through drills. It is one of the five priorities covered by the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.⁵ The Incheon Declaration on Disaster Risk Reduction in Asia and the Pacific 2010,⁶ which was adopted at the Fourth Asian Ministerial Conference on Disaster Risk Reduction held in Incheon, Republic of Korea, from 25 to 28 October 2010, further underscores the need for strengthening early warning information and systems through, among other things, regional mechanisms.

6. It is understood that the primary responsibility for establishing effective national early warning arrangements rests with the national Government concerned. Subject to the availability of funding, the Fund may be drawn upon to supplement national resources in areas in which national centres do not have adequate funding. In that regard, least developed countries are given particular attention.

C. How the Fund operates

7. The following are the principles and policies that guide the operation of the Fund:

(a) *Demand-driven.* Governments and other organizations develop proposals in their own priority areas and these are submitted to ESCAP for competitive rounds of funding. Organizations submitting such proposals are encouraged to match their specific needs with priority areas;⁷

(b) *Regional.* As the only United Nations fund operating in this area of work in the ESCAP region, the Fund gives priority to strategic initiatives at the regional level. It does so also to avoid spreading resources too thinly. The initiatives that receive priority include resource-sharing arrangements, South-South cooperation approaches and those that can have value region-wide, such as model or pilot approaches. Support for national and subnational initiatives is considered for countries that are a priority

⁴ Australia, Bangladesh, Brunei Darussalam, Cambodia, China, India, Indonesia, Iran (Islamic Republic of), Lao People's Democratic Republic, Malaysia, Maldives, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste and Viet Nam.

⁵ A/CONF.206/6 and Corr.1, chap. I, resolution 2.

⁶ For the text of the Declaration, see www.preventionweb.net/files/16327_finalincheondeclaration1028.pdf.

⁷ The priority areas are identified in the publication entitled *Tsunami Early Warning Systems in the Indian Ocean and Southeast Asia: Report on Regional Unmet Needs* (United Nations publication, Sales No. E.09.11.F.14).

because of high levels of disaster risk and vulnerability or significant capacity gaps;

(c) *Flexible.* Funds can be transferred to intergovernmental or non-governmental organizations or directly to Governments. Implementing organizations require a degree of capacity in project design and implementation and financial management. For proposals focused on high-priority areas of work where these conditions are not met, the Fund helps to identify implementing partners. Joint submissions between United Nations entities, non-governmental organizations and Governments are encouraged;

(d) *Coordinated.* Programming and policy decisions are made by the Fund's Advisory Council, which consists of the Fund's key donors and the ESCAP secretariat.⁸ United Nations partners⁹ attend Council meetings as observers and participate in an inter-agency task force which undertakes technical appraisals of the proposals that the Fund receives and conducts other substantive reviews at the request of the Advisory Council;

(e) *Managing for results.* The Fund is guided by a monitoring and evaluation framework for the Fund as a whole and for individual projects. The monitoring of projects takes place on a regular basis to check whether the delivery of outputs is going according to plan and in accordance with the expected objectives and the financial and human resources available. Annual self-assessments are carried out by ESCAP in the context of annual reports to determine the Fund's progress in relation to key guiding principles, such as policy criteria, donor agreements and unmet needs. Independent evaluative reviews are carried out every two or three years. If the duration of the project and its budget are substantial, that is, at least two years in duration and involving funds of \$500,000, a midterm evaluation is required. All implementing partners are required to commission a terminal evaluation at the end of the project to assess whether the objectives have been achieved;

(f) *Transparent.* The organizations submitting proposals are provided with technical appraisals of them. All important documents relating to the Fund are posted on its website: www.unescap.org/pmd/tsunami_index.asp.

D. Projects supported and their financial status

8. To date, the Fund has conducted 6 rounds of funding and received 70 proposals from various regional, subregional and national organizations. Of those, 16 projects were approved, with the total budget being approximately \$11.3 million (see table). Through these projects, the Fund has balanced the programming of different aspects of early warning arrangements, including monitoring and warning services, risk knowledge, education and awareness, dissemination and communication of warnings and response capacity.

⁸ Any donor with a 20 per cent share in the unspent balance of the Fund is represented on the Advisory Council.

⁹ Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, Inter-Agency Secretariat of the International Strategy for Disaster Reduction, Office for the Coordination of Humanitarian Affairs, United Nations Development Programme, United Nations Environment Programme and World Meteorological Organization.

Table
Overview of grants provided for various projects under the Fund

Project number	Title	Implementing Organization	Countries covered	Funds programmed (United States dollars)	Status (as of 31 December 2010)
TTF-01	Support for the establishment of capacities in the region to observe and evaluate anomalous sea-level conditions for early warning of tsunamis in the Indian Ocean	Asian Disaster Preparedness Center	Myanmar, Philippines, Viet Nam	247 901	Completed
TTF-02	End-to-end early warning of tsunamis and other natural hazards for disaster preparedness and mitigation in the Indian Ocean and South-East Asia: phase 1	Asian Disaster Preparedness Center	Bangladesh, Cambodia, Lao People's Democratic Republic, Maldives, Myanmar, Philippines, Sri Lanka, Thailand, Viet Nam	2 358 985	Completed
TTF-03	Training programme for trainers on community-based hazard-map development	Asian Disaster Reduction Center	Bangladesh, India	79 819	Completed
TTF-04	Strengthening tsunami warning and emergency responses: training workshops on the development of standard operating procedures for the Indian Ocean and South-East Asia	Intergovernmental Oceanographic Commission of UNESCO	Myanmar, Pakistan, Philippines, Viet Nam	444 730	Ongoing
TTF-05	Strengthening national and community capacities for effective early warning dissemination and response	UNDP Maldives	Maldives	91 259	Completed
TTF-06	Enhancing national capacity for early warning dissemination in Sri Lanka	Disaster Management Centre, Sri Lanka	Sri Lanka	199 880	Completed ^a

Project number	Title	Implementing Organization	Countries covered	Funds programmed (United States dollars)	Status (as of 31 December 2010)
TTF-07	End-to-end early warning of tsunamis and other natural hazards for disaster preparedness and mitigation in the Indian Ocean and South-East Asia: phase 2	Asian Disaster Preparedness Center	Bangladesh, Cambodia, Lao People's Democratic Republic, Maldives, Myanmar, Philippines, Sri Lanka, Thailand, Viet Nam	1 211 766	Completed
TTF-08	Towards sustaining the Indian Ocean and South-East Asia end-to-end multi-hazard early warning system	Maldives Meteorological Service	Bangladesh, Cambodia, China, India, Lao People's Democratic Republic, Maldives, Myanmar, Philippines, Sri Lanka, Thailand, Viet Nam	375 000	Ongoing
TTF-09	Making provincial communities safer through disaster risk reduction in development	UNDP Indonesia	Bangladesh, Indonesia, Malaysia, Sri Lanka, Thailand	2 000 000	Ongoing
TTF-10	Tsunami awareness and preparedness tools and materials assessment project	UNESCO Office in Jakarta	Indonesia, Philippines, Thailand, Timor-Leste	599 896	Ongoing
TTF-11	Assessment and awareness of the Makran fault's tsunami hazards	Intergovernmental Oceanographic Commission of UNESCO	Iran (Islamic Republic of), Pakistan	220 861	Ongoing
TTF-12	Asia-Pacific Broadcasting Union early warning broadcast media initiative	Asia-Pacific Broadcasting Union	Cambodia, China, India, Malaysia, Philippines, Thailand, Viet Nam,	351 108	Ongoing

Project number	Title	Implementing Organization	Countries covered	Funds programmed (United States dollars)	Status (as of 31 December 2010)
TTF-13	Building risk knowledge to enhance early warning, preparedness and mitigation in tsunami-affected countries	UNDP Asia-Pacific Regional Centre	Indonesia, Sri Lanka	344 386	Ongoing
TTF-14	Strengthening community-based disaster risk management in Asia: shifting from lessons observed to lessons learned	Raks Thai Foundation	Cambodia, India, Indonesia, Lao People's Democratic Republic, Maldives, Myanmar, Sri Lanka, Thailand, Timor-Leste, Viet Nam	600 000	Ongoing
Total				9 125 591	

^a The official project end-date was 31 December 2010. ESCAP is awaiting audit results before accounts can be formally settled.

Note: The table does not include two projects approved by the Advisory Council on 19 January 2011, for which ESCAP is in the process of concluding funding agreements. These projects focus on the development of operational early warning products for managing extreme weather events (Asia-Pacific Regional Centre of the United Nations Development Programme) and application of warning information products in decision-making (Regional Integrated Multi-hazard Early Warning System of the World Meteorological Organization).

9. The remaining balance currently available for programming is about \$1 million. A decision regarding the next round of funding is expected at the next meeting of the Advisory Council, which is tentatively scheduled for September 2011.

II. Results of the Fund's operations

10. Significant results have been achieved under Fund-supported projects. In addition, increasing elements of national and regional ownership of projects have emerged, including government funding commitments and other moves towards making projects sustainable. The following description of the results achieved by the Fund's operations is structured according to the four components of an effective end-to-end early warning system:¹⁰

¹⁰ Inter-Agency Secretariat of the International Strategy for Disaster Reduction, *Developing Early Warning Systems: A Checklist*, Outcome of the Third International Conference on Early Warning: From Concept to Action, 27-29 March 2006, Bonn, Germany. Available from: www.ewc3.org/upload/downloads/checklist.final_pdf.pdf.

(a) *Risk knowledge.* Community-based hazard mapping was introduced in India and Bangladesh using scientifically developed hazard maps in community preparedness activities (TTF-03). In the Maldives and Sri Lanka, the disaster vulnerability of target coastal communities was assessed and priority risk reduction measures were identified. During simulation exercises, local-level warning dissemination systems were tested (TTF-02). The Fund is also supporting activities to raise awareness of tsunami hazards from the Makran fault using paleotsunami studies in the Islamic Republic of Iran and Pakistan (TTF-11), and applying the risk assessment guidelines of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System to standard operating procedures in Indonesia and Sri Lanka (TTF-13). Risk knowledge therefore covers community-based indigenous practices, as well as paleotsunami and simulations-based studies;

(b) *Monitoring and warning services.* A notable achievement of the Fund was its contribution to the establishment of the Regional, Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES) through projects TTF-02, TTF-07 and TTF-08. Some of that work is continuing. As one of the regional tsunami-watch providers¹¹ RIMES also furnishes early warning of various climate hazards. RIMES is a resource-sharing arrangement which comprises a number of countries without independent tsunami-warning capacity at the national level. The Governments of Bangladesh, Cambodia, the Comoros, India, the Lao People's Democratic Republic, Maldives, Mongolia, the Philippines, Seychelles and Timor-Leste have signed cooperation agreements under RIMES. These countries are committed to contributing their own resources to maintain and operate the early warning centre and other components of RIMES. The Fund has also supported work aimed at strengthening the regional network of seismic and sea-level stations through installation of new stations in Myanmar, the Philippines and Viet Nam (TTF-01, TTF-02). RIMES complements national systems by optimizing the distribution of observation systems and reducing capital investment requirements. Collective savings achieved by RIMES are estimated to be worth tens of millions of dollars each year. RIMES has evolved into a regional architecture for an early warning system with a multi-hazard approach, one of the purposes of which is to strengthen the capacities of high-risk countries through networking and data sharing;

(c) *Dissemination and communication.* Standard operating procedures for tsunami warning and response have been developed and strengthened in Pakistan, the Philippines and Viet Nam (TTF-04). Through project TTF-12, the Fund supports more effective use of the media in disaster risk reduction and the early warning chain;

(d) *Response capacity.* A model for comprehensive early warning and disaster risk reduction under a decentralized government system is being developed for Sumatra Province in Indonesia (TTF-09). A regional depository containing materials for increasing awareness of tsunamis and for training purposes, such as assessment and public awareness tools, and information on best practices and other relevant topics, has been set up; it is

¹¹ This service is one of several regional tsunami-watch providers covered by the framework of the International Crisis Group and complements the service offered by certain centres led by particular countries.

based on available materials in Indonesia, the Philippines and Thailand (TTF-10).

III. Unmet needs and opportunities

11. Following the 2004 tsunami, intensive work was carried out to develop an Indian Ocean early warning system. This work included the adoption of disaster management legislation in a number of countries, the development of technical monitoring and warning services and the taking of community-based initiatives by a wide variety of actors. In some countries, these initiatives have established the foundations on which effective action could be taken the next time a massive ocean-wide disaster occurs, although the initiatives remain fragmented to some extent and there are concerns about their long-term sustainability. In almost all countries, there is a significant overarching need to strengthen partnerships between those taking these initiatives and to incorporate them into an overall government framework funded with government budgets and tested regularly. In the broader context, the policy and institutional frameworks for climate change adaptation are only weakly connected with those for disaster risk reduction at the national, regional and international levels.

12. A large number of unmet needs exist with regard to early warning of coastal hazards in the Indian Ocean and South-East Asia. Consultations with Governments and a mapping study updated in 2011 identified a number of priorities for ongoing strategic support: risk knowledge, support for the “last mile” concept, capacity development for standardized information storage and data accessibility, and customization of warning and forecast products.

13. Risk knowledge is an area of work that needs to be given greater attention. Even on the broadest scale, the levels of risk from mega-disasters, such as tsunamis, are poorly understood. Partly as a result, most of the resources for disaster risk reduction and early warning are provided in the months following a major disaster and are often tied to the affected area or the particular type of disaster that has just occurred.

14. Communication and dissemination of warnings, and response capacity, particularly at the last mile, is a specific challenge in Asia because of the continent’s huge populations, strong disparities in wealth, culture and living conditions and the remoteness of many communities. There are a number of aspects for which a regional Fund can provide ongoing strategic support, such as the development of end-to-end standard operating procedures from the Government to community levels, the strengthening of partnerships between the Government, non-governmental organizations and the media, for example, and the dissemination of good practices, such as for education and awareness programmes.

15. The constraints¹² reported in establishing systems for data collection, storage and analysis include difficulties in coordination, sharing information and adopting common data standards and methodologies, a lack of resources to acquire and maintain equipment and the general lack of human technical capabilities. Making information on hazards and risks easily accessible in forms such as maps of flood plains is an effective

¹² For details, see: www.preventionweb.net/english/hyogo/progress/priority2/?pid:224&pil:1.

measure for enabling populations to make informed decisions and offers potentially high returns.¹³

16. The benefits of good early warning products are significant. However, there is a need to build institutional capacities for the application to the decision-making process of products containing warning information. The Fund could provide support for the customization of user-focused and -tailored products and services for disaster risk reduction through cost-saving multi-country projects, utilizing existing data, such as those generated by RIMES.

IV. Issues for consideration by the Committee

17. With the broadening of the scope of the Fund to include overall disaster and climate preparedness within its core areas of support, efforts will be intensified to engage potential donors through, among other things, the collection and presentation of the results of Fund-supported projects and through measures to increase the visibility of the role of ESCAP, as Fund administrator, and the countries that contribute to the Fund. In the context of the critical role of effective end-to-end early warning systems, taking into account the possible role that ESCAP could play through the Fund, the Committee may wish to provide information on gaps and needs in their respective countries that the Fund could address within its mandate and scope. The Committee may also wish to comment on opportunities for mobilizing resources for the Fund.

¹³ World Bank and United Nations, *Natural Hazards, UnNatural Disasters: The Economics of Effective Prevention* (World Bank: Washington, D.C., 2010). Available online at <http://www.gfdr.org/gfdr/NHUD-home>.