

Background

One of the goals of The **National Action Plan on Climate Change and Human Health** is the reduction in health vulnerability to climate variability and extreme weathers. To achieve this goal, some of its aims include a. **strengthening the healthcare system in context of climate change**, b. **building capacity of healthcare system for vulnerability assessment**, and c. **strengthen health preparedness and response by performing situational analysis** at all scales. While the Guidelines on Green and Climate Resilient Healthcare Facilities, published in 2016 focus extensively on greening of healthcare facilities, a healthcare facility climate resilience checklist has been designed and proposed to complement the existing guideline. The checklist can act as a self-assessment tool to evaluate whether or not a healthcare facility may be at risk from current and future climate extremes based on its geographic location and inherent coping capacity. The checklist is designed to be scalable, meant to be used by administrative or healthcare officials in any healthcare facility across India.

Please note: All star-marked sections are compulsory. Sections D3.1 and D3.2 are meant for healthcare facilities located in hilly regions or coastal regions respectively.

Part A1: Facility Identification*

State Name	District Name	Block Name	Code	Latitude	Longitude	Full Address
Type of Facility (Tick)		Ownership	Mention if other	Any other details		
SC		Public				
PHC		Private				
CHC		Other				

Part B: Respondant Details

Name of Respondant	Designation	Date	Phone no.	Hospital Phone no.	Email ID

Part D: Climate Resilient Healthcare Facility Standards

Part D1: Identification of Risk Factors*

Part D1.1: Geographic Location & Hazard Occurrence*


S.No	Questions	Response Codes	Response	Score	Assessment Method	Method of Verification	Remarks
D1.1.1	At what altitude is your healthcare facility located? <i>(If your score for this question is 2,3 or 4 please ensure to fill additional section D3.1)</i>	Below Mean Sea Level (low-lying plains)	<input type="checkbox"/>	0			
		0-1000 ft Above Mean Sea Level	<input type="checkbox"/>	1			
		1000-5000 ft Above Mean Sea Level	<input type="checkbox"/>	2			
		5000-10000 ft Above Mean Sea Level	<input type="checkbox"/>	3			
		Above 10000 ft	<input type="checkbox"/>	4			
D1.1.2	How far is your healthcare facility from the coastline? <i>(If your score to this question is 2,3 or 4 please ensure to fill additional section D3.2)</i>	20+ Km	<input type="checkbox"/>	0			
		10-20 Km	<input type="checkbox"/>	1			
		5-10 Km	<input type="checkbox"/>	2			
		1-5 Km	<input type="checkbox"/>	3			
		0-1 Km	<input type="checkbox"/>	4			
D1.1.3	Does the healthcare facility or its surrounding areas experience flooding or inundation due to rainfall?	Never	<input type="checkbox"/>	0			
		0-1 times per year	<input type="checkbox"/>	1			
		1-2 times per year	<input type="checkbox"/>	2			
		2-3 times per year	<input type="checkbox"/>	3			
		More than 3 times per year	<input type="checkbox"/>	4			

D1.1.4	In case of a flood/flash flood or heavy rainfall, for how many hours does the hospital premise or its surroundings stay inundated?	Does not observe inundation	<input type="checkbox"/>	0		
		Less than 24 hours	<input type="checkbox"/>	1		
		Between 24 to 48 hours	<input type="checkbox"/>	2		
		Between 48 to 72 hours	<input type="checkbox"/>	3		
		More than 72 hours	<input type="checkbox"/>	4		
D1.1.5	How far is the healthcare facility from a water body such as a river, channel, lake, canal or estuary?	4+ Km	<input type="checkbox"/>	0		
		3-4Km	<input type="checkbox"/>	1		
		2-3Km	<input type="checkbox"/>	2		
		1-2Km	<input type="checkbox"/>	3		
		0-1Km	<input type="checkbox"/>	4		
D1.1.6	In the last five years how many times has a flood/cyclone/landslide affected service delivery in the healthcare facility? For eg. delayed surgical procedures, damaged medical equipment, etc	Never	<input type="checkbox"/>	0		
		Once	<input type="checkbox"/>	1		
		Twice	<input type="checkbox"/>	2		
		More than twice	<input type="checkbox"/>	3		
		More than thrice	<input type="checkbox"/>	4		
D1.1.7	Which of the following levels of damage best describe the impact of past disasters on the healthcare facility?	Very low damage: Fine cracks in plaster; fall of small pieces of plaster (about 10% of wall area)	<input type="checkbox"/>	0		
		Low damage: Fall of fairly large pieces of plaster (say upto 50% of wall area); small cracks in walls (less than 6mm wide)	<input type="checkbox"/>	1		
		Moderate damage: Large and deep cracks in walls; loss of belongings; damage of electrical fittings.	<input type="checkbox"/>	2		
		High damage: Large and deep cracks in walls; loss of belongings; damage of electrical fittings.	<input type="checkbox"/>	3		
		Very High Damage: Including collapse of buildings; floating away of sheets, thatch, etc.; scouring of foundations, severe damage of lifeline structures and systems.	<input type="checkbox"/>	4		

Please note your scores obtained against each question. If the healthcare facility scores 2 or more in any of the questions, it might be at risk from extreme climate events. Please proceed to section D2.

Part D2: General Characteristics of Climate-resilient healthcare facilities*

Part D2.1: Building Site and Access - Healthcare facility should be strategically located*

S.No	Questions	Response Codes	Response	Score	Assessment Method	Method of Verification	
D2.1.1	Is the healthcare facility adjacent to any of the following: river/lake/stream/pond/wetland or a frequently waterlogged area?	Yes, all areas mentioned are nearby	<input type="checkbox"/>	0			
		Yes, multiple areas mentioned are nearby	<input type="checkbox"/>	1			
		Some of mentioned areas are nearby	<input type="checkbox"/>	2			
		Near one such area	<input type="checkbox"/>	3			
		Not near any such area	<input type="checkbox"/>	4			
D2.1.2	What is the width of the road connecting your healthcare facility?	0-3m (very narrow)	<input type="checkbox"/>	0			
		3-6m (narrow)	<input type="checkbox"/>	1			
		6-9m (wide)	<input type="checkbox"/>	2			
		9-12m (very wide)	<input type="checkbox"/>	3			
		12+ m (extremely wide)	<input type="checkbox"/>	4			
D2.1.3	If your facility is a PHC/CHC, how far is your healthcare facility from the nearest CHC/PHC?	20+ Km (very far)	<input type="checkbox"/>	0			
		10-20Km (far)	<input type="checkbox"/>	1			
		5-10Km (accessible by public transport)	<input type="checkbox"/>	2			
		1-5Km (nearby, connected by NMT)	<input type="checkbox"/>	3			
		0-1 Km (very near, walking distance)	<input type="checkbox"/>	4			

Part D2.2: Building Design - Healthcare facility should be designed and maintained to handle severe weather*

D2.2.1	What is the plinth level of your hospital building?	Unknown/Below flood level	<input type="checkbox"/>	0		
		0-100mm above flood level	<input type="checkbox"/>	1		
		100-200mm above flood level	<input type="checkbox"/>	2		
		200-300 mm above flood level	<input type="checkbox"/>	3		

		More than 300mm above flood level	<input type="checkbox"/>	4			
D2.2.2	When was the healthcare facility constructed?	More than 15 years ago	<input type="checkbox"/>	0			
		More than 10 years ago	<input type="checkbox"/>	1			
		5-10 years ago	<input type="checkbox"/>	2			
		3-5 years ago	<input type="checkbox"/>	3			
		Less than 3 years ago	<input type="checkbox"/>	4			
D2.2.3	When was the last time the healthcare facility was renovated?	More than 15 years ago	<input type="checkbox"/>	0			
		More than 10 years ago	<input type="checkbox"/>	1			
		5-10 years ago	<input type="checkbox"/>	2			
		3-5 years ago	<input type="checkbox"/>	3			
		Less than 3 years ago	<input type="checkbox"/>	4			
D2.2.4	How often does the healthcare facility conduct a structural audit?	Never	<input type="checkbox"/>	0			
		Once in ten years	<input type="checkbox"/>	1			
		One in five years	<input type="checkbox"/>	2			
		Once in three years	<input type="checkbox"/>	3			
		Once a year	<input type="checkbox"/>	4			
D2.2.5	On an average, how much does the healthcare facility spend yearly on structural maintenance and retrofitting measures?	Less than 5000	<input type="checkbox"/>	0			
		Between 5000-10000	<input type="checkbox"/>	1			
		Between 10000-20000	<input type="checkbox"/>	2			
		Between 20000-50000	<input type="checkbox"/>	3			
		More than 50000	<input type="checkbox"/>	4			
D2.2.6	How many access points (entrances) does the healthcare facility have?	1	<input type="checkbox"/>	0			
		2	<input type="checkbox"/>	1			
		3	<input type="checkbox"/>	2			
		4	<input type="checkbox"/>	3			
		More than 4	<input type="checkbox"/>	4			
D2.2.7	How many emergency exits does the healthcare facility have?	1	<input type="checkbox"/>	0			
		2	<input type="checkbox"/>	1			
		3	<input type="checkbox"/>	2			
		4	<input type="checkbox"/>	3			
		More than 4	<input type="checkbox"/>	4			
D2.2.8	Has the healthcare facility visible displayed evacuation plans or markers pointing to exists and/or meeting points to be used in case of a disaster?	No	<input type="checkbox"/>	0			
		No, it is under preparation	<input type="checkbox"/>	1			
		Yes, but it is not visible on all floors	<input type="checkbox"/>	2			
		Yes, but people are not aware	<input type="checkbox"/>	3			
		Yes, it is followed extensively	<input type="checkbox"/>	4			
D2.2.9	Does the healthcare facility contain any additional structural elements for protection against floods or cyclones: other than wind-resistant windows, concrete boundary wall, metal grills within compound wals, tiled walls, etc.?	Does not contain elements mentioned	<input type="checkbox"/>	0			
		Contains only the measures mentioned	<input type="checkbox"/>	1			
		Contains one additional measure	<input type="checkbox"/>	2			
		Contains more than one additional measure	<input type="checkbox"/>	3			
		Contains multiple additional measures	<input type="checkbox"/>	4			

Part D2.3: Operational Capacity - Healthcare facility should be equipped with adequate resources to operate efficiently during a disaster*

D2.3.1	How many patients on an average are treated at the healthcare facility daily?	0-10	<input type="checkbox"/>	0			
		10-50	<input type="checkbox"/>	1			
		50-100	<input type="checkbox"/>	2			
		100-150	<input type="checkbox"/>	3			
		150+	<input type="checkbox"/>	4			
D2.3.2	How many trauma cases on an average are treated in the healthcare facility daily?	0-10	<input type="checkbox"/>	0			
		10-50	<input type="checkbox"/>	1			
		50-100	<input type="checkbox"/>	2			
		100-150	<input type="checkbox"/>	3			
		150+	<input type="checkbox"/>	4			

D2.3.3	Choose the option that best describes the healthcare facility on a normal day	Very crowded	<input type="checkbox"/>	0			
		Highly crowded	<input type="checkbox"/>	1			
		Somewhat crowded	<input type="checkbox"/>	2			
		Not crowded	<input type="checkbox"/>	3			
		Mostly empty	<input type="checkbox"/>	4			
D2.3.4	Choose the option that best describes the adequacy of medical staff in the healthcare facility - eg. doctors, nurses, physiotherapists, surgeons etc.	Severely understaffed	<input type="checkbox"/>	0			
		Highly understaffed	<input type="checkbox"/>	1			
		Moderately understaffed	<input type="checkbox"/>	2			
		Slightly understaffed	<input type="checkbox"/>	3			
		Adequately staffed	<input type="checkbox"/>	4			
D2.3.5	Choose the option that best describes the adequacy of non-medical staff in the healthcare facility, eg. receptionists, cleaning staff, etc.	Severely understaffed	<input type="checkbox"/>	0			
		Highly understaffed	<input type="checkbox"/>	1			
		Moderately understaffed	<input type="checkbox"/>	2			
		Slightly understaffed	<input type="checkbox"/>	3			
		Adequately staffed	<input type="checkbox"/>	4			
D2.3.6	What is the NQAS Accreditation status of your hospital?	Never accredited, not applied	<input type="checkbox"/>	0			
		Seeking accreditation soon	<input type="checkbox"/>	1			
		Accredited once, lost license	<input type="checkbox"/>	2			
		Accredited 1-2 years ago	<input type="checkbox"/>	3			
		Currently NQA Accredited	<input type="checkbox"/>	4			
D2.3.7	What is the NABH Accreditation status of your hospital?	Never accredited, not applied	<input type="checkbox"/>	0			
		Seeking accreditation soon	<input type="checkbox"/>	1			
		Accredited once, lost license	<input type="checkbox"/>	2			
		Accredited 1-2 years ago	<input type="checkbox"/>	3			
		Currently NABH Accredited	<input type="checkbox"/>	4			

Part D2.4: Disaster Preparedness - Healthcare facility should be prepared in terms of infrastructure and management to cope during a disaster*


D2.4.1	Does the healthcare facility have a disaster management plan or a standard operating procedure (SOP) in case of climate-changed induced disasters such as floods, cyclones, landslides or heatwaves?	No	<input type="checkbox"/>	0			
		No, it is under preparation	<input type="checkbox"/>	1			
		Yes, but it is rarely used	<input type="checkbox"/>	2			
		Yes, it is referred sometimes	<input type="checkbox"/>	3			
		Yes, it is followed extensively	<input type="checkbox"/>	4			
D2.4.2	Does the healthcare facility have a digital system for maintaining patient records?	No	<input type="checkbox"/>	0			
		No, it is under preparation	<input type="checkbox"/>	1			
		Yes, but it is rarely used	<input type="checkbox"/>	2			
		Yes, it is used sometimes	<input type="checkbox"/>	3			
		Yes, it is extensively used	<input type="checkbox"/>	4			
D2.4.3	Has the healthcare facility assigned dedicated roles to medical professionals in case of disaster occurrence?	No	<input type="checkbox"/>	0			
		No, it is under discussion	<input type="checkbox"/>	1			
		Yes, but it is rarely followed	<input type="checkbox"/>	2			
		Yes, it is followed sometimes	<input type="checkbox"/>	3			
		Yes, it is followed extensively	<input type="checkbox"/>	4			
D2.4.4	Does the healthcare facility conduct yearly drills for disaster preparedness?	Never	<input type="checkbox"/>	0			
		Very rare	<input type="checkbox"/>	1			
		Sometimes	<input type="checkbox"/>	2			
		Once in a year	<input type="checkbox"/>	3			
		Multiple times a year	<input type="checkbox"/>	4			
D2.4.5	Does your hospital have a dedicated emergency operation centre or trauma centre?	No	<input type="checkbox"/>	0			
		No, it is under construction	<input type="checkbox"/>	1			
		Yes, but it is not operational	<input type="checkbox"/>	2			
		Yes, it is operational	<input type="checkbox"/>	3			
		Yes, it is highly operational	<input type="checkbox"/>	4			
		No	<input type="checkbox"/>	0			

D2.4.6	Does the healthcare facility have a utility management plan for essential utilities such as water, power, food, etc.?	No, it is under preparation	<input type="checkbox"/>	1			
		Yes, but it is rarely used	<input type="checkbox"/>	2			
		Yes, it is referred sometimes	<input type="checkbox"/>	3			
		Yes, it is followed extensively	<input type="checkbox"/>	4			
D2.4.7	Does the healthcare facility conduct pre-monsoon maintenance checks on stormwater drains outlets within the facility?	Never	<input type="checkbox"/>	0			
		Very rare	<input type="checkbox"/>	1			
		Conducted once in two years	<input type="checkbox"/>	2			
		Conducted once a year	<input type="checkbox"/>	3			
D2.4.8	Does the healthcare facility have any on-site sources of water supply? For eg. borewell, rainwater harvesting system, treated wastewater etc.	Conducted multiple times a year	<input type="checkbox"/>	4			
		No	<input type="checkbox"/>	0			
		No, it is under construction	<input type="checkbox"/>	1			
		Yes, but it is not maintained	<input type="checkbox"/>	2			
D2.4.9	Does the healthcare facility have a supply backup of medical equipment and/or medicines within the hospital premise?	Yes, but it is partially functional	<input type="checkbox"/>	3			
		Yes, it is fully functional	<input type="checkbox"/>	4			
		No	<input type="checkbox"/>	0			
		No, but they are to be installed	<input type="checkbox"/>	1			
D2.4.10	Does the healthcare facility have an alternate power supply in case of power cuts?	Yes, but not maintained	<input type="checkbox"/>	2			
		Yes, partially functional	<input type="checkbox"/>	3			
		Yes, they are fully functional	<input type="checkbox"/>	4			
		No	<input type="checkbox"/>	0			
D2.4.10	Does the healthcare facility have an alternate power supply in case of power cuts?	No, they are to be installed	<input type="checkbox"/>	1			
		Yes, it has a generator	<input type="checkbox"/>	2			
		Yes, it has invertors	<input type="checkbox"/>	3			
		Yes, it has solar panels installed	<input type="checkbox"/>	4			

Please note your scores obtained against each question. If the healthcare facility scores 2 or less in any of the questions, it might be at risk from extreme climate events. The healthcare facility must build its resilience against extreme climate events to prevent loss and damage in the near future.

Part D3: Additional Section for Healthcare Facilities located in Hilly Regions or Coastal Plains


Part D3.1: Characteristics of Climate-resilient healthcare facilities in Hilly Regions (Please fill only if your facility is located in a hilly area)

S.No	Questions	Response Codes	Response	Score	Assessment Method	Method of Verification	
D3.1.1	Which seismic zone does the healthcare facility fall in?	Unknown/Seismic Zone I	<input type="checkbox"/>	0			
		Seismic Zone III	<input type="checkbox"/>	1			
		Seismic Zone III	<input type="checkbox"/>	2			
		Seismic Zone IV	<input type="checkbox"/>	3			
		Unknown/Seismic Zone V	<input type="checkbox"/>	4			
D3.1.2	Which landslide zone does the healthcare facility fall in as per this map? https://www.bmtpc.org/topics.aspx?mid=56&Mid1=186	Unlikley	<input type="checkbox"/>	0			
		Low Risk Zone	<input type="checkbox"/>	1			
		Moderate Risk Zone	<input type="checkbox"/>	2			
		High Risk Zone	<input type="checkbox"/>	3			
		Very High Risk Zone	<input type="checkbox"/>	4			
D3.1.3	Has the healthcare facility or its surrounding regions observed a landslide in the last five years?	No, never	<input type="checkbox"/>	0			
		Before five years	<input type="checkbox"/>	1			
		One in the last five years	<input type="checkbox"/>	2			
		Twice in the last five years	<input type="checkbox"/>	3			
		More than once in last five years	<input type="checkbox"/>	4			
D3.1.4	How would you describe the type of construction of the external walls of the healthcare facility?	All external walls and foundation have pucca construction (cement-sand or plastering)	<input type="checkbox"/>	0			
		Some external walls and foundation have pucca construction	<input type="checkbox"/>	1			
		Only the foundation has pucca construction	<input type="checkbox"/>	2			
		Semi-pucca construction is observed	<input type="checkbox"/>	3			

		The healthcare facility observes kutcha construction (mud/wood etc.)	<input type="checkbox"/>	4			
D3.1.5	How would you describe the roof of the healthcare facility?	Pyramidal or gable-type roof with roof projection	<input type="checkbox"/>	0			
		Pyramidal or gable-type roof with no roof projection	<input type="checkbox"/>	1			
		Pitched roof with/without roof projection	<input type="checkbox"/>	2			
		Flat roof with parapet and/or roof projection	<input type="checkbox"/>	3			
		Flat roof with no roof projection	<input type="checkbox"/>	4			
D3.1.6	How would you describe the connectivity to your healthcare facility by public transport?	Not accessible by public transport	<input type="checkbox"/>	0			
		Unpredictable access through public transport	<input type="checkbox"/>	1			
		Accessible at intervals through public transport	<input type="checkbox"/>	2			
		Accessible throughout the day through public transport	<input type="checkbox"/>	3			
		Accessible 24/7 by public transport	<input type="checkbox"/>	4			
D3.1.7	How far (in terms of commute time) is the next healthcare facility from your location?	More than 4 hours or unpredictable	<input type="checkbox"/>	0			
		3-4 hours	<input type="checkbox"/>	1			
		2-3 hours	<input type="checkbox"/>	2			
		1-2 hours	<input type="checkbox"/>	3			
		Less than 1 hour	<input type="checkbox"/>	4			

Please note your scores obtained against each question. If the healthcare facility scores **2 or more** in any of the questions, it might be at risk from extreme climate events. The healthcare facility must build its resilience against extreme climate events to prevent loss and damage in the near future.

Part D3.2: Characteristics of Climate-resilient healthcare facilities in Coastal Regions (Please fill only if your facility is located in a coastal belt)

S.No	Questions	Response Codes	Response	Score	Assessment Method	Method of Verification	
D3.2.1	How far is the hospital premise from the high tide line?	Less than 5Km	<input type="checkbox"/>	0			
		Less than 2Km	<input type="checkbox"/>	1			
		Less than 1Km	<input type="checkbox"/>	2			
		Less than 500m	<input type="checkbox"/>	3			
		Less than 250m	<input type="checkbox"/>	4			
D3.2.2	What is the elevation of the hospital building with respect to the high tide line?	More than 4m	<input type="checkbox"/>	0			
		3-4m	<input type="checkbox"/>	1			
		2-3m	<input type="checkbox"/>	2			
		1-2m	<input type="checkbox"/>	3			
		Less than 1m	<input type="checkbox"/>	4			
D3.2.3	Which of the following wind speed zones does the healthcare facility fall in? https://www.bmtpc.org/DataFiles/CMS/file/VAI2019/MAP/windmap/wind.jpg/WIND_INDIA1.jpg	Low Damage Risk Zone	<input type="checkbox"/>	0			
		Moderate Damage Risk Zone - A/B	<input type="checkbox"/>	1			
		High Damage Risk Zone	<input type="checkbox"/>	2			
		Very High Damage Risk Zone - B	<input type="checkbox"/>	3			
		Very High Damage Risk Zone - A	<input type="checkbox"/>	4			
D3.2.4	Which of the following categories best describes the surroundings of the healthcare facility?	Shielded from wind by a hillock and wind-resistant trees	<input type="checkbox"/>	0			
		Shielded from wind by a hillock or wind-resistant trees	<input type="checkbox"/>	1			
		Partially shielded by hillocks or trees	<input type="checkbox"/>	2			
		Not shielded but building facade does not face wind direction	<input type="checkbox"/>	3			
		Not shielded, building facade faces wind direction	<input type="checkbox"/>	4			