

CNMI Climate Change Adaptation Training – Vulnerability Assessment

TARGET	Current Status of Target (natural/social resources)	Threats (non-climate)	Root Causes of Non-Climate Threats	Climate Events	Exposure	Sensitivity	Potential Impact	Adaptive Capacity	Resource Vulnerability	Community Vulnerability	Actions	Agencies Responsible	
FISH	20 years ago: fair 10 years ago: poor Now: fair	Fishing Pressure Water Quality	Population Increase Depressed Economy Unsustainable Coastal Development								Support water quality improvement projects	CUC, DEQ, NRCS, DPW, Soil water conservation districts	
												protect seagrass areas through spatial planning	NOAA, CRM, DFW, USCG,
				1. Sea Surface Temperature - impact on life cycle, habitat, seagrass ecology, coral bleaching	1. all	1. moderate	1. high	1. low	1. high	1. medium	Support Garapan CAP	CUC, DEQ, NRCS, DPW, Soil water conservation districts, NOAA, CRM, DFW, USCG	
				2. rainfall changes - habitat/poor water quality	2. all	2. moderate	2. high	2. medium	2. medium	2. medium	Community outreach - support size matters campaign	NOAA, DEQ, CRM, DFW	
				3. extreme weather - damage to coral, poor water quality	3. most	3. moderate	3. high	3. medium	3. medium	3. medium	Implement size restrictions	DFW	
				4. ocean acidification-habitat degradation, coral/sea grass life history	4. all	4. moderate	4. high	4. medium	4. medium	4. medium	Ensure gill net ban is enforced	DFW	
				5. sea level rise - change in currents, coral can't photosynthesize	5. most	5. moderate	5. high	5. medium	5. medium	5. medium	Improve existing gillnet restrictions and permitting	DFW	
											Research how 5 CC threats may influence reef fish life history, biology, physiology	DFW, WESPAC FIN, NOAA	
											Future: explore alternative food source, incomes sources		

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Infrastructure- wastewater	Now: fair and improving	Age of pipes/materials Deterioration Saltwater infiltration Leaks in Piles	lack of funding illegal connections lack of prosecution stuck with judicial system Mismanaged facility	sea level rise rain events storms extreme weather	Moderate	severe	high	medium	medium	high - due to health hazards	awareness campaign to inform compliance	DEQ, CUC
											replace degraded pipes with possible new material that is less corrosive	CUC
											enforce regulation and compliance for sewer hook-ups (legally)	CUC, DEQ
											educate the community about what things should look like	CUC, DEQ
											more capacity in court systems to address violations	CUC, DEQ, NOAA, EPA, AG
											increase funding / collection from new legal sources	CUC
											prepare for possibly more frequent maintenance of lifts and other infrastructure (7 instead of 10 yrs)	CUC, OIA,

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Infrastructure - stormwater	now: poor to fair and deteriorating	<p>lack of maintenance</p> <p>sand and water blockages</p> <p>poor design</p> <p>pollution from sewage</p>	lack of funding	<p>sea level rise</p> <p>rain events</p> <p>storms</p> <p>extreme weather</p>	All	moderate	high	medium	medium	medium	educating the community about the stormwater system, "do's" and "don'ts", and reporting	DEQ, DPW
			lack of capacity to maintain								figure out whose mandate it is for maintenance and ensure funding	DEQ, DPW
			confusion over whose mandate it falls under								add ponding basins to decrease the amount of water that enters the storm pipe	CRM, ACOE, DPW, DEQ
			lack of awareness and prioritization								upgrading infrastructure - above ground surface channels instead of pipes	DPW, DEQ
			people don't see it as a problem								adding infiltration areas	Zoning, DPW, DEQ, CRM

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Drinking Water Resources	20 years ago: fair/good	exploitation	lack of funding	sea level rise - intrusion due to changes in water table	ALL	Moderate	high	medium	medium	high	initiate education and outreach focused on water resources of the island	CUC, DEQ, NMC-CREES
	10 years ago: fair/good	overuse	low levels of awareness		sea level rise - frequent	high impact in the past	Has a fair amount of adaptive capacity provided there is effective management	The resource is not self-adaptive	high dependence - everyone needs water - fair/low adaptive capacity	increase support for enforcement on illegal connection on water	CUC, AG, Public Health	
	now: fair/poor	theft	lack of enforcement	storms: damaged systems	storms - sometimes					increased enforcement to deal with contamination	DEQ, DPW, AG, Public Health	
		contamination	apathy		rainfall - frequent							