



**Asia-Pacific
Economic Cooperation**

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APEC Disaster Risk Reduction Action Plan

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APEC DISASTER RISK REDUCTION ACTION PLAN

Background

In 2015 APEC Economic Leaders declared *“the Asia-Pacific region, straddling the Pacific Ring of Fire, is particularly vulnerable and exposed to disasters”*, noting the phenomenon of the “new normal” – the increasing frequency, magnitude and scope of natural disasters, and the resultant disruption on the increasingly integrated and interlinked production and supply chains.

To address the “new normal”, the APEC Leaders adopted the APEC Disaster Risk Reduction (DRR) Framework. The APEC DRR Framework aims to facilitate collective work in building disaster-resilient economies supporting inclusive and sustainable development in the face of the new normal.

To operationalize the APEC DRR Framework, there is a need to develop an APEC DRR Action Plan to be coordinated by the Emergency Preparedness Working Group (EPWG). As stated in the item 12.4 of the Framework: *“The Emergency Preparedness Working Group shall coordinate the development of the Action Plan and be the mechanism that will encourage individual economies to develop specific, measurable, and timed contributions for the attainment of the Action Plan’s overall objectives”*

The development of the APEC DRR Action Plan was subsequently committed by the Ministers in item 125 of the 2015 Joint Ministerial Statement: *“Consistent with the areas for cooperation identified in the APEC DRR Framework, we emphasize the growing need for cooperation on disaster risk reduction...We commit to craft an action plan through the Senior Disaster Management Officials’ Forum (SDMOF) and EPWG, which shall result from cross-fora collaboration and pave the way towards the operationalization of the APEC DRR Framework....”*.

Finally, the APEC Leaders delivered the following pronouncement in item 4b of the 2015 Leaders’ Declaration: *“We welcome and adopt the APEC Disaster Risk Reduction (DRR) Framework to facilitate collective work in building adaptive and disaster-resilient economies supporting inclusive and sustainable development in the face of the “new normal.”... We instruct Ministers to craft an action plan in 2016 to operationalize the APEC DRR Framework and renew existing efforts such as business continuity planning, strengthening early warning systems, search and rescue, post-disaster recovery, promoting appropriate donations, and enhancing capacity building.”*

Therefore, to achieve the goal of *“Adaptive and Disaster-Resilient Asia-Pacific Economies Supporting Inclusive and Sustainable Development”*, the APEC DRR Action Plan for the APEC DRR Framework has been prepared. It is composed of the four pillars of DRR, the specific areas for collaboration, the corresponding activities, the responsible partners, timelines for accomplishment, and indicators for evaluation.

Pillar 1: Prevention and Mitigation

Description: This pillar includes the identification and evaluation of existing hazards, vulnerabilities, and exposure of communities and livelihoods. Based on the identified hazards and risk evaluation, proactive structural and non-structural measures need to be identified, evaluated, prioritized, funded and implemented to mitigate the impact of disasters.

Goal: Adaptive and Disaster-Resilient Asia-Pacific Economies Supporting Inclusive and Sustainable Development

Outcome: Disaster impacts mitigated through proactive mechanisms supporting inclusive and sustainable development

Illustrative Outputs/Deliverables:

- Meetings/ workshops
- Policy partnerships
- Open data sharing platforms
- Risk maps, vulnerability assessments
- Technical standards for risk assessment
- Business continuity plans (BCPs)
- Climate information services
- Monitoring and evaluation tools/systems

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
1. Utilization of science, technology and research, to prepare for, prevent and mitigate disaster impacts	Sharing of lessons learned and best practices on utilization of science, technology and research including assistive technology, including structural and non-structural measures, mechanisms and tools.	PPSTI EPWG TEL-WG EWG MTF HRDWG		1 year	Number of meetings/workshops/ sharing sessions conducted
	Conduct of research activities on applicable technology including assistive technology on DRR			1 – 3 years	Number of research papers developed with results
Development of communication strategies utilizing innovation, technology and science			1 – 2 years	Number of communication strategies developed	

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
	Formulation of partnerships on science and technology innovations such as Memorandum of Understanding (MOU), joint policies and guidelines, etc.			1 – 2 years	Number MOU, joint policies and guidelines, etc. and number of partnership established
	Oil and Gas Security Initiative (and exercises) (EWG 01 2013, EWG 02 2013S, EWG 06 2014S, EWG 01 2016S)	EWG		16 months	
	Promotion of best practices in mine closure governance to help prevent and mitigate future mining-related health and environmental disasters (MTF 03 2016A)	MTF			
2. Promotion of open access to non-sensitive risk and hazard mapping information, which is understandable and easily accessible for households, communities, businesses, and governments to ensure making appropriate decisions;	Promotion of an inclusive open data sharing across economies to enable everyone to access open data, to include procedural guidelines and other related information, through web-based platforms and social media	EPWG PPSTI ASCs EWG		3 – 5 years	Number of web-based open data sharing platform established / social media groups developed
		TEL-WG		2-4 years	ICT and Internet of Things (IoT)-based technologies are tested and implemented for disaster risk prevention and mitigation
	Development of policies and guidelines on information sharing, access, dissemination	EPWG PPSTI ASCs TEL-WG EWG		1 – 2 years	Number of policies and guidelines developed

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
	APEC Port Services Network (APSN) Guide for Prevention of Port Hazard Disaster	TPTWG		1 – 2 years	APSN workshops on hazard goods at ports
3. Identification of vulnerable and hazardous areas, and taking mitigating steps to reduce disaster risks of affected communities.	Conduct of workshops on infrastructure auditing, streamlining monitoring and assistive technology	EPWG TEL-WG PPSTI		1 – 2 years	Number of workshops conducted
	Conduct of science-based and threat-based vulnerability assessments and risk mapping at the economy level, to include details on vulnerability and exposure of communities, including industries sectors and supply chains, to natural and hazards including manmade hazards	EPWG TEL-WG PPSTI		5 – 8 years	Responsive and comprehensive risk maps developed and existing maps built on, made available in all forms of communication
	Development of monitoring and evaluation tools/systems to assess the vulnerability of various sectors such as agriculture and fisheries and the interface with social and community networks, with the use of ICT and IoT	EPWG TEL-WG PPSTI		2-4 years	Monitoring and evaluation tools/systems developed and existing tools/systems built on
4. Conservation of ecosystems, e.g., wetlands, mangroves, dunes, forests, that can provide natural protection to reduce the vulnerability of and	Sharing of lessons learned and best practices on innovations /utilization of advanced technology to preserve biodiversity and ecosystems	EPWG PPSTI		2 year	Number of meetings/workshops/ sharing sessions conducted

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
risks in APEC communities	Increase the ecosystem base DRR approach with sharing information	EPWG			
5. Enhancement and harmonization, of infrastructure standards to make them responsive to the increased frequency and impact of disasters and the “new normal”	Mainstreaming and integrate DRR and climate change adaptation in the APEC Multi-year infrastructure development plan including ecosystem-based activities	EPWG		1 – 2 years	DRR-climate change adaptation mainstreamed in the APEC Multi-year infrastructure development plan
	Development and adoption of minimum common technical standards that in their intrinsic design include accessibility measures for infrastructure assessment	EPWG HRDWG		2 – 4 years	Technical standards developed Number of economies that have adopted the standards
	Developing Training Materials to Promote the Reduction of Mercury Use in Artisanal and Small-scale Gold Mining (ASGM) (MTF 01 2016A)	MTF ABAC	Canadian International Resources and Development Institute (CIRDI) United Nations Environment Programme (UNEP) ASGM Partnership	10 months	CIRDI-developed performance measurement framework (PMF) to be used to evaluate the training modules in the field, with technical assistance provided from leading capacity development professionals and institutions.
6. Facilitation of the establishment of appropriate mechanisms and tools to finance investments in prevention,	Sharing of information about Disaster Risk Financing (DRF) schemes / micro insurance systems	FMP ABAC APFF	International Financial Institutions	2 – 5 years	Number of meetings/workshops/sharing sessions conducted

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
mitigation and risk transfer, in collaboration with the private sector, particularly the capital markets and insurance industry	Adoption of the APEC standard on formulation of Business Continuity Plans (BCPs)	EPWG FMP ABAC	International Financial Institutions		Number of economies adopting the BCP formulation standard of APEC

Pillar 2: Preparedness

Description: This pillar refers to the state of readiness of APEC economic system and communities to minimize damage of infrastructures, properties, injuries and loss of lives. This involves multi-sectoral and multi-level measures in capacitating communities for resiliency and build back better.

Goal: Adaptive and Disaster-Resilient Asia-Pacific Economies Supporting Inclusive and Sustainable Development

Outcome: Established and strengthened capacities of communities to anticipate, cope with and recover from the negative impacts of emergency occurrences and disasters for safe and resilient communities in order to avert the loss of lives and assets

Illustrative Outputs/Deliverables:

- Platforms for sharing DRR information with the use of ICT
- Protocols on data sharing
- Capacity building / training design on technology transfer
- Capacity building / training design on development of entrepreneurial basic skills for MSMEs
- Development of robust early warning systems for a range of natural hazards including severe weather (e.g. typhoons, tropical cyclones, hurricanes), flood, drought, coastal inundation, tsunami, etc.
- Guidelines on establishment of shared facilities for industries
- Partnerships with the private sector
- Risk transfer mechanisms
- Credit facilities for MSMEs
- Capacity Building on Business Resiliency Roadmapping

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
1. Voluntary sharing of non-sensitive information and best practices to improve early warning systems and development of comprehensive disaster risk management systems utilizing current and advanced science and technology as well as Information and Communications Technologies	Development of protocols on data sharing	PPSTI EPWG TELWG EWG		1 year	Number of protocols developed
	Sharing lessons on the Development of the disaster safety communication network based on ICT and its interface and uptake with human systems in a range of potentially affected communities	EPWG PPSTI		1-2 year(s)	Coverage of communication networks / Number of economies that have shared the relevant technologies and information

	APEC Energy Sector Resilience webinar (Clean Energy Solutions Center at: https://cleanenergysolutions.org/training/energy-sector-resilience)	EWG			
	Development of online resource for first responders through dedicated website to provide first responders with information from APEC Economies to facilitate rapid response to chemical incidents	Chemical Dialogue	American Chemistry Council		Establishment of dedicated website: http://global.chemtrec.com
2. Capacity-building and voluntary technology-transfer to sustain the development, improvement and exchange of important Disaster Risk Reduction (DRR) skills, knowledge, and technologies, as mutually agreed	Development of standard capacity building/training designs on voluntary technology-transfer	PPSTI		1 year	Standard capacity building/training design on technology transfer developed
	Conduct of training technology transfer	PPSTI		3 years	Number of economies that have conducted the training
	Community awareness raising and capacity building for community on disaster risk reduction	EPWG		5 years	
3. Emphasis of government and business cooperation in a whole-of-society approach to preparedness	Development of guidelines for coordination and partnership agreements	ABAC TPTWG SMEWG EPWG EWG		1 year	Number of guidelines developed and partnerships forged
	Establishment of coordination mechanisms for preparedness			1 year	Number of coordination mechanisms established such as meetings, conferences, etc.
	Organization of networking / Partnership activities			1 year	Number of networking/ partnership activities organized

4. Development of financial and enterprise tools that are suitable to the DRR goals and objectives of APEC communities	Capacity Building on the APEC Seven Principles of Supply Chain Resilience	PPSTI EPWG		5 years	Number of Capacity Building activities organized
	Capacity building on business resiliency roadmapping			5 years	Number of capacity building on business resiliency conducted
	Improvement of existing operational warning systems for forecastable hazards (e.g. cyclones and other storms, tsunami, storm surge, flooding, volcanic eruptions), building on improved observational networks and science			5 years	Evidence of mature, multi-economy operational warning systems, receipt of warnings by public and emergency services, and developing maturity of response.
	Strengthening of the links between technical agencies to improve their ability to provide ongoing Early Warnings	EPWG PPSTI			
	Development of risk transfer mechanisms, based on robust data and risk analysis	ABAC APFF FMP	International Financial Institutions	5 years	Number of beneficiary economies with each risk transfer mechanisms
	Establish and promote private disaster insurance schemes, through the collaboration and exchange of information and experience among economies, international organisations, and private sector in the medium term	ABAC APFF FMP	International Financial Institutions	2-4 years (medium term); 5-10 years (long term)	Comprehensive study of market gaps, and recommendations to address these gaps
	Deepen insurance penetration within their economies and develop regional risk sharing measures	FMP		5-10 years (long term)	

	Develop a roadmap and network of experts through the support of APFF for expanding the coverage of micro insurance and disaster risk finance in member economies	FMP		2-4 years (medium term)	
5. Building resilience of Micro Small Medium Enterprises, livelihoods and businesses against disasters through responsive business continuity plans and micro insurance, among others	Development of guidelines on the establishment of shared facilities for industries through the industry associations	ABAC FMP SMEWG	International Financial Institutions	1 year	Number of guidelines developed
	Conduct of training/capacity building on development of entrepreneurial basic skills for MSMEs particularly in the development of "green products"	SMEWG		5 years	Number of training/capacity building conducted
	Develop market linkages for MSMEs to grow and stay competitive to become resilient	SMEWG		2 – 3 years	Effective and responsive linkages developed

Pillar 3: Response

Description: This pillar focuses on engaging stakeholders of the affected economies in operational interventions immediately after a disaster. It involves the identification and assessment of impacts to the economy and marketplace following the disaster and encouraging the implementation of existing internationally-recognized of response mechanisms, such as but not limited to the prompt replenishment of lost purchasing power to affected consumers, procurement of relief goods and services from business and people closest to the disaster area, and provision of immediate needs through market-based solutions so that economic recovery is stimulated while immediate relief is provided. It also covers the clearing of bottlenecks in supply chain to get emergency goods in and out or businesses back online.

Outcome: Life preserved, basic subsistence needs of affected population met and capacities of economies restored during or immediately after a disaster

Illustrative Outputs/Deliverables:

- Universally acceptable mechanisms/standard operating procedures (SOPs) on humanitarian assistance and disaster response (HADR)
- Implemented BCPs
- Data and information management protocols for the recording of impact data.

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
1. Establishment, engagement in and promotion of joint and/or collective emergency response policies taking into account recognized international and regional humanitarian response procedures, where appropriate, to reduce barriers to the movement of emergency responders and humanitarian relief across borders	Adoption and encouraging implementation of existing coordination mechanisms on HADR such as AADMER, IHA, MNCC, OSS, etc.	CTI SCCP EPWG HWG EWG		5 years	Number of economies that have established, implemented and adopted the mechanisms on HADR
	Implementing the APEC Principles for the Movement of Humanitarian Goods and Equipment During Emergencies	EPWG SCCP BMG			
2. Utilization of communication mechanisms to expedite the flow of goods after transportation disruptions in order to assist in trade recovery	Adoption and encouraging implementation of communication mechanism to expedite the flow of goods after transportation disruptions in order to assist in trade recovery, such as the Global Trade	CTI SCCP BMG TPTWG TELWG		5 years	Number of economies that have adapted and implemented the communication mechanisms

	Recovery Information Program (GTRIP) as outlined in the APEC Principles for the Movement of Humanitarian Goods and Equipment During Emergencies				
3. Encouragement of appropriate donations after disasters in order to expedite the movement of goods and reduce chokepoints in the supply chain	Adapting and encouraging implementation of APEC Guidelines for Appropriate Donations in Times of Disasters to expedite the movement of goods and reduce checkpoints in the supply chain	ABAC CTI SCCP BMG EPWG		1 year	Number of economies that have adapted the mechanisms, protocols and policies on appropriating donations
4. Promotion of market-based response mechanisms/approaches to address impacts to markets and economic systems.	Encouraging Implementation of BCPs for enhanced market-based response mechanisms	ABAC EPWG SMEWG		1 year	Number of BCPs implemented

Pillar 4: Rehabilitation and Build Back Better

Description: This pillar aims to enable disaster-affected communities and vulnerable sectors to rehabilitate and build back better by ensuring minimal disruption in livelihood and other economic activities; fast-tracking the rehabilitation of affected economic activities after a disaster; fostering education continuity; rehabilitating affected ecological ecosystem; and improving the overall living conditions of affected and at-risk communities, vulnerable sectors and businesses. The principle of Build Back Better is at the core of APEC's efforts to address the challenges of the new normal

Outcome: Disaster stricken communities restored and rehabilitated in accordance with the Build Back Better principle

Illustrative Outputs/Deliverables:

- Updated policies, plans and programs
- Meetings/ workshops
- Policy dialogues/ collaboration/partnerships

AREAS FOR COLLABORATION	ILLUSTRATIVE ACTIVITIES	PARTNERS		TIMEFRAME	INDICATORS
		INTERNAL	EXTERNAL		
1. Mainstreaming of DRR and climate change adaptation into local and economy-level development planning	Updating and mainstreaming of DRR and climate change adaptation into domestic plans	EPWG HRDWG PPSTI Economies		1 – 3 years	Number of local and economy level plans updated
	Sharing of lessons learned and best practices on mainstreaming of DRR and climate change adaptation	EPWG PPSTI		1 year	Number of meetings/workshops /sharing sessions conducted
	Establishing direct linkages between physical, economic and social recovery policies, mechanisms, measures and tools	PPSTI			
	Sharing of lessons learned and best practices on employment, human resource development and social protection disaster response strategies	HRDWG		3 years	Number of meetings/ workshops/sharing sessions conducted Number of economy plans updated for the APEC Principles for Sound Natural

					Disaster Workforce Strategies ¹
2. Promotion of local level action for long-term and sustained impact of DRR interventions	Sharing lessons learned and best practices on local involvement in DRR	EPWG SDMOF		1 year	Number of meetings/workshops /sharing sessions conducted
	Review/ assessment of existing domestic laws and policies on DRR	EPWG SDMOF		1 year	Review of domestic laws and policies initiated
3. Promotion of coherence and mutual reinforcement among local, economy-level, regional, and global DRR policies and programs	Conduct of policy dialogues/ collaboration / partnership with existing regional bodies / organizations such as ASEAN, AFTA (global – sendai)	EPWG PPSTI SDMOF EWG		1 – 3 years	Number of policy dialogues conducted/ collaboration/partnerships formed
4. Ensure gender, age and disability-responsiveness of DRR policies, plans, and programs	Updating of policies, plans and programs to ensure gender, age and disability-responsiveness and that vulnerable groups are given special attention in DRR	PPWE GoFD EPWG		1 – 3 years	Number of policies, plans and programs updated
	Development of indicators for gender, age and disability responsiveness for inclusion in reporting	PPWE GoFD		2 – 3 years	Indicators developed; Number of economies that have adopted the indicators

¹ Contained in the APEC HRD Working Group project report, *Building Natural Disaster Response Capacity – Sound Workforce Strategies for Recovery and Reconstruction*, December 2013