

ESCAP Multi-Donor Trust Fund for Tsunami,  
Disaster and Climate Preparedness

# Strategic Note 2021-2024

ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness  
Strategic Note 2021-2024  
December 2020

**ESCAP**

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# 1 Introduction

## Background

An effective early warning system is a key component of disaster prevention efforts and resilience building. The costs of early warning systems are generally far outweighed by the economic benefits but sustaining the necessary funding remains a major concern and priority.

Much of the investment required is in people – specifically the technical staff of national meteorological and hydrological services, to enable them to make forecasts more accurate and user friendly, and to increase warning lead times. For high-frequency, low-impact hazards, such as storms and floods the priority should be to improve local and national warning systems. However, for low-frequency, high-impact hazards, such as tsunamis, a more economical collective or regional approach is required.

With improved forecasting and advanced geospatial modelling for vulnerability and exposure assessment, early warning systems are becoming more impact-based and risk-informed. Impact-based forecasting brings the risk information providers – particularly the hydrometeorological, seismological and geospatial community – closer to disaster management authorities and related sectoral ministries. It is an important multisectoral approach to make multi-hazard early warning systems more effective, and it represents a process of graduation from early warning to early action for mitigation and prevention.

Despite the success stories, access to early warning is not yet universal. Joint action is needed to improve warning systems for shared hazards that cut across national borders. Moreover, steps also need to be taken to ensure the sustainability of early warning systems.

## ESCAP's Multi-Donor Trust Fund

The ESCAP Multi-Donor Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and South East Asian Countries (“the Trust Fund”) was established in 2005 through a US\$ 10 million contribution from the Royal Thai Government. The Trust Fund’s initial, overall objective was to build and enhance tsunami early warning capacities at various levels by responding to the needs of Indian Ocean and South East Asian countries. In addition to Thailand, the governments of Bangladesh, Germany, India, Japan, Nepal, the Netherlands, the Philippines, Sweden, Switzerland and Turkey have all provided financial and in-kind contributions to the Trust Fund. The Trust Fund was expected to contribute to the development of an integrated regional early warning system (EWS) comprising a network of collaborative centres connected to sub-regional and regional platforms. To this end, the Trust Fund applied a multi-hazard approach in line with the

principles of effective and people-centred end-to-end early warning systems. In 2011, the scope of the Trust Fund was expanded to include climate and disaster preparedness within the core areas of support, while retaining a focus on early warning for coastal hazards. In 2015, the Advisory Council endorsed the expansion of the reach of the Trust Fund to include Small Island Developing States (SIDS) of the Southwestern Pacific.

### **Key achievements to date**

Since its establishment, the Trust Fund has contributed significantly to the progress made in building regional and national warning systems for coastal hazards. In 2011, a key milestone was reached with the operationalization of the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS), which was established through the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO). The Fund also supported the establishment of the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), which is closely linked to the IOTWMS.

In the area of climate variability, the Fund has contributed to the achievement of the improvement of effective end-to-end early warning systems, with substantial benefits in term of reduced risks to end-users in the agriculture, water and energy sectors and a reduction in direct and indirect disaster losses. Through initiatives as the Monsoon Forums, the Fund contributed directly to creating more resilient communities and reduced disaster loss and damage.

As of December 2020, the Trust Fund had supported 29 projects with a total budget of approximately US\$ 15.8 million, directly benefitting 19 countries. Projects cover most aspects of early warning, including but not limited to: monitoring and warning services that provide support to lower capacity countries; risk maps for community preparedness planning; development and testing of Standard Operating Procedures (SOPs); education and public awareness raising activities; strengthening of warning dissemination; and emergency drills.

### **Early warning systems in a complex Asia-Pacific region**

Since the 2004 Indian Ocean Tsunami, considerable progress has been made in early warning systems and bringing disaster risk management to the fore. However, the systems face significant challenges. Among these, early warning systems: a) mostly fall short of being multi-hazard; b) often have limited coverage and do not always reach the 'last mile'; c) struggle to secure and sustain funding; d) present a level of disconnect between different initiatives; and, e) have not yet adapted to risk-multipliers such as climate change and rapid urbanisation. Furthermore, disaster risks are outpacing resilience in Asia-Pacific. The Trust Fund is evolving to face these challenges

and build on the opportunities offered by the new global and regional commitments as discussed further below.

## 2 Challenges and opportunities

### Challenges

#### **Disasters and their impact in the Asia-Pacific Region**

Asia-Pacific is the most disaster affected region in the world. ESCAP's research shows that a person living in the Asia-Pacific region is now approximately five times more likely to be affected by natural disasters than a person living outside the region.

The Asia-Pacific region is facing complex disaster risks clustered around hotspots. ESCAP's Asia-Pacific Disaster Report 2019 identifies distinct hotspots where fragile environments are converging with critical socioeconomic vulnerabilities. The first is located within the transboundary river basins of South and South-East Asia, where poverty, hunger and under-nourishment are coupled with exposure to intensifying floods that alternate with prolonged droughts. The second surrounds the Pacific Ring of Fire, where transport and ICT infrastructure and poor populations are exposed to typhoons, tectonic hazards and tsunamis. The third is the Pacific Small Islands Developing States (SIDS), where vulnerable populations and critical infrastructures are exposed to climate-related hazards of increasing intensities. A person in Pacific SIDS is found to be three to five times more at risk than those in other parts of the region.

#### **The intensification and changing geography of disaster risks signal a new climate reality**

As the climate system has warmed, the number of weather-related hazards globally has tripled, and the number of people living in flood-prone areas and cyclone-exposed coastlines has doubled. This trend is expected to persist.

Hazards are deviating from their usual tracks and becoming more intense, creating greater complexity and deep uncertainty that are harder to predict. The region is not sufficiently prepared for this climate reality. It has experienced unprecedented flooding in Iran, in March 2019, and in the state of Kerala in India, in August 2018. There was unusual cyclone activity as cyclone Ockhi developed near the equator in December 2017, and the lasting impacts of cyclone Gita affected eight Pacific Island countries. Furthermore, quick succession of flooding and heatwaves were experienced in Japan in July 2018, and collisions of sand and dust storms, with thunderstorms raged across the Persian Gulf, the Arabian Sea and the Bay of Bengal in May 2017.

## **Urgency for high-risk, low capacity countries**

The least developed low capacity countries are particularly exposed to the threats of natural hazards, particularly in the coastal and fast-growing urban centres. The trends in urbanisation in many of these countries are posing additional challenges and resulting in greater exposure to hazards and risk of other man-made disasters. Many people have migrated to cities due to natural disasters. Cities near disaster-affected areas are usually receivers of the displaced persons and their number is expected to increase in the future due to environmental change.

As a result, the Trust Fund has prioritized these countries with other low capacity countries of Asia and the Southwestern Pacific.

## **Transboundary disaster resilience**

The transboundary nature of disasters that traverse geopolitical borders results in widespread socioeconomic and environmental impacts that disproportionately affect poor and marginalised communities. Natural and man-made disasters have had a significant impact on people living in poverty. When poor people are affected by disasters, the relative share of their wealth loss is two to three times higher than that of wealthier individuals, largely owing to the nature and vulnerability of assets and livelihoods.

Many of the disasters in Asia and the Pacific are transboundary in nature. Early warning technology has reached a high level of development in recent years, but still there are major disparities and gaps, particularly in countries that face high disaster risks but have low coping capacity – in ensuring fast and reliable dissemination of warnings, and in building the knowledge and capacity of communities to act appropriately – especially for transboundary hazards.

Despite progress in regional early warning systems, especially for tsunami and tropical cyclones, there are significant gaps for other hazards. Consequently, countries in Asia and the Pacific are calling for better regional early warning systems for hazards such as transboundary river-basin floods (e.g. South Asia and Southeast Asia), landslides, flash floods and glacial lake outburst floods.

## **Risk multipliers**

The term ‘risk multipliers’ refers to factors compounding risk, which in turn leads to greater loss of life and assets, and other cascading impacts. They amplify risks to economic, social and environmental issues and can aggravate already fragile situations and the existing vulnerability of populations. The following are particularly salient for Asia and the Pacific: effects of climate change, environmental degradation, and rapid urbanisation.



Because hazard characteristics are changing due to climate change, traditional risk analysis is no longer sufficient. For example, future climate risk scenarios warn of deep future uncertainties due to an alarming geographical shift in drought risk in South Asia (westward) and South-East Asia (eastward) as well as track and intensity of tropical cyclones in the Pacific. The flood risk in transboundary river-basins of the region is likely to increase 2 to 6 times under moderate and severe climate scenarios.

Many cities are located in the areas where multi-hazard risks are growing rapidly. In the Asia-Pacific region by 2015-2030 it is estimated that the population in the 'extreme-risk' areas, is expected to grow more than 50 percent in 26 cities, and by 35 to 50 per cent in 72 cities. As a result, the number of city dwellers exposed to extreme and high risks is likely to increase significantly.

A comprehensive understanding of the interlinkages between the 'multipliers' is still missing. However, the overwhelming perception is that they pose real threats to the region and need closer attention as part of disaster prevention through early warning systems.

## **Funding**

Despite calls for increased financing for disaster risk reduction, levels of funding are not expected to increase significantly. Sendai Priority 3 is a reminder that "public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment." The wide range of actors competing for the limited resources presents additional challenges. The Trust Fund aims to channel funding from its multiple donors and leverage the comparative advantages of ESCAP as a regional economic and social commission.

Securing continuous funding for countries has been and will remain one of the main challenges and priorities of the Trust Fund. Sufficient funds need to be secured over the long-term to ensure the strengthening and sustainability of early warning systems, as well as the Trust Fund's ability to continue supporting regional cooperation in a cost-efficient manner.

## **Opportunities**

### **Conducive International Agreements and Frameworks**

The year 2015 has been witness to a historic alignment of global development frameworks covering sustainable development, disaster risk reduction and climate change. Within this alignment process, it is important to highlight the

extent to which mainstreaming is emphasised with all the agreements explicitly calling for disaster and climate risks to be fully integrated in all future national and sectoral development plans.

The *Sendai Framework for Disaster Risk Reduction* was adopted in March 2015 and identifies the following key priority areas: (i) understanding disaster risk, (ii) strengthening disaster risk governance to manage disaster risk, (iii) investing in disaster risk reduction for resilience, and (iv) enhancing disaster preparedness for effective response and to “build back better” in recovery, rehabilitation and reconstruction. The new framework advocates for multi-hazard EWS and specifically mentions the promotion of simple and low-cost early warning equipment facilities.

Climate change adaptation is a substantial element in the *Paris Agreement*<sup>1</sup> (COP21 - Conference of the Parties to the UNFCCC) adopted in 2015. The agreement includes resilience, particularly for building adaptive capacity and reducing vulnerabilities to the adverse effects of climate change. Resilience has to be ‘strengthened’, ‘built’ or ‘fostered’. Resilience is also emphasized for communities and livelihoods, as well as for socioeconomic and ecological systems and is considered a global mechanism for reducing the loss and damage associated with the impacts of climate change.

The *2030 Agenda for Sustainable Development* was adopted through General Assembly resolution 70/1<sup>2</sup> in 2015 to build on and complete the Millennium Development Goals. The Trust Fund Strategy 2021 – 2024 is consistent with the implementation path of the agenda that, among others, calls for: strengthening international institutions; improvement of innovative partnerships between governments, business and civil society; overcoming regional and national development challenges. Special attention is required for Least Developed Countries, Landlocked Developing Countries and Small-Island Developing States.

Countries have committed themselves to achieving the Sustainable Development Goals (SDGs) by 2030, to ensure that ‘no one is left behind’. This cannot be achieved unless Governments utilize new opportunities for breaking the vicious cycle between poverty, inequalities and disasters. Governments need to scale up risk-informed policies and investments supported by emerging technologies to empower the most vulnerable populations across the riskscape. Ultimately, regional cooperation is required to reinforce national efforts. ESCAP can support this through the Trust Fund, which will pool the strengths of the region to address transboundary disasters as all countries of the region adjust to the new climate reality.

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<sup>1</sup> [http://unfccc.int/paris\\_agreement/items/9485.php](http://unfccc.int/paris_agreement/items/9485.php)

<sup>2</sup> General Assembly resolution 70/1, Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/1 (25 September 2015), available from [undocs.org/A/RES/70/1](http://undocs.org/A/RES/70/1).

The Trust Fund's work is and will continue to be consistent with the priorities and guiding principles articulated in these frameworks. This includes the forging and strengthening of regional partnerships integrating the private sector; supporting country-specific plans and projects; the funding of innovative approaches and tools for ensuring access of affected population to risk information; and, the specific targeting of low-capacity high-risk countries.

### **Regional commitments and cooperation mechanisms**

The re-alignment process undertaken at international and national levels is also taking place within regional cooperation agreements, e.g. the South Asia Association for Regional Cooperation (SAARC) and the Association of Southeast Asian Nations (ASEAN). Each region is further identifying its own priorities within the agreement frameworks and determining the way they are to be collectively achieved. In the Southeast Asian region, for example, cooperation on disaster management between countries is largely undertaken based on the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) that came into effect in 2009. This legally binding agreement between ASEAN member nations sets in place regional policies, operational, and logistical mechanisms to enable member states to seek and extend assistance in times of disaster and carry out collaborative undertakings on disaster mitigation, prevention, preparedness, response, and recovery and rehabilitation.

In the Pacific, Heads of State committed to the SAMOA Pathway in 2014 (or SIDS Accelerated Modalities of Action). The call for support for the efforts of Small Island Developing States explicitly requested i.a. to build resilience to the impacts of climate change, to improve the baseline monitoring of island systems and the downscaling of climate model projections, and to raise awareness and communicate climate change risks. A second important commitment was the endorsement of the Framework for Resilient Development in the Pacific (FRDP) by Pacific Island Forum leaders in 2016. This constitutes a unique integrated approach to address Climate Change and Disaster Risk Management through a regional framework that provides high level strategic guidance to different stakeholder groups on how to enhance resilience to climate change and disasters, in ways that contribute to and are embedded in sustainable development. This integrated approach advocates for a more efficient use of resources, to rationalise multiple sources of funding which address similar needs, and for more effective mainstreaming of risks into development planning and budgets.

The Trust Fund's strategy will continue to compliment and promote cooperation among existing and planned regional agreements. As the new global development frameworks are expected to result in adjustment and modification of existing plans and agreements, determining the key regional

and sub-regional organizations and cooperation mechanisms to support (e.g. RIMES, AADMER, SAARC, SAMOA Pathway, etc.) as well as determining the most effective options and approaches to promote and develop multi-hazard EWS capacity building and development, will require initiating discussions with, or at least monitoring the progress and direction of, these regional cooperation mechanisms.

### **Impact-based forecasting**

Whereas considerable progress was achieved in identifying and predicting natural hazards, greater emphasis is required to anticipate the negative impacts of such events on societies and economies. Several countries in the region, including China and Japan, are moving towards 'impact-based' forecasting. It combines hazard forecasts with data on risk to highlight how people in hazard-exposed and marginal areas can be affected. Impact-based forecasting shows how natural hazards interact with existing socio-economic conditions.

Impact-based forecasting, if it is to be successful, will require a coordinated, multi-disciplinary effort among various government agencies. Early warning providers, such as the national hydrological and meteorological services, seismological early warning, and geospatial agencies, need to coordinate closely with disaster management authorities and sectoral ministries, such as agriculture, water management, public works and infrastructure.

New investments in data collection will be required, as well as cooperation to develop sharing and partnership arrangements for large-scale computing. Data and information – on hazard, vulnerability and exposure – will need to be integrated from a much wider range of sources, including from models, satellite measurements, ground observation, crowd sourcing, cloud computing, census, and damage and loss databases. Such a demand will require cooperation between technically advanced countries and those with low capacities.

### **Multi-hazard early warning systems**

Each hazard has its own specific warning requirements and lead times. However, early warning indicators for one type of hazard may also be relevant to another. Where possible, early warning for individual hazards should be integrated into a multi-hazard system. A sound early warning system requires continuous attention, including through maintenance of equipment, test drills, revision of standard operating procedures and training of operating staff, etc. Though application of a multi-hazard approach, the same national early warning system can offer support for multiple hazards more efficiently and create economies of scale, making warnings consistent through coordinated and compatible mechanisms and capacities, involving multiple disciplines. Such integrated systems may also

help the public better understand the range of risks they face and the need to prepare and to respond to warnings.

One of the problems in developing multi hazard early warning systems is that responsibilities can be distributed across different departments and ministries, making it difficult to combine the different systems. The Trust Fund has supported several initiatives to promote greater synergies and efficiencies, including the CAP on the Map project aiming to improve institutional responsiveness to hazards through multi-agency situational awareness as well as the development of synergized standard operating procedures for coastal hazards.

### **Innovation, science and technology**

Big data innovations, using the large data sets from mobile phone tracking to satellite platforms, reveal patterns, trends, and associations of the complex disaster risks. The use of risk analytics: descriptive, predictive, prescriptive and discursive, helps understand, monitor and predict the risk of both extreme as well as slow onset events, and thus addresses the key challenges of the new climate reality. The substantial reductions in mortalities and economic losses due to typhoons in North and East Asia can be attributed to big data applications that enabled impact-based forecasting and risk-informed early warning. For example, the devastating potential of super typhoon Mangkhut (2018) was minimized by big data applications. Further opportunities are available in flood forecasting e.g. through use of ensemble prediction systems or application of machine learning to accurately predict the location and severity of floods.

## **3 Comparative advantages**

### **a) The regional cooperation mandate and convening power of ESCAP**

ESCAP's role as a convener of regional cooperation remains one of the Trust Fund's main comparative advantages. As the regional development arm of the United Nations for the Asia-Pacific region, ESCAP provides a forum for regional cooperation and collective action for its 53 Member States and 9 Associate Members. The region is home to 4.1 billion people or two thirds of the world's population, many of whom are particularly at risk of natural hazards.

ESCAP is committed to a resilient Asia and the Pacific and uses its convening power to bring countries together to address issues through regional cooperation. One such platform is the ESCAP Commission that meets annually at the senior officials and ministerial levels. Every two years, ESCAP convenes the Disaster Risk Reduction Committee to discuss policy options and strategies, and regional cooperation mechanisms for disaster risk management. With the World Meteorological Organization, it is also a co-

facilitator of the two intergovernmental regional bodies dealing with tropical cyclones, the Typhoon Committee (TC) and the Panel on Tropical Cyclones (PTC).

In addition, ESCAP has a role in promoting analysis and peer learning in core areas of work. It translates these findings into policy dialogues and recommendations, and provides good development practices, knowledge sharing and technical assistance to member States in the implementation of these recommendations. Every two years, it launches the flagship Asia-Pacific Disaster Report that provides an overview of the state of disaster resilience in the region and other key issues.

Embedded in ESCAP's programme of work, the Trust Fund benefits from and contributes to other risk reduction work implemented by ESCAP and partner institutions. This has helped shape the Trust Fund and maximise the outcomes of individual projects. The programmatic approach adopted in 2016, further ensures complementarity and synergy between Trust Fund projects and ESCAP's resilience-enabling programmes.

**b) A unique regional mechanism creating synergies and mainstreaming learning and good practice**

As the only regional funding mechanism of its kind, the Trust Fund provides coordinated support dedicated to the development of multi-hazard early warning systems in Asia-Pacific. The Fund's regional nature and character make it an appropriate vehicle to ensure complementation and to create synergies between Trust Fund-supported projects and other projects and initiatives, thus leveraging available funding for disaster risk reduction and climate preparedness.

Addressing identified gaps and unmet needs in the region, the Fund is a distinct vehicle providing coordinated support, supplementing bilateral and multilateral aid especially in high-risk, low-capacity countries.

The coverage of the Trust Fund enables enhanced synergies between initiatives from different regions and sharing the learning from countries with more technically advanced EWS to support the strengthening of low income and high-risk countries of Asia and the Pacific.

An example of successful collaboration is the partnership between the TC and the PTC, which promoted South-South cooperation through tailored national and regional level capacity development and exchange between experts from National Meteorology and Hydrology Services from both regions. Through this cooperation, the Trust Fund facilitated sharing of data, knowledge and expertise.

In addition, the expansion of the geographic scope of the Trust Fund to the Pacific opened new opportunities for cooperation between the sub-regions, and sharing of experience and good practice on multi-hazard early warning

systems and providing improved climate risk management solutions (e.g. impact forecasting).

### **c) Coherence with the Agenda 2030 and other global agreements**

All ESCAP's work is now underpinned by the Sustainable Development Goals. ESCAP resolution 72/6 'Committing to the implementation of the 2030 Agenda for Sustainable Development in Asia and the Pacific' requests the Executive Secretary to "strengthen support to Member States in their efforts to implement the 2030 Agenda in an integrated approach, inter alia, with analytical products, technical services and capacity-building initiatives through knowledge-sharing products and platforms, and to enhance data and statistical capacities".

The Trust Fund strategy makes a direct contribution to the goals and targets of the Agenda 2030 for Sustainable Development. The Fund's programmatic approach is designed to be further aligned with this ambitious framework particularly the following goals: *No Poverty* (Goal 1), *Zero Hunger* (Goal 2), *Industry, Innovation and Infrastructure* (Goal 9), *Sustainable Cities and Communities* (Goal 11), *Climate Action* (Goal 13), and *Peace, Justice and Strong Institutions* (Goal 16).

Under the Asia-Pacific Issue-Based Coalition for Building Resilience, ESCAP is co-leading the workstream on climate resilience and is leading production of a policy paper on climate resilient infrastructure. Through this mechanism, ESCAP will continue to work with the wider United Nations system and other partners to build regional consensus, undertake evidence-based policy analysis and formulation, build capacity, exchange best practices and lessons learned, and facilitate regional integration and cooperation in support of member countries.

### **d) Building on over 15 years of achievements supporting EWS**

After over 15 years of existence, the Trust Fund has gained experience and acquired a solid reputation as a dedicated multi-donor funding mechanism promoting innovation and cooperation in the field of early warning systems.

The Trust Fund is considered a distinct vehicle providing coordinated multi-donor grant financing towards enhancing disaster and climate preparedness in specific sub-regions and countries. It can be used to supplement bilateral and multilateral aid, especially where there are perceived gaps.

According to periodic independent evaluations, the donors have lauded the contribution of the Trust Fund for the establishment of early warning systems across two regions. The most notable successes are the establishment of the IOTWMS and RIMES.

### e) Building on partnerships

In line with SDG 17 “partnerships for the goals”, the Trust Fund has a broad base of existing and potential partners. This includes United Nations organisations (e.g. United Nations Development Program, World Meteorological Organisation, UNESCO, OCHA), intergovernmental institutions and mechanisms (e.g. RIMES, IOC-UNESCO, ESCAP/WMO Typhoon Committee), Member State specialised institutions (Disaster Management Agencies, NHMSs), non-profit organisations and academia.

The diversity of eligible partners allows tapping into a wealth of specialised technical expertise and prioritising initiatives addressing critical gaps to promote multi-hazard early warning systems and regional cooperation. The four key elements of an end-to-end early warning system have this way received attention. Some partners have been best placed to focus on promoting *Risk Knowledge*, through their expertise in risk assessments and mapping. *Monitoring and Warning* has been enhanced through provision of necessary hardware and software. The ability of some partners in *Dissemination and Communication* has been leveraged to promote greater awareness of the risk and responsiveness to warning information. The fourth element of *Response Capability* has been enhanced and tested through drill exercises at regional, national and local levels.

Specialised staff of early warning centres and NMHSs is now part of a wider network of disaster risk management practitioners, and has direct access to counterparts from other ESCAP member States and beyond.

### f) Dedicated Trust Fund secretariat

The Trust Fund is managed by ESCAP on behalf of the member States in cooperation with key stakeholders. The management structure and decision-making process has been in place since the establishment of the Fund in 2005. The key governance bodies include the Advisory Council, the Inter-Agency Task Force, the Grants Committee and the Trust Fund secretariat.

The Trust Fund secretariat provides day to day management of the Trust Fund and consists primarily of a Programme Officer who is provided with administrative support. Additionally, generous technical support and guidance is provided by other professionals from ESCAP’s substantive division on Information and Communications Technology and Disaster Risk Reduction.

The secretariat is responsible for tracking financial resources, periodically updating the Fund’s website, conducting technical monitoring missions to approved projects, and oversees the preparation of strategic plans, annual reports, reports on regional unmet needs, project evaluation and other reports. The team is also actively involved in providing technical guidance to partners to maximise the outcomes of the projects and promote synergies



across initiatives. It is actively involved in resource mobilisation and promotion of the Trust Fund.

## 4 Strategic focus: four pillars

An evaluative review of the Trust Fund was carried out in 2018 by an independent consultant. It highlights how, as the only dedicated regional trust fund that delivers coordinated support to the development of multi-hazard early warning systems, it has achieved significant results in strengthening regional cooperation. It emphasizes the benefits of the adopted programmatic approach and recommends to capitalize on the gains made by the projects and partnership supported under the Trust Fund to date.

Over the period 2021 to 2024, the Trust Fund will continue strengthening regional cooperation for effective and sustainable end-to-end early warning systems for coastal hazards such as tsunamis, tropical cyclones, flooding and storm surges, while increasingly promoting a multi-hazard approach. It will contribute to building more resilient communities, and thus ultimately, help save lives and reduce loss and damage from disasters.

To this end, the Trust Fund will focus its support on the two key people-centred pillars: (i) strengthening multi-hazard early warning systems for all people, with a focus on the vulnerable and marginalized and (ii) strengthening social and economic resilience in Asia-Pacific. The two pillars will be further supported by two modalities of implementation, namely, enhancing disaster and climate risk management through (iii) regional cooperation, and (iv) mainstreaming science, technology and innovation.



**Pillar I**      **Strengthening people-centred, multi-hazard early warning systems**

**Focus**      A key component of disaster risk reduction is an effective early warning system which combines science and technology with practical local approaches and is fully integrated into broader national and regional strategies. The importance of early warning is clearly recognized in the Sendai Framework for Disaster Risk Reduction 2015-2030, whose seventh global

target is: “(g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030”. Across Asia and the Pacific there are still many gaps in early warning chains, particularly at the local level to cover the ‘last mile’.

The Trust Fund will continue to promote the four elements of early warning, namely (i) risk knowledge, (ii) monitoring and warning service, (iii) dissemination and communication, and (iv) response capability with a focus on the vulnerable and marginalized.

**Partners** Mechanisms facilitated by ESCAP will be utilized, including the Panel on Tropical Cyclones, Typhoon Committee, Disaster Risk Reduction Committee, Regional Cooperative Mechanism on Disaster Monitoring and Early Warning, Particularly Drought, and the ESCAP Commission. The Indian Ocean Tsunami Warning System, Intergovernmental Coordination Group (facilitated by IOC-UNESCO) will continue to be an important partner. The RIMES Council is another regional decision-making body that has emerged, and whose work programme will be supported by the Trust Fund. Efforts will also be made to strengthen strategic partnerships with intergovernmental cooperation platforms and enhance linkages to sub-regional organizations such as the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC).

**Pillar II** **Strengthening social and economic resilience in Asia-Pacific**

**Focus** Strengthened social and economic resilience complements the benefits of early warning for early actions in the priority areas identified under the Global Framework of Climate Services that include agriculture and food security, disaster risk reduction, energy, health and water. Sustainable Development Goal 3, Target D has an explicit target to strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks. Drawing upon the Bangkok Principles for the implementation of health aspects of the Sendai Framework, the socio-economic resilience building strategy calls for closing the existing gaps -health crisis, emergency preparedness, risk assessment and early warning systems. Countries across the region have committed themselves to the Sustainable Development Goals by 2030 – to ensure that ‘no

one is left behind'. But they cannot achieve many of the SDG targets if their people are not protected from disasters that threaten to reverse hard-won development gains. This means not just building resilience in the priority zones but doing so across the entire 'risky' – reaching the most marginal and vulnerable communities.

The Sendai Framework for Disaster Risk Reduction emphasizes how the scope of disaster risk reduction has been broadened significantly to focus on both natural and man-made hazards and related environmental, technological and biological hazards and risks. The Trust fund will contribute to operationalizing resilience in Asia-Pacific to protect people against impact of future disasters and support promotion of health resilience.

The wide-ranging roles of volunteers as a key stakeholder in the implementation of the Sendai Framework for Disaster Risk Reduction and the 2030 Agenda for Sustainable Development can be leveraged in strengthening community resilience through a people-centred and whole-of-society approach.

**Partners** ESCAP's partnerships with UN organizations, civil society organizations, think -tanks and academia offer great opportunities to scale up efforts for multi -hazard early warning systems, to ensure that all segments of society are prepared.

**Pillar III Enhancing disaster and climate risk management through regional cooperation**

**Focus** One of the most rapidly expanding areas of climate science is 'extreme event attribution' which is confirming the influence of climate change on extreme and slow-onset disasters. Many of the region's disaster hotspots extend across national boundaries. This underlines the importance of regional cooperation both to monitor the evolution of disasters and to work together across the risky to mitigate the impacts and build cross-border resilience.

The Trust Fund will work closely with governments and all relevant stakeholders to put in place a strong regional approach to strengthen local capacities for disaster risk management.

ESCAP's SDG Progress Report 2020 highlights the region's lack of progress in meeting SDG 13.1 (strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries). The Trust Fund will address this gap, contributing to the achievement of SDG 13 - climate action.

The Trust Fund will continue deepening and extending regional cooperation mechanisms and partnerships, particularly in contexts of transboundary disasters, to strengthen early warning systems for the benefit of high-risk and low capacity countries in both the Indian Ocean and Pacific basins, and seek collaboration with other regional and transboundary projects.

The Trust Fund will continue pursuing collaboration and developing new partnerships with intergovernmental organisations such as ASEAN and the Pacific Island Forum (PIF) under consideration of existing frameworks, such as the legally binding ASEAN Agreement on Disaster Management and Emergency Response (AADMER) and the Framework for Resilient Development in the Pacific (FRDP).

**Partners**

The Trust Fund will support partners with a track record of addressing climate risk management and will collaborate with regional partners such as RIMES, the PTC, the TC and regional Climate Outlook Forums such as the South Asian Climate Outlook Forum (SASCOF). The Monsoon Forums initiated through previous Trust Fund projects will be further supported to enable the downscaling and customizing of climate projections to for use by local authorities and stakeholders. Greater interlinkages are envisaged with the ESCAP Regional Cooperative Mechanism for Drought Monitoring and Early Warning, which operates under the guidance of its Regional Space Applications Programme for Sustainable Development.

**Pillar IV**

**Mainstreaming science, technology and innovation**

**Focus**

Innovations in science and technology in areas such as earth observation systems, spatial planning, big data analysis, and ICT can help countries in understanding risks. Many Asia-Pacific countries have successfully applied new advances in science and technology to enhance observation networks, but a number of least developed countries have limited capacity to

take advantage of these advances. Such countries can benefit greatly from regional cooperation which can offer them better access to information and expertise.

The advances in research and technology enable more effective, risk-informed and end-to-end early warning systems and achieved benefits can be scaled up through regional cooperation. Longer forecasting and warning lead times supported through smart technologies go beyond saving lives to ensuring livelihood support.

The Trust Fund will continue investing in new-generation, impact-based and risk-informed early warning systems and promote their application. These investments are aimed at ensuring that benefits of science, technologies and communications advances relevant to early warning systems, particularly in the fields of geo-informatics and space technology, reach high-risk and low capacity countries, particularly the 'last mile' i.e. communities at risk.

### **Partners**

The Trust Fund will further promote regional cooperation in developing innovations, and support well-established ESCAP networks, notably the Regional Space Applications Programme for Sustainable Development and its relevant partners in the region, and encourage demonstration projects for the purpose of bringing innovative ideas and lessons to the national and regional levels.

The Trust Fund will cooperate with academia, civil society and the private sector, focusing on the identification and application of innovative approaches. Academia and civil society innovations may include modern software, the use of hazardous weather information and means to support empowerment at the local level.

## 5 Operationalization

The Trust Fund operates according to the following principles:

**Programmatic approach.** In 2016, the Trust Fund adopted a programmatic approach focused on working more closely, and continuously, with key regional cooperation partners according to a jointly agreed medium-term partnership strategy. Moving away from a project-by-project basis system, towards one whereby the Council periodically decides on extensions of the programme, with well-defined outcomes and activities, without having to resort to requesting new proposals from the partner. This approach can take the shape of a programme in phases, each one subject to additional funding and decision by the Advisory Council. This avoids unnecessary interruptions in the implementation of the programme occurring with the call-for-proposal system i.e. funding gap between the end of a cycle and the new one. The adoption of a programme-based approach is conducive to an effective use of the funds available and leverages ESCAP's comparative advantage. It will strengthen and capitalise on ESCAP's core mandate of promoting regional cooperation and allow for continued support to low capacity high-risk developing countries.

**Streamlined process for new projects.** In addition to the programmatic approach, a traditional call for proposals may still be initiated periodically, subject to decision of the Council. In response to calls to simplify and fast-track the selection and funding of new proposals, revised Trust Fund terms of reference aim to better define the scope for future calls for proposals to facilitate access to the fund for relevant implementing partners, link up initiatives and avoid unsuitable submissions. A focused and pre-defined resource allocation process, based on more specific technical needs and geographical gap analyses with a focus on innovations and focused interventions, will increase the efficiency and effectiveness of the Trust Fund. A greater role is anticipated for donors willing to contribute technical expertise and guidance.

**Partnerships.** UNDRR, UNDP and IOC-UNESCO remain close partners of the Trust Fund and technical advisors. The Trust Fund will also maintain close coordination with WMO, OCHA and UN Environment. It will continue to work with regional and sub-regional organizations, NGOs and government agencies in the region, and will strengthen such partnerships as appropriate. Communication between the secretariat and other UN agencies as well as other national organizations and initiatives working with disaster risk reduction will remain essential to maximise the benefit and effectiveness of the Trust Fund, considering its limited resources. Key partnerships will be strengthened through the Trust Fund's programmatic approach.

**Broaden partnerships and outreach to civil society and the private sector.**

The programmatic approach supports new partnerships. It allows working more closely with institutions and programmes able to deliver results aligned with the Trust Fund's regional cooperation objective. The Trust Fund will identify relevant initiatives from civil society and the private sector, including foundations and reach out to potential partners willing to broaden and strengthen regional cooperation on multi-hazard early warning systems. The involvement of volunteers will be encouraged to enhance the outcome and sustainability of implemented projects.

**Promote cooperation networks among project partners.** To increase the outcomes of each projects, the Trust Fund supports systematic linkages between projects and facilitates best practice, innovation and knowledge sharing. For this purpose, the Trust Fund secretariat periodically organises partner and expert group working meetings, as well as explores opportunities for closer cooperation between partners to amplify the project results.

**Maximising technical expertise and in-kind contributions from Council members, beneficiary countries and stakeholders.** Considerable technical expertise lies with the members of the Advisory Council. As of 2020, the Council included the Governments, India, Japan, Switzerland and Thailand, all of which have extensive practical experience with managing the risk of disasters, and highly relevant scientific and technical expertise related to early warning systems. To maximise this opportunity, the secretariat will request Council members to increase their involvement in all work processes, wherever possible, from selecting project proposals, formulating new strategies to conducting thematic studies and evaluations, etc. The secretariat will also encourage beneficiary countries and stakeholders to co-finance and provide in-kind technical support to projects, resulting in possible budget savings.

**Quality assurance.** All project proposals are reviewed by a technical committee. The project proposals should respond favorably to an ex-ante evaluation of relevance, efficiency, effectiveness, sustainability and impact.

**Results-based-management.** The Trust Fund is guided by a Monitoring and Evaluation Framework. The secretariat monitors projects and conducts progress reviews every six months. The secretariat provides oversight to project level monitoring through participation in selected project activities, analysis of progress reports and other forms of intervention. It may decide to increase level of monitoring activities based on progress reviews. All projects are externally evaluated at the end. Lessons feed into future programming.

**Resource mobilisation.** By demonstrating results, the Trust Fund seeks continued support from existing donors and makes efforts to further broaden its donor base. A resource mobilization strategy will be developed and periodically updated in close collaboration with ESCAP's Strategy and




Programme Management Division (SPMD) to explore options with new actors, including the private sector and foundations. It will consider innovative options for sustainable funding.

As requested in ESCAP resolution 73/7, the ESCAP secretariat will endeavour to reach out to new potential donors, where appropriate, and explore innovative resource mobilisation opportunities to strengthen the Trust Fund. Co-financing and in-kind contributions, particularly from foundations, will be encouraged as appropriate and the involvement of beneficiary countries as donors will be promoted, thus enhancing project sustainability and ownership. The Council Members also play a key role in identifying and reaching out to potential new donors.

**Communication and visibility.** A key aspect of the resource mobilisation strategy is to increase the visibility of the impact achieved through projects funded by the Trust Fund. Presentation materials and case studies on finalized and ongoing projects will be updated or developed with the implementing partners.

The achievements of the Fund will be presented during key workshop and conferences, and particularly during the ESCAP organised biennial Disaster Risk Reduction Committees and other relevant platforms. Project partners are encouraged to present outputs during international events, by actively engaging in respective plenaries and thematic sessions on early warning, and other topics as relevant.



ESCAP Multi-Donor Trust Fund for Tsunami,  
Disaster and Climate Preparedness