15th AOGEO Symposium

Financing Water-Related Disasters under Climate Change

Alessio Giardino
Senior Water and Climate Change Specialist
Asian Development Bank
agiardino@adb.org

By the numbers

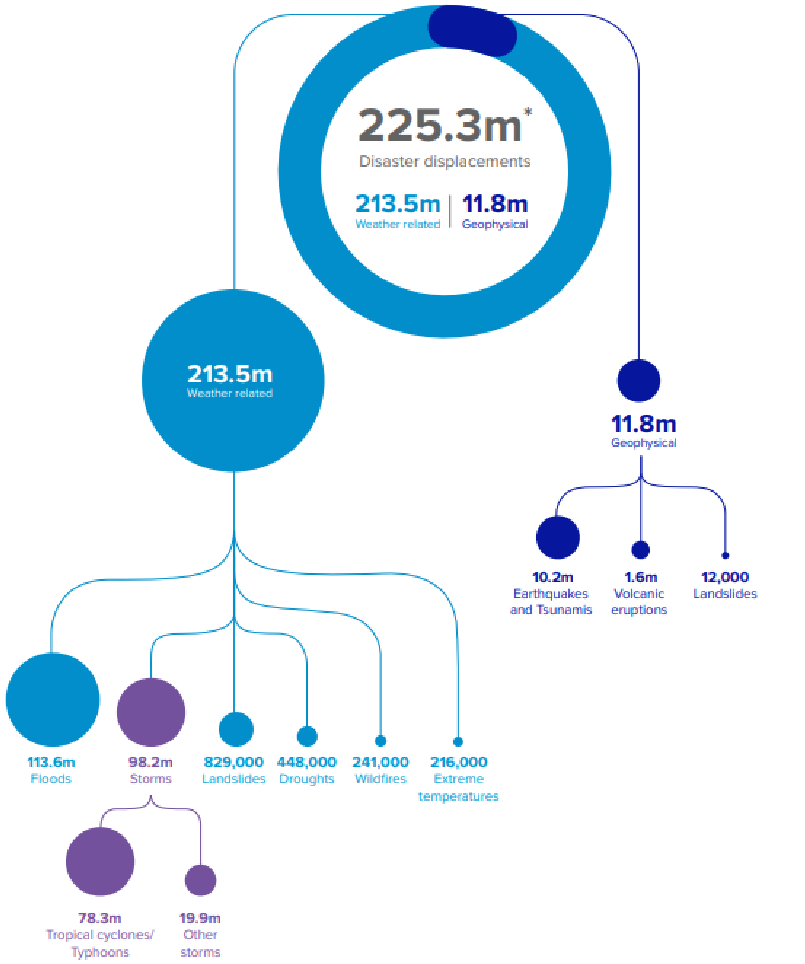
- Asia will need **USD1.7T / year (ADB)**
- OECD: **40%** of development investments are **prone to climate change hazards**
- World Water Assessment Program: climate change is costing **5-20 % GDP / year**
- World Bank: **<0.5% GDP**, adaptation could remove **70% of climate change damages**
- Global Commission on Adaptation: investing in **early warning systems**, resilient infrastructures, improved dryland agriculture & crop production, protected mangroves, & resilient water resources could deliver **4x RoI**
- ADB: **$100B in climate financing** over 2019-2030, with **$66B for climate mitigation** and **$34B for adaptation**

Riverine flood protection		Coastal flood protection	
% GDP	USD billions	% GDP	USD billions
Bangladesh (8.2)	India (275.24)	Bangladesh (2.8)	China (34.10)
Myanmar (5.8)	China (188.75)	Solomon Islands (2.1)	Bangladesh (20.93)
Cambodia (5.3)	Indonesia (84.76)	Viet Nam (1.7)	Indonesia (17.53)
Afghanistan (4.4)	Bangladesh (62.06)	Vanuatu (1.5)	India (13.73)
Kyrgyz Republic (4.1)	Thailand (26.94)	Myanmar (0.6)	Viet Nam (13.31)
Tajikistan (3.7)	Viet Nam (26.70)	Indonesia (0.6)	Japan (5.18)
Viet Nam (3.4)	Pakistan (21.52)	Fiji (0.5)	Malaysia (3.29)
Laos (3.1)	Myanmar (10.98)	Malaysia (0.4)	Philippines (1.96)
Indonesia (2.8)	Japan (10.89)	Philippines (0.2)	Myanmar (1.09)
Timor-Leste (2.7)	Philippines (9.33)	Papua New Guinea (0.2)	South Korea (0.67)

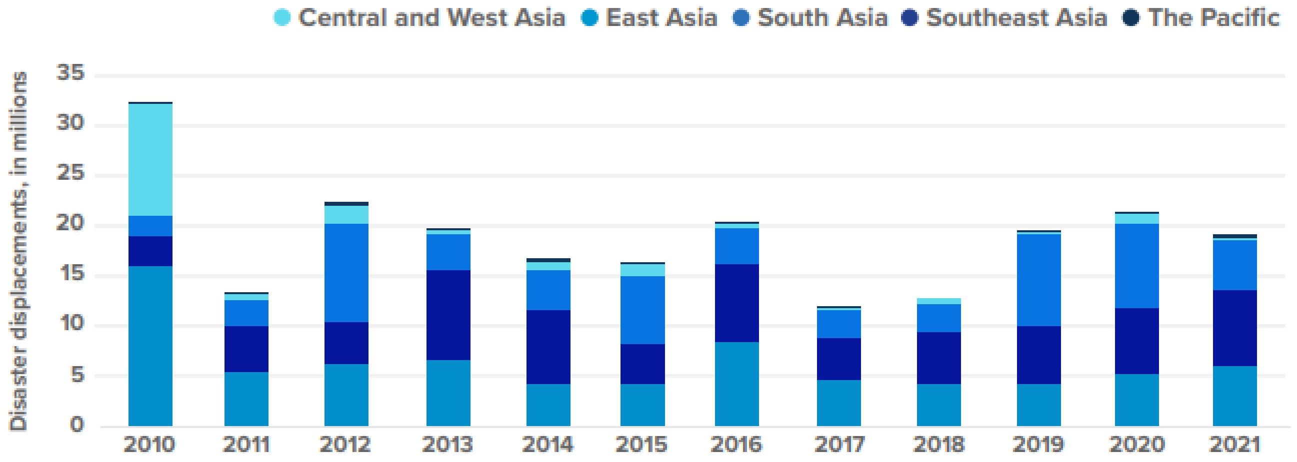
■ Low-Income Economies ■ Lower-Middle Income Economies
■ Upper-Middle Income Economies ■ High-Income Economies

SOURCE: OECD 2021

Disaster displacements in the region (ADB, iDMC, 2022)



Internal displacements in Asia and the Pacific: Breakdown by Hazard (2010-2021)
Source: Internal Displacement Monitoring Centre, 2022



Internal displacements by disasters per subregion
Source: Internal Displacement Monitoring Centre, 2022

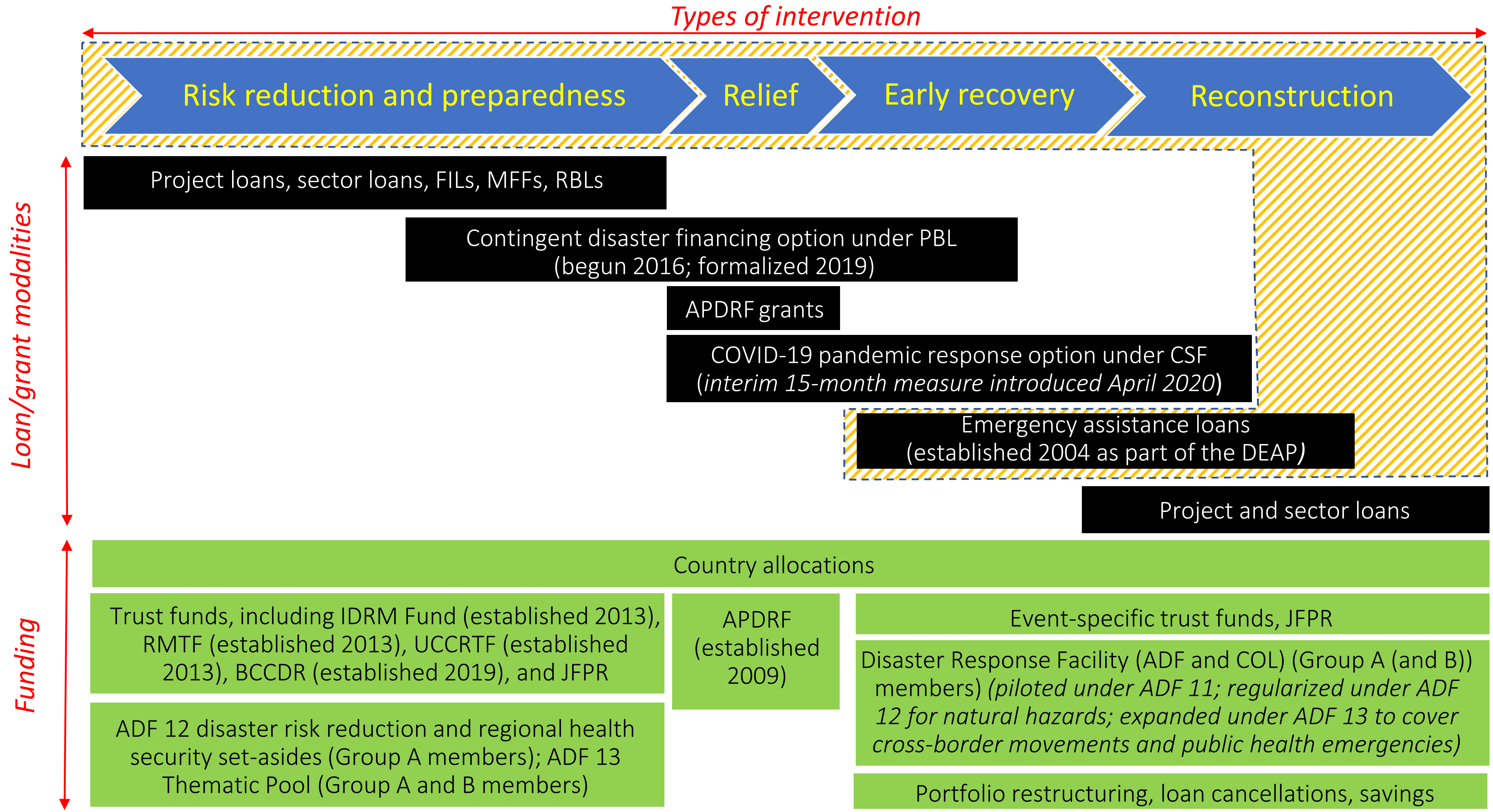
Climate mitigation benefits

	Temperature rise scenario, by mid-century			
	Well-below 2°C increase	2.0°C increase	2.6°C increase	3.2°C increase
	Paris target	*The likely range of global temperature gains*		*Severe case*
Simulating for economic loss impacts from rising temperatures in % GDP, relative to a world without climate change (0°C)				
World	–4.2%	–11.0%	–13.9%	–18.1%
OECD	–3.1%	–7.6%	–8.1%	–10.6%
North America	–3.1%	–6.9%	–7.4%	–9.5%
South America	–4.1%	–10.8%	–13.0%	–17.0%
Europe	–2.8%	–7.7%	–8.0%	–10.5%
Middle East & Africa	–4.7%	–14.0%	–21.5%	–27.6%
Asia	–5.5%	–14.9%	–20.4%	–26.5%
Advanced Asia	–3.3%	–9.5%	–11.7%	–15.4%
ASEAN	–4.2%	–17.0%	–29.0%	–37.4%
Oceania	–4.3%	–11.2%	–12.3%	–16.3%

Source: Swiss Re Institute (2021)

- For Asia, the **GDP loss** could be **reduced by about 15%** is Paris Agreements targets were reached compared to a scenario leading to a temperature increase of 2.6° by end of the century

Funding for Disaster Risk Management



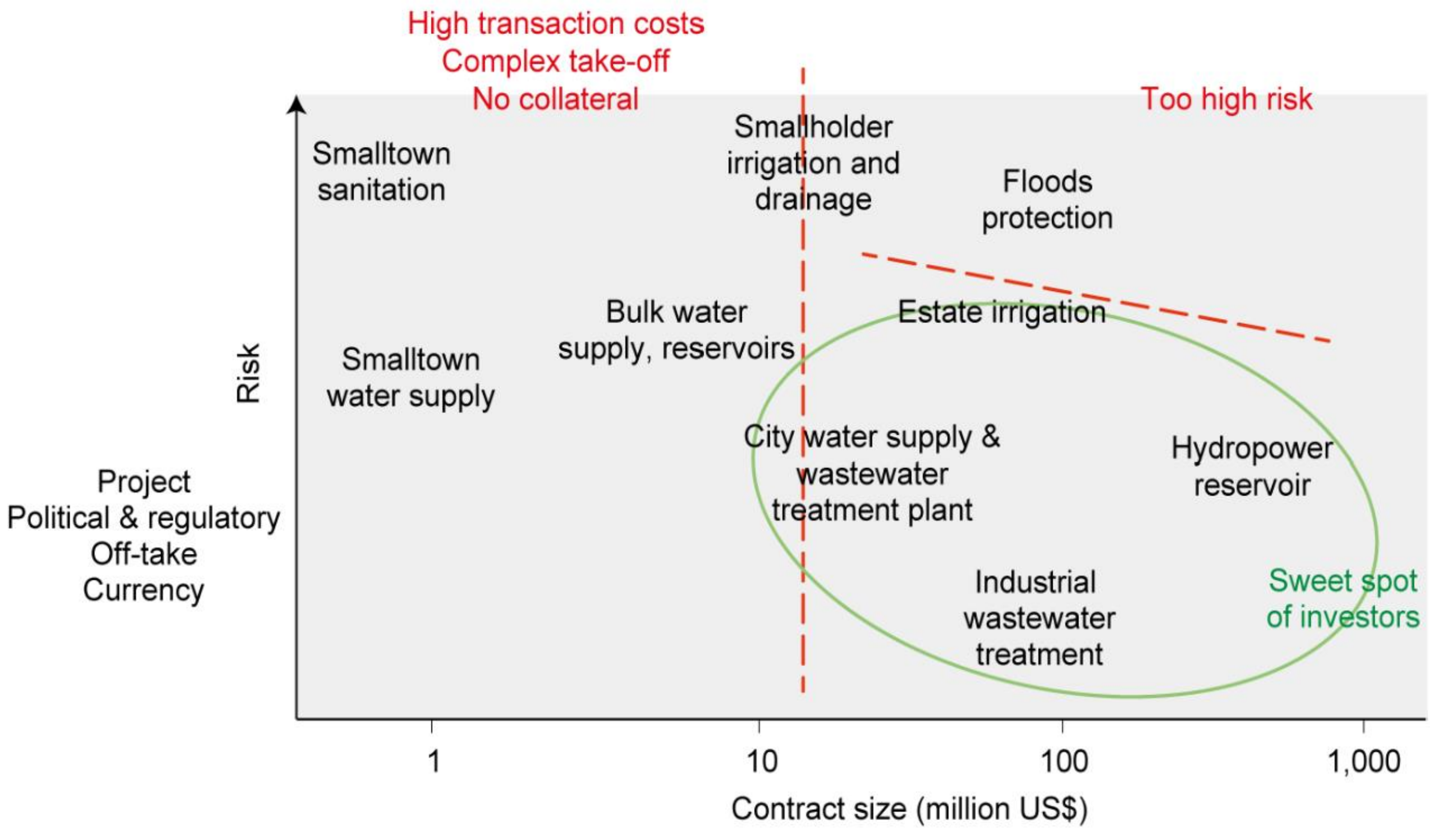
ADB's Contingent Disaster Financing Instrument

- Building on experience gained through several related pilots, a tailored **contingent disaster financing (CDF)** option under ADB's policy-based loan instrument was approved in August 2019.
- Focus on disasters triggered by natural hazards (e.g. **typhoons, floods, earthquakes, droughts**, and **tsunamis**)
- The instrument was **expanded to include health-related emergencies**, in addition to disasters triggered by natural hazards, in April 2020.

Key features of contingent disaster financing loans and grants

- Prior policy and monitorable actions focus on measures to **enhance long-term resilience**.
- **Achievement of the prior actions enables eligibility to disburse funds**.
- **Funds disburse quickly** in the event of a **pre-agreed soft trigger event**, providing rapid liquidity for government
- Designed for events with a **frequency once every 3 to 10 years** (not too frequent e.g. yearly)

Private Finance



SOURCE: ALERTS. G.J., 2019

- The **public sector** dominates water sector infrastructure financing (**92% of total investments**)
- As a reference: **private sector** finances more than **75% projects in telecommunication** , and close to **50% in the power sector**

Future of Resilient Investments in WRD

- As the population and urbanization grow, water scarcity and water-related climate risks will increase, and **developing countries will be forced to invest**.
- **Flood Forecasting and Early Warning Systems** are **cost-effective** in significantly reducing damage and losses from extreme events.
- **Maintenance** needs to be supported with sufficient **earmarked funds**.
- **Spatial planning and water resource management** are essential to ground resilience and avoid maladaptation.
- **Capacity building** of city/sub-national and national level government staff is essential to sensitize them about climate change impacts and resilience.
- And there is a vital need to support water conservation, reuse, and **nature-based solutions.**

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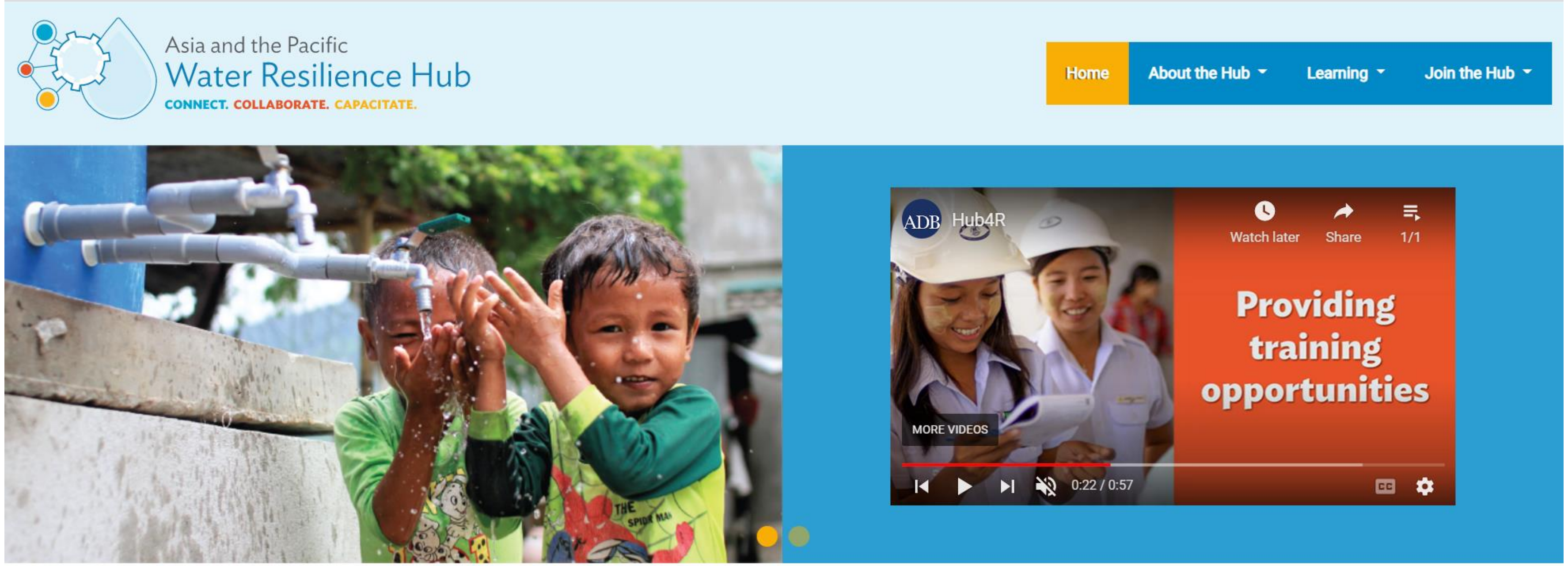
https://hub4r.adb.org/



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agiardino@adb.org

“Natural **hazards** don’t need to turn into **disasters** if properly managed”

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