

COUNTRY PROFILE

BHUTAN

CLIMATE: **ACUTE**

CARBON: **MODERATE**

THE MONITOR ASSESSMENT

The Climate Vulnerability Monitor provides a comprehensive national-level assessment of vulnerabilities and impact specifically related to contemporary climate change and carbon intensiveness. This 2012 Monitor assessment was commissioned by the Climate Vulnerable Forum and has been independently developed by DARA. It is grounded in leading and up-to-date scientific studies, research and data assimilated on the basis of an externally reviewed methodology. The assessment spans 34 indicators of impact/vulnerability: 22 for climate change ("Climate") and 12 for carbon intensiveness ("Carbon"). Estimates in human, economic and environmental terms are for 2010 and 2030. Vulnerability at country-level and by indicator is comparative to the 184 countries included in the assessment.

→ For the full report, data & additional info: www.daraint.org/cvm2 - cvm@daraint.org - +34 915310372

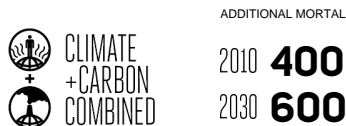
ECONOMIC NATIONAL LOSS TOTALS: BHUTAN

ADDITIONAL ECONOMIC COSTS (NEGATIVE NUMBERS SHOW POSITIVE EFFECTS) - YEARLY AVERAGE



HUMAN NATIONAL LOSS TOTALS: BHUTAN

ADDITIONAL HUMAN IMPACTS (NEGATIVE NUMBERS SHOW POSITIVE EFFECTS) - YEARLY AVERAGE



FULL COUNTRY ASSESSMENT: BHUTAN

	VULNERABILITY LEVEL		ADDITIONAL ECONOMIC COSTS (MILLION USD PPP)		ADDITIONAL MORTALITY		ADDITIONAL AFFECTED POPULATION (1000s)		OTHER VALUE 1*		OTHER VALUE 2*	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
ENVIRONMENTAL DISASTERS												
DROUGHT	+	+		1								
FLOODS AND LANDSLIDES	+	+		1	1	1	15	25				
STORMS												
WILDFIRES												
TOTAL			0	2	1	1	15	25				
HABITAT CHANGE												
BIODIVERSITY	+	+	45	350					-250	-450	150	400
DESERTIFICATION												
HEATING AND COOLING				1					-1	15		
LABOUR PRODUCTIVITY	+	+	55	400					44	34		
PERMAFROST	+	-	45	250			20	40				
SEA-LEVEL RISE												
WATER			-85	-700					-1	-1		
TOTAL			60	301			20	40				
HEALTH IMPACT												
DIARRHEAL INFECTIONS	-	-			10	20	0	0				
HEAT AND COLD ILLNESSES	-	+			5	10						
HUNGER	+	+			60	150	0	0				
MALARIA AND VECTOR-BORNE							0	0				
MENINGITIS	+	-			5	10	0	0				
TOTAL					80	190	0	0				
INDUSTRY STRESS												
AGRICULTURE	+	-	10	100								
FISHERIES				1								
FORESTRY												
HYDRO ENERGY												
TOURISM												
TRANSPORT												
TOTAL			10	101								
CLIMATE TOTAL			70	403	81	191	35	65				
ENVIRONMENTAL DISASTERS												
OIL SANDS												
OIL SPILLS												
TOTAL			0	0								
HABITAT CHANGE												
BIODIVERSITY	-	-	55	450					150	500		
CORROSION												
WATER	+	-	1	5					45	60		
TOTAL			55.75	455								
HEALTH IMPACT												
AIR POLLUTION					1	5	0	1				
INDOOR SMOKE	+	+			300	400	15	20				
OCCUPATIONAL HAZARDS	+	-			1	5	0	0				
SKIN CANCER	+	+			5	20	0	0				
TOTAL					306.75	430	15	22				
INDUSTRY STRESS												
AGRICULTURE			-1	-55								
FISHERIES												
FORESTRY				1								
TOTAL			-1	-54								
CARBON TOTAL			54	401	306	430	15	22				

VULNERABILITY LEVELS:

- Acute+ High+
- Acute- High-
- Severe+ Moderate
- Severe- Low

+ = Upper tier of vulnerability level
- = Lower tier of vulnerability level

- Environmental disasters
- Habitat change
- Health impact
- Industry stress
- CLIMATE = Impact/Vulnerability to Climate Change
- CARBON = Impact/Vulnerability to Carbon Intensiveness

	OTHER VALUE 1	OTHER VALUE 2
BIODIVERSITY	Contraction of biological zones (km ²) (cumulative)	Decline in biological richness
DESERTIFICATION	Additional land degraded (km ²) (cumulative)	
HEATING & COOLING	Change in energy load (GWh)	
LABOUR PRODUCTIVITY	Share of workforce particularly affected (%)	
SEA-LEVEL RISE	Net loss of land (km ²) (cumulative)	
WATER	Loss in water runoff 2030 (km ³)	
OIL SANDS	Tonnes toxic waste ('000s)	
OIL SPILLS	Gallons oil spill ('000s)	
BIODIVERSITY	Decline in biological richness	
WATER	Volume of water to treat (millions m ³)	