

## Climate risk proofing of grey infrastructure



Climate risk proofing of grey infrastructure is one of the 11 key interventions that are contributing to building climate resilience for agriculture and food systems. Climate related hazards can significantly impact agriculture related infrastructure, such as drainage and irrigation systems, dams, sea dykes against sea level rise for coastal communities, rural infrastructure (rural roads), seed storage facilities and animal shelters (ADB, 2012). In order to ensure that infrastructures are climate proofed against different hazards, it is essential that the physical vulnerabilities of these infrastructures are addressed, including the characteristics of their design, the quality of the construction material used, the applied engineering practices, the age of the structure and/or the extent of regular maintenance. It also involves the integration of risk assessments based on climate modeling in the design and planning phase. Climate proofing may also include upstream re-forestation or re-planting mangroves in coastal areas, which may be more cost-effective than ‘hard’ engineering options, such as the construction of dams or dikes or a mix of both, depending on the location and context specific conditions (hybrid green and grey infrastructure linked to nature based solutions).

	Global and national level indicators	Name of framework /initiative /study	Subnational and local level indicators	Name of framework /initiative /study
<b>Damage to infrastructure</b>	Direct economic loss resulting from damaged or destroyed critical infrastructure attributed to disasters	SFDRR C5 (2015)		
<b>Building permits and building codes</b>	-		Number of local government units localizing CCA-DRR/retro-fitting in the issuance of building permits and local clearances (Building Code)	CCAP PHI (2011)
<b>Climate risk proofing of infrastructure</b>	Number of water supply infrastructure assessed and climate proofed	CCAP PHI (2011)	Percent households in waterless municipalities with access to climate resilient water systems (%)	CCAP PHI (2011)
	Functioning multipurpose dams and water harvesting infrastructure for medium and large scale irrigation, livestock and fisheries	NAP-AG UGA (2017)		
	Number of vulnerable energy and transport system infrastructures redesigned, retrofitted and rehabilitated	CCAP PHI (2011)		
<b>Investments in climate risk proofing of infrastructure</b>	Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials	<b>SDG 11.c.1 (2015)</b>	[global indicator, but can be disaggregated at national level] and made more specific to the agri-food sectors	