






TRANSBOUNDARY CLIMATE AND ADAPTATION RISKS EXPLORED IN THE PERCEPTIONS SURVEY

Transboundary climate change and adaptation risks (TCARs) are the potential consequences or outcomes that could occur as the result of transboundary climate change impacts, the transboundary effects of adaptation decisions made by one or more countries or the transboundary effects of mitigation actions on countries' adaptation options. Such risks have multi-country, regional and international implications.

	RISK	DESCRIPTION
 BIOPHYSICAL	Anti-desertification failures	Regional and multi-country plans and interventions to combat desertification through planting trees, shrubs and grass promote species that cannot survive changing climate conditions. This undermines regional efforts to reduce land degradation.
	Livestock and crop disease	Climate change-related temperature and precipitation shifts facilitate the emergence of new and/or increased range and spread of livestock and crop pests, diseases and invasive species.
	Impacts on shared fisheries	Fish stocks already under pressure from overfishing in shared inland lakes and rivers, or marine waters, are further impacted by climate change, such as rising water temperatures that trigger algal blooms and fish die-offs.
	Cross-border bushfires	Warmer temperatures and heat waves cause traditional pasture and agricultural field burning practices to lead to out-of-control bushfires in regional drylands.
	Shared water resources	Climate changes impact transboundary rivers, lakes, connected wetlands and melting of mountain snowpack and glaciers. Changing hydrologies could drastically reduce water availability for all countries that share the water, alter flood and drought risks and impact ecosystem resilience.
 TRADE	Food disruptions	Importation of staple food supplies becomes more expensive or is disrupted due to climate impacts in source countries.
	Energy disruptions	Importation of energy becomes more costly or is disrupted due to climate impacts in source countries.
	Agricultural trade bans	Climate change facilitates livestock or crop disease outbreaks or food safety concerns that require export bans or trigger trade partners to block imports.
	Foreign land grabs	Foreign investors buy up agricultural and pastoral lands to grow crops for export to their own countries. This might reduce local access to land and water resources and contribute to further ecosystem degradation and resource competition, thereby reducing sub-national to national adaptation options.
	Trade hinders adaptation	Trade rules and pacts reduce sub-national to regional adaptation options, such as through tariffs or restrictions limiting access to climate resilient agricultural inputs and technologies.
	Infrastructure damage impacts trade	Regional and international trade of agricultural products disrupted due to damage to key regional infrastructure (e.g., roads, railways, ports, electricity, communications, etc.) by an extreme event.
	Non-resilient trade pacts	Trade agreements do not prioritise or anticipate the need for climate resilience, locking countries into maladaptation.
 FINANCIAL	Stranded fossil fuels	Demand for fossil fuels in transitions to green economies leads to stranded assets and impacts subnational to national revenues for investing in adaptation action.
	Green economy mining	Increased global demand for rare earth elements (REEs) leads to unregulated mining booms and social, environmental and economic challenges that increase sub-national to national climate vulnerability.
	Infrastructure damage and economies	Disruption or damage to regional infrastructure by a climate extreme cause cascading regional and multi-country economic impacts beyond disruption to agricultural trade.
	Foreign direct investment (FDI) and debt	Climate extreme disruption or damage to infrastructure built with FDI increases national debt and undermines national capacity to invest in adaptation.
	Climate finance	International climate adaptation and mitigation funding sources restrict fund access due to perceptions of conflict and fragility.
 PEOPLE	Displacement	Extreme climate events or shifting climates stimulate multi-country or regional displacement. Some displacement could become long-term or permanent.
	Resource-based competition	Resource-based competition in cross-border areas increases as climate change exacerbates existing land, water and other natural resources' degradation and can contribute to insecurity and mobility.
	Insecurity	Regional conflicts contribute to resource and financial insecurity, reducing local, national and regional adaptive capacities.
 GEOPOLITICAL	Maritime borders	Sea level rise shifts coast lines and maritime borders with implications for fishing, extraction rights and other Blue Economy activities.
	River borders	Climate change shifts in temperature and precipitation compound with human pressures to alter rivers that form national borders, potentially leading to litigation and conflict over borders.
	National and regional coordination	Poor coordination and implementation of national policies with regional policies and initiatives undermines the climate adaptation goals of both.