



स्वास्थ्य एवं
परिवार कल्याण मंत्रालय
MINISTRY OF
HEALTH AND
FAMILY WELFARE



NAGALAND

STATE ACTION PLAN ON CLIMATE CHANGE AND HUMAN HEALTH



National Centre for
Disease Control
Government of India



National Programme
on Climate Change
and Human Health



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2022-27



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PART I

Climate Change and its Health Impacts

CHAPTER 1

Introduction



Climate change is defined as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.” It affects social and environmental determinants of health like – clean air, safe drinking water, sufficient food and secure shelter.

Climate change may negatively affect human health in a number of ways, but the most commonly experienced are increased frequency and intensity of heat waves leading to a rise in heat-related illnesses and deaths, increased precipitation, floods, droughts and desertification costing lives directly. High temperature is known to increase the level of ‘ground level ozone’ and other ‘climate altering pollutants’ other than carbon dioxide, which further exacerbate cardio-respiratory and allergic diseases and certain cancers. Besides these, there is an increase in transmission and spread of infectious diseases, changes in the distribution of water-borne, food-borne and vector-borne diseases and effects on the risk of disasters and malnutrition.

The *United Nations Framework Convention on Climate Change (UNFCCC)* came into force on 21st March 1994. Since then many steps were initiated to reduce the effect of climate change at meetings like “Rio Convention 1992”, *Kyoto protocol 1997*”, “*Male’ Declaration 1998*”, “*Convention of Parties*”, “*Cancun Agreement 2010*”, “*Durban Platform 2011*”, “*Nationally Determined Contributions*” (NDCs) at Conference of Parties 21.

India is a signatory to “*Male’ Declaration*” wherein the health sector has to be strengthened so as to make it climate-resilient. According to ‘*Male’ Declaration*, it is desired that health-care facilities should be prepared & made climate-resilient, particularly in promoting to encourage that these are able to withstand any climatic event, and that essential services such as water, sanitation, waste management and electricity are functional during such events. Further, for climate resilience, health department has to undertake measures to initiate the greening of the health sector by adopting environment-friendly technologies, and using energy-efficient services.

Initiatives undertaken by the Government of India are: a) Identification of Ministry of Environment, Forest & Climate Change (MoEF&CC) as nodal ministry; b) Formulation of National Environmental Policy 2006; c) Formulation of Prime Minister’s Council on Climate Change for matters related to Climate Change.

MoEF&CC has developed National Action Plan on Climate Change with eight missions. Later on four new missions (including Health Mission) were identified. The *Health Mission* aims to reduce climate-sensitive illnesses through integration with other missions under National Action Plan for Climate Change (NAPCC)

as well as through programmes run by various ministries. As a follow-up action, the Ministry of Health and Family Welfare (MoHFW) constituted a National Expert Group on Climate Change & Health (NEGCCCH) to prepare National Action Plan on Climate Change and Human Health (NAPCCCH) and recommend strategies for indicators, mitigation, capacity building etc. *National Centre for Diseases Control (NCDC)* is identified as the 'technical nodal agency' by MoHFW for the proposed National Mission on Health. The *Centre for Environmental and Occupational Health Climate Change & Health (CEOH & CCH)*, NCDC, Delhi, conducted four regional consultations in 2017-18 involving all the states and Union Territories of the country. Regional consultations aimed at sensitizing states and Union Territories on reassessment of diseases' morbidity and mortality with respect to climate variability and extremes have been conducted. These regional consultations had participations from ministries and departments of states and UTs including Senior Regional Directors, Regional Directors from Regional Office of Health & Family Welfare, State Nodal Officers, State Surveillance Officers, National Vector Borne Diseases Control Programme, Officers from Integrated Diseases Surveillance Programme, representatives from identified Centre of Excellence, representatives from Regional Centre of Meteorological Departments, Ministry of Environment Forest and Climate Change and Central Ground Water Board.

Nagaland State has demonstrated its resolve to respond to climate change with the Subsequent introduction of National Action Plan on Climate Change (NAPCC) in 2008, State Governments were also encouraged to prepare their own State Action Plan on Climate Change (SAPCC) consistent with strategies in the NAPCC. Nagaland had prepared SAPCC duly endorsed by MoEFCC, which was placed before National Steering Committee in 2014.

The State Action Plan on Climate change (SAPCC) for Nagaland was formulated in 2013 and since then the state has been implementing various sectoral projects. The basic motive of this exercise is to review and prepare stock of the proposed activities listed in the 1st phase of SAPCC as well as align the document in light of Nationally Determined Contribution (NDC) and Sustainable Development Goals (SDG) and redefine the actions for the next phase.

CHAPTER 2

Climate Vulnerability



Location and Climate

Nagaland is a landlocked state in the north-eastern region of India. It is bordered by the Indian states of Arunachal Pradesh to the north, Assam to the west, Manipur to the south, and the Sagaing Region of Myanmar (Burma) to the east. Its capital city is Kohima and its largest city is the twin Chumuokedima–Dimapur. Nagaland is almost entirely hilly, except along the foothills bordering Assam plains. The Naga Hills is located in the northern extension of the Arakan – Yoma ranges. The general elevation of the Naga Hills increases towards the east, the highest peak Saramati (3826.15 metres) belongs to the easternmost hill ranges of the state, bordering Myanmar where it merges with the Patkai ranges of the Arakan Mountain system. The Barail hill range, in the southwest corner of the state runs approximately due northeast almost upto Kohima, which has a height of 1465 metres. Near Kohima, it merges with the hill ranges extending up to Manipur border which swings northerly. Between Mao and Kohima, there are several high peaks including Japfu. Barail and Japfu ranges of the Naga Hills and their extensions in Mokokchung and Tuensang mark a prominent water divide separating Brahmaputra and the Chindwin River systems. The hills of Nagaland, and the North-East India, are also sometimes taken as part of the Eastern Himalayas.

Climate of Nagaland is humid tropical type and minor variations are caused by change in physiography. Plain area experience warm and subtropical climate. The foothill areas with rolling to undulatory topography experience subtropical climate. Low to moderate ranges with varying degree of slopes have submontane climate. Monsoon is the longest lasting for five months from May to September with May, June, and July being the wettest months. Owing to varied topography and relief annual rainfall varies from 1000 mm to over 3000 mm at different places with an average of 2000 mm.

Climate Change projections for Nagaland

Temperature

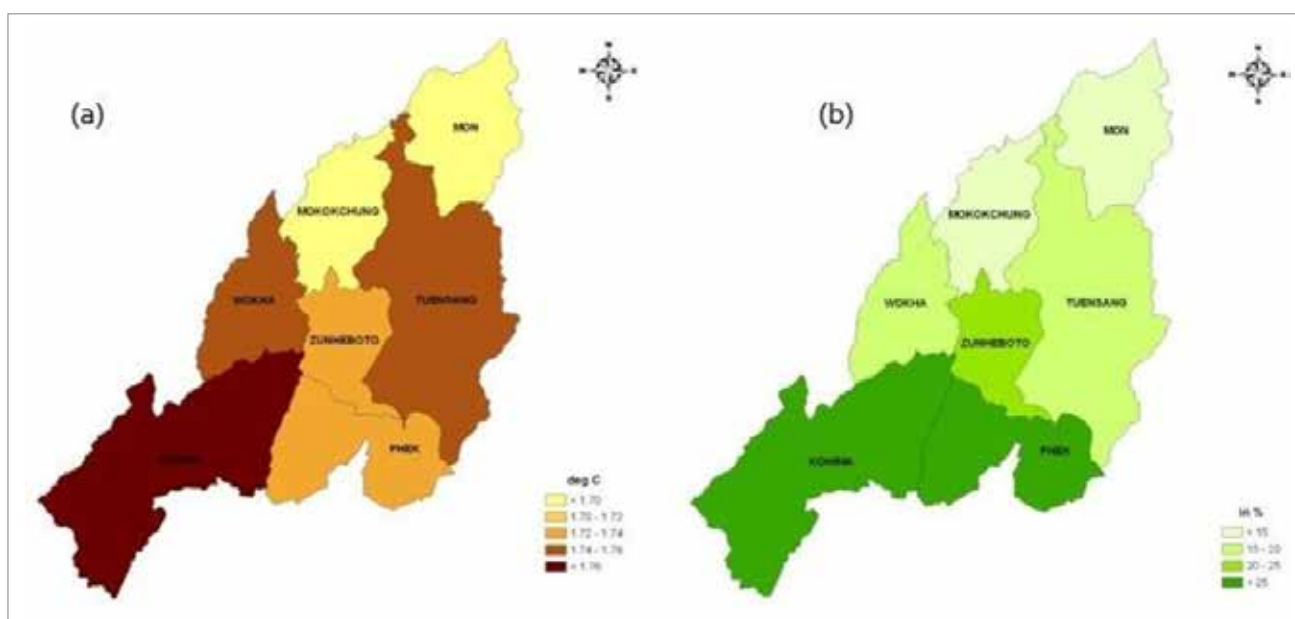
In the mid-century (2020-2050), the state is projected to experience an increase in annual average temperature between 1.6°C and 1.8°C. Southern districts show higher increase in temperature, with Kohima, Wokha, Phek, Zunheboto and Tuensang showing an increase in temperature between 1.7°C and 1.8°C. The Northern districts of Mon and Mokokchung are projected to have an increase in average temperature of between 1.6°C and 1.7°C

Precipitation

The total annual rainfall in Nagaland within the same period is projected to increase state-wide. Southern districts of Nagaland are likely to receive higher rainfall with respect to the northern districts. The southern districts of Kohima, Zunheboto, and Phek are projected to obtain more than 20% increase in rainfall with respect to base line. Wokha and Tuensang are projected to receive an increase in precipitation by 15% and 20%. The northern most districts of Mon and Mokokchung are projected to receive an increase in precipitation of between 10% and 20%. A gradient decrease in precipitation is projected as the latitude increases.

Increase in extreme rainfall events (100 mm/day) is projected in some districts of the state. Phek, Tuensang, and Kohima are projected to experience an increase in extreme rainfall events of 2 or more days per year. These are the same districts that exhibited an increase in absolute value of rainfall as well. The northern districts of Zunheboto, Wokha, Mon, Mokokchung all exhibit less than 2 days increase in extreme events per year.

Figure: (a) District-wise projected increase in annual average temperature (°C) for the period 2021-2050 (A1B SRES scenario) compared to baseline (1975)
(b) District wise projected increase in annual rainfall and JJAS rainfall for the period 2021-2050 (A1B SRES scenario) compared to baseline (1975)



Source: Nagaland State Action Plan on Climate Change.

Droughts and Floods

Increase in moderate drought like condition (onset of drought) is projected for Nagaland during 2021-2050s, with northern states facing more drought weeks than the southern states. The drought weeks across Nagaland are likely to increase by 25-50% in 2021-2050s with respect to current base line scenario.

The projections also indicate higher flood discharge in the southern districts of Phek and Kohima, an increase of 10–25% more flood discharge is likely to take place with respect to current discharge rates in these districts.

Climate Projections for Nagaland in 2021–2050

Climate Parameter	Districts	Projected change in 2021- 2050s with respect to base line (1961-1990)
Temperature	Kohima, Wokha, Phek, Zunheboto and Tuensang	+ 1.7–1.8°C
	Mon, Longleng and Mokokchung	+1.6°C–1.7°C
Precipitation	Kohima, Zunheboto, and Phek	+20%
	Wokha and Tuensang	+15–20%
	Mon, Longleng and Mokokchung	+10–20 %
Extreme Rain Fall (>100 mm/day)	Phek, Tuensang, Kohima	>2 or more days
	Zunheboto, Wokha	1.0–2.0 days
	Mon, Mokokchung	0–1.0 days

Source: Nagaland State Action Plan on Climate Change.

Socio-demographic and Health Profile

The state has an area of 16,579 *square kilometres* (6,401 sq. mi) with a population of 1,980,602 as per the 2011 Census of India, making it one of the smallest states of India. The state has significant resources of natural minerals, petroleum, and hydropower, with agriculture as the state’s most important economic activity, accounting for over 70% of its economy. When created in 1963 the state of Nagaland was divided into just three districts, Kohima, Mokokchung and Tuensang. By a process of subdivision that number increased to seven in 1973, to eleven by 2004, and the most recent districts to be created, Chumuokedima, and Tseminyü in 2021 and Shamator in 2022, brought the total number to sixteen districts.

In Nagaland, HIV/AIDS and Lower Respiratory Tract Infection are the Leading contributor in Disease Adjusted Life Years (DALY). Low Birth Weight, High Systolic Blood Pressure, Short Gestation, High Fasting Plasma Glucose and Smoking are among Five major risk factors attributing to DALY, closely followed by Ambient Particulate matter pollution and Household air pollution from solid fuels.

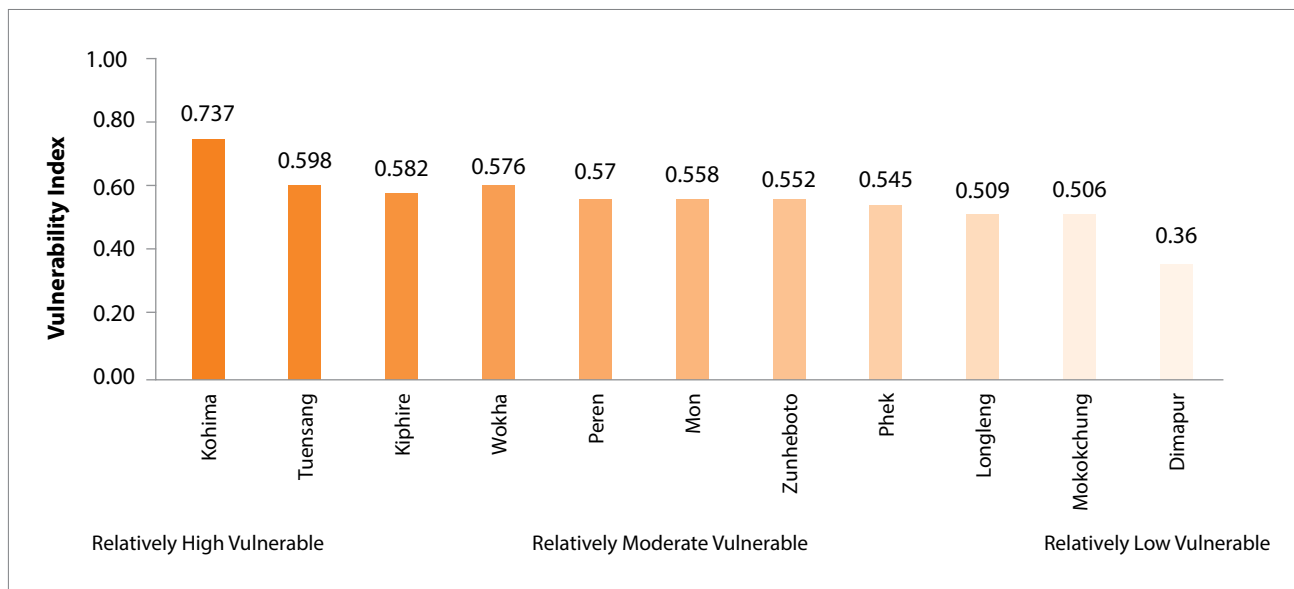
According to NFHS-5 Survey, over one-third (34%) of households in Nagaland live in a pucca house, but almost all households (99%) have electricity. Eighty-nine percent of households in Nagaland have basic drinking water service; 91 percent of households use an improved source of drinking water, but only 46 percent have water piped into their dwelling, yard, or plot. Urban households (52%) are more likely than rural households (43%) to have water piped into their dwelling, yard, or plot. Ninety-five percent of households use an appropriate treatment method to make drinking water potable (mostly by boiling). A little over two-fifths of households (43%) in Nagaland use a clean fuel for cooking.

Climate Change & Health

The climate of Nagaland is humid and tropical. Minor variations are caused by differences in physiography. Dimapur district, which is a plain area, has a warm and subtropical climate. The heavy monsoon rain normally occurs from May to August with occasional dry spells from September to October. Owing to the varied topography and relief the annual rainfall varies from 1000 mm to over 3000 mm at different places

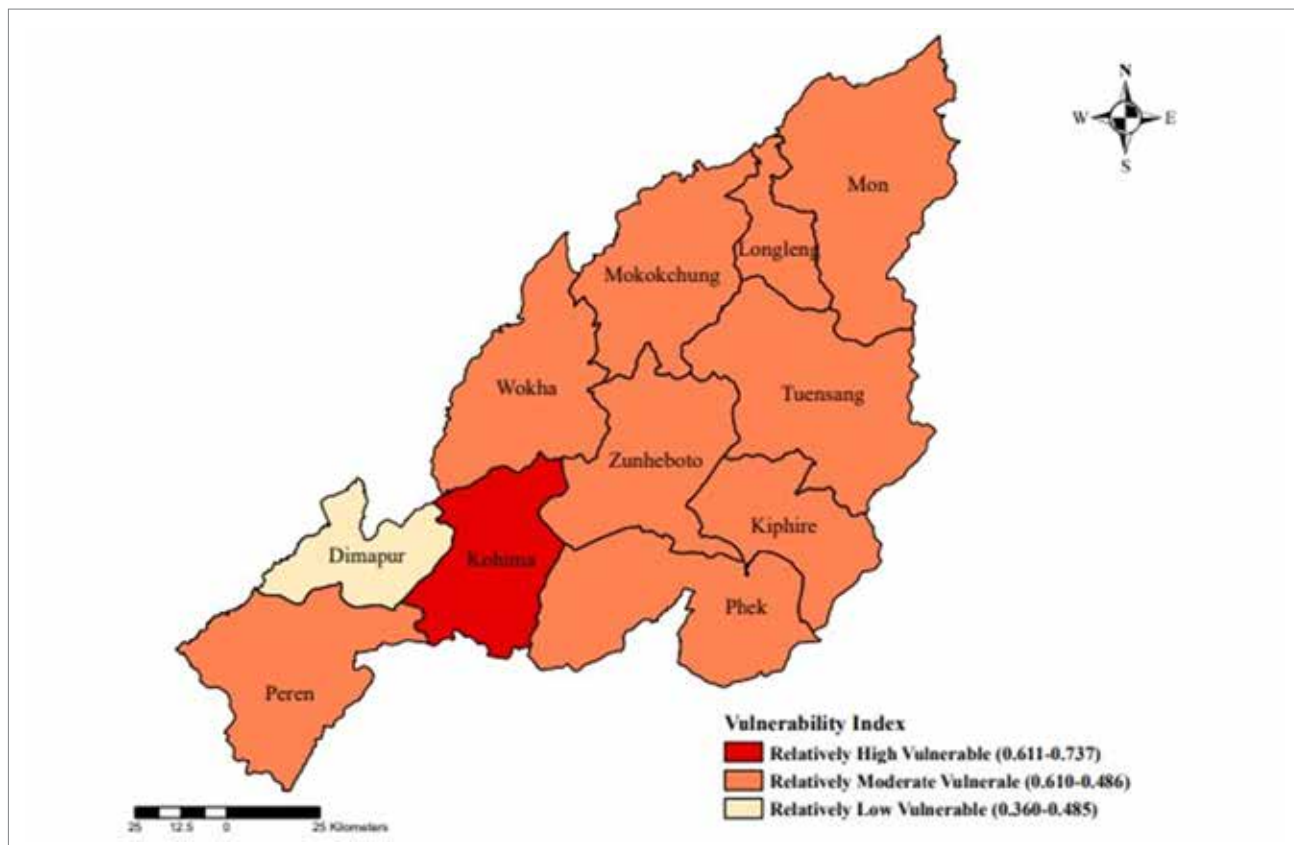
with an average of 2000 mm. During winter, frost is common at high elevations, although the temperature generally does not drop below 4°C. The summer temperature stands between 16°C to 31°C

Figure 1: Climate vulnerability ranking of districts based on its socio-demographic, biophysical, and institutional-infrastructural aspects, Nagaland 2019-2020



Source: Climate Vulnerability Assessment for Adaptation planning in India Using a common framework; 2019-2020

Figure 2: Map Showing agricultural vulnerable categories of Nagaland at district Level



Source: Climate Vulnerability Assessment for Adaptation planning in India Using a common framework; 2019-2020

Table 1: Spatial spread of risk and vulnerability in Nagaland, 2017

Districts	Hazard Index	Exposure Index	Vulnerability Index	Combined Risk Index	Risk Rank	Vulnerability Rank
Dimapur	0.440	0.443	0.601	0.495	3	5
Kiphire	0.120	0.615	0.284	0.340	11	11
Kohima	0.064	0.419	0.643	0.376	9	3
Longleng	0.222	0.442	0.455	0.373	10	9
Mokokchung	0.446	0.464	0.727	0.546	1	1
Mon	0.457	0.525	0.285	0.423	8	10
Peren	0.295	0.542	0.497	0.445	6	6
Phek	0.240	0.668	0.488	0.465	5	7
Tuensang	0.388	0.450	0.465	0.434	7	8
Wokha	0.245	0.585	0.632	0.487	4	4
Zunheboto	0.342	0.585	0.703	0.543	2	2

Source: Nagaland SAPCC 2017

Table 2: Spatial change in risk and vulnerability in Nagaland, 2017

Districts	Risk Rank (2017)	Risk Rank (2011)	Vulnerability Rank (2017)	Vulnerability Rank (2011)
Dimapur	3	3	5	4
Kiphire	11	11	11	9
Kohima	9	9	3	2
Longleng	10	10	9	8
Mokokchung	1	2	1	1
Mon	8	7	10	11
Peren	6	8	6	6
Phek	5	4	7	7
Tuensang	7	6	8	10
Wokha	4	5	4	5
Zunheboto	2	1	2	3

Source: Nagaland SAPCC 2017

CHAPTER 3

Climate Sensitive Issues or Diseases in Nagaland



Air Pollution

Under the National Clean Air Programme (NCAP) there are total 2 non-attainment cities as per national ambient air quality standards—Dimapur & Kohima.

At present under the National Air Monitoring Programme (NAMP), there are 11 (Eleven) monitoring stations in Nagaland i.e. 7 (seven) stations at Dimapur and 4 (Four) stations at Kohima. Under this programme, three air pollutants are monitored and analysed viz., Nitrogen dioxide (NO₂), Sulphur dioxide (SO₂) and Respirable Suspended Particulate Matter (RSPM). The monitoring of air pollutants is carried out for 24 hours (4 hourly sampling for gaseous pollutants (NO₂ & SO₂) and 8 hourly sampling for Particulate Matter (RSPM) twice or thrice in a week.

The Nagaland Pollution Control Board is also monitoring the ambient air quality of Kohima city through a online Continuous Ambient Air Quality Monitoring System (CAAQMS) installed at PWD Junction since 2019 wherein monitoring of parameters such as SO₂, NO₂, NH₃, CO, O₃, PM2.5, PM10, Benzene and weather monitoring as per revised National Ambient Air Quality Standards 2009 are being carried out.

The air quality of Kohima and Dimapur city were found to be above the permissible limit and placed under “non-attainment city” with respect to Particulate Matter (PM10) as per the National Ambient Air Quality Standards by the Government of India, and hence “**Action Plan**” to improve the air quality was prepared for both Kohima and Dimapur city.

For Dimapur City

Under the National Air Monitoring Programme (NAMP) there are 7 (seven) monitoring stations at Dimapur. However, 5 stations were installed and made operational only since April, 2019 and September, 2019. The gaseous pollutants i.e. Nitrogen dioxide (NO₂) and Sulphur dioxide (SO₂) are within (Below Detectable Limit) the national standards in all the monitoring stations.

Table 3: Monitoring stations under NAMP Programme in Dimapur City

Sl. No.	Station name	Station code	Station type	District
1	Bank Colony	317	Residential	Dimapur
2	Dhobinala	448	Commercial	Dimapur
3	NPCB Office	1003	Residential	Dimapur
4	Tenyiphe-Chumukedima	1004	Commercial	Dimapur
5	Nagarjan	1005	Residential	Dimapur
6	Viola Colony	1006	Residential	Dimapur
7	Burma Capm	1007	Commercial	Dimapur

Source: Nagaland Pollution Control Board

For Kohima City

Under the National Air Monitoring Programme (NAMP) at present there are 4 (four) monitoring stations at Kohima. However, 2 new additional stations were installed and made operational only since August, 2021. The gaseous pollutants i.e. Nitrogen dioxide (NO₂) and Sulphur dioxide (SO₂) are within (Below Detectable Limit) the national standards in all the monitoring stations.

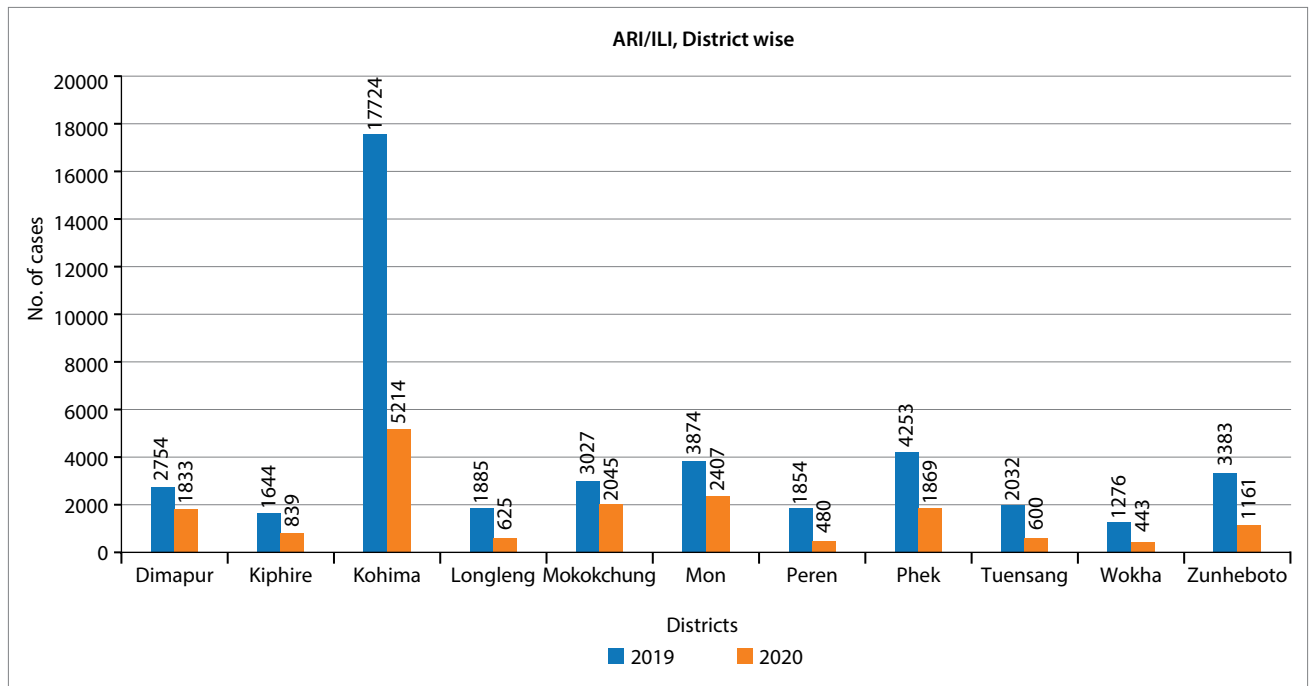
Table 4: Annual Pollutant Levels in NCAP cities

City	Pollutant (µg/m ³)	2016	2017	2018	2019
Dimapur	PM2.5				
	PM10	122	138	134.5	77
	NO ₂	11	9.5	8.5	7
Kohima	PM2.5				
	PM10	90	114	104.5	94
	NO ₂	5	5	5	5

Source: Year Wise Air Quality Data; National Air Monitoring Programme

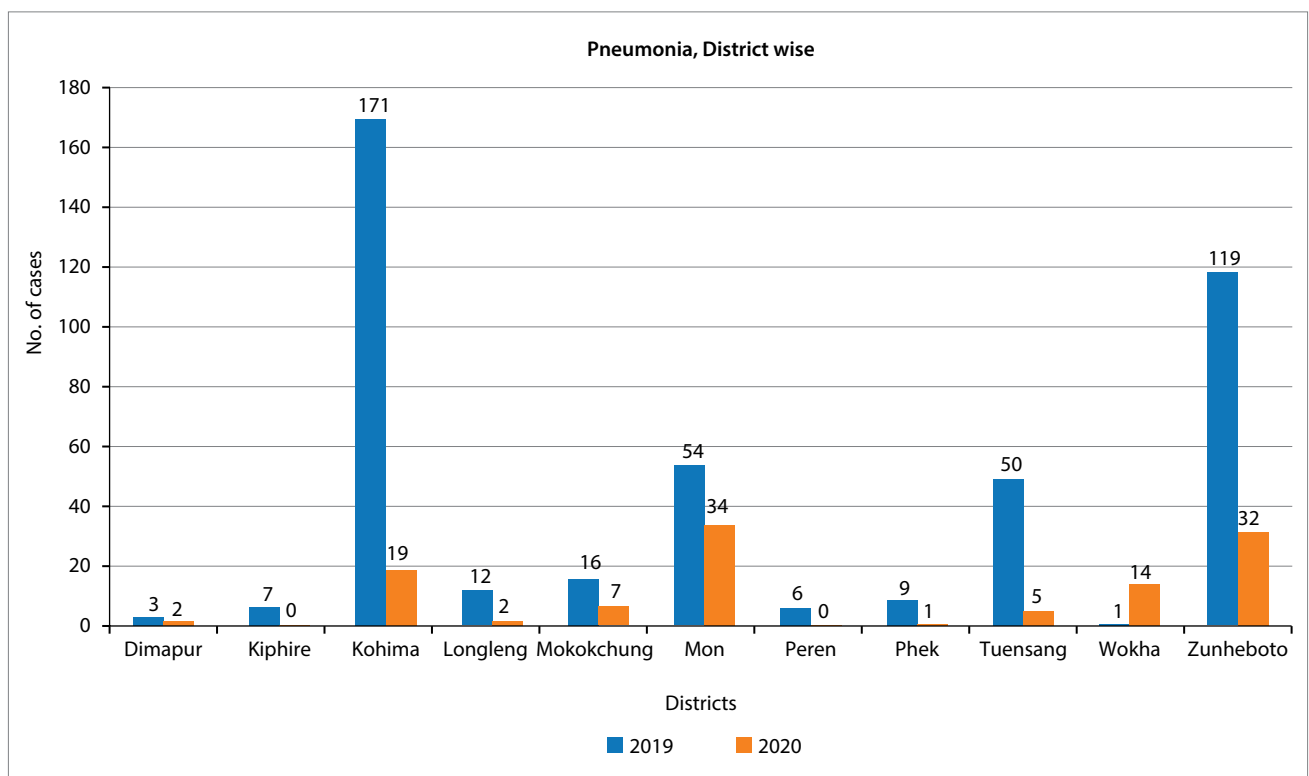
Air pollution is a public health issue of global importance and a risk factor for developing cardiorespiratory diseases. Exposure to air pollutants has been linked to respiratory diseases such as asthma, COPD, and lung cancer, mainly in children and older adults. Also, the relationship between exposure to air pollutants (PM10, SO₂, and NO₂) and hospital admissions for respiratory diseases has been explored, reporting significant increases for each 10 µg/m³ of the pollutants, with the elderly and women being the most vulnerable. As such, the following figures shows some disease trends in Nagaland for air pollution as a risk factor.

Figure 3: Graphical representation of ARI/ILI District wise



Source: IDSP Nagaland

Figure 4: Graphical representation of Pneumonia District wise



Source: IDSP Nagaland

Activities undertaken and further proposed related to data collection and analysis, strengthening of surveillance related to air pollution

1. ARI Surveillance Activity at State Level
2. Two CAAQMS stations under CSR funds of CPSU through Central Pollution Control Board at Dimapur NPCB Office and City Tower.
3. Two CAAQMS stations under CSR funds of CPSU through Central Pollution Control Board at Kohima at New Secretariat Complex and PWD junction.

Research studies, reports, innovative actions etc related to air pollution done in the states by govt/NGO/ academic institution

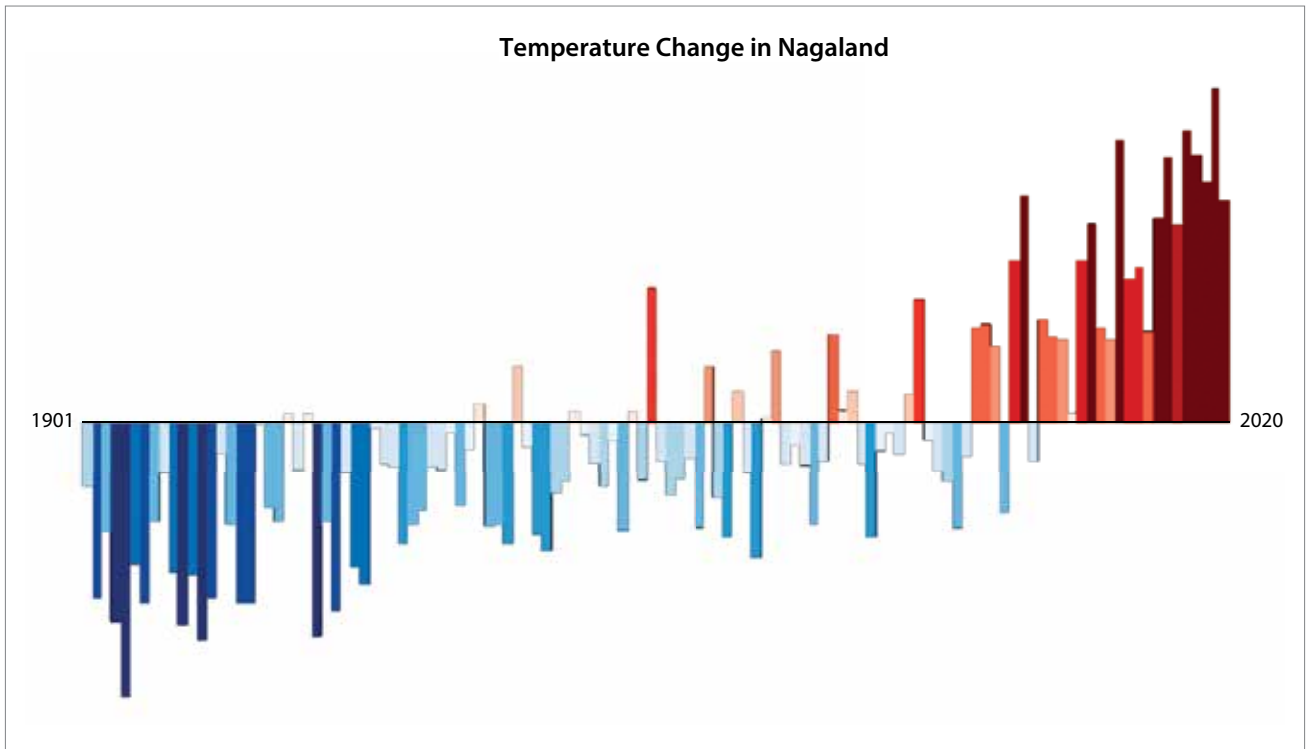
1. Restriction on plying and phasing out of 15 years old commercial diesel driven vehicles.
2. Promotion of operationalization of E-rickshaw.
3. Checking of fuel adulteration.
4. Periodic calibration test of vehicular emission monitoring instrument.
5. Regular cleaning of road dust.
6. Water spraying on road through tankers.
7. Tree plantation along the roads.
8. Development of green belt in open areas, gardens, parks/ community places, schools & housing societies.
9. Immediate lifting of solid wastes generated from desilting and cleaning of municipal drains for its disposal.
10. Immediate lifting of solid wastes generated from desilting and cleaning of municipal drains for its disposal.
11. Transportation of municipal solid wastes, construction materials and debris in covered system.

Extreme Heat

Exposure to extreme heat can lead to various heat-related illnesses (HRI), from mild (prickly heat) to fatal (heatstroke) manifestation. It also increases cardiovascular, respiratory, renal, and all-cause mortality along with increases in ambulance calls and admissions. Increasing anthropogenic climate change is expected to intensify heatwaves over India.

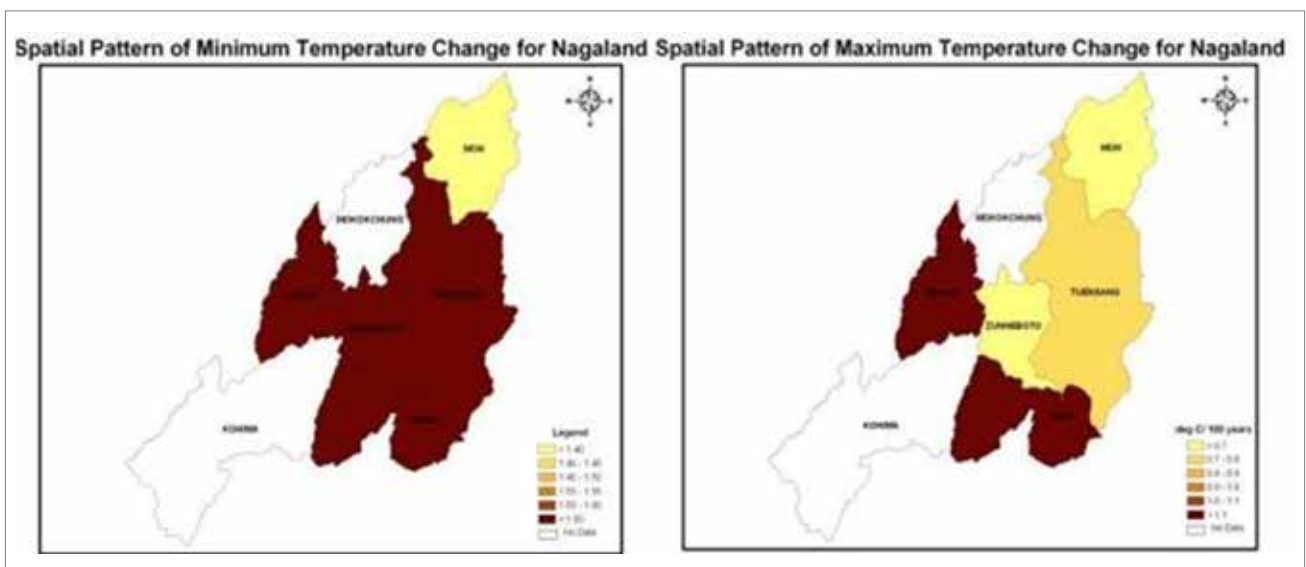
The analysis of temperature records for Nagaland shows a steady warming trend in both the minimum and maximum temperatures over the past 100 years shows. The districts of Wokha, Zunheboto, Tuensang and Phek have registered an increase in minimum temperature of more than 1.6°C. The minimum temperature in Mon has increased by about 1.4°C (see Figure 6). The maximum temperature also shows an increasing trend all across Nagaland (see Figure 6). The maximum temperature in the district of Wokha has increased by 1.17°C, and in Phek the increase in maximum temperature is of the order of 1.1°C. The northern districts, in comparison, have experienced a smaller increase in absolute value of maximum temperature. For example, in Mon the maximum temperature has increased by 0.57°C, in Zunheboto by 0.69°C, and in Tuensang the maximum temperature has increased by 0.77°C respectively. Overall, the trend of last 100 years shows that increase in minimum temperature is slightly higher in absolute terms

Figure 5: Temperature Change observed in Nagaland as Relative to Average (C); 1901-2020



than the increase in maximum temperature. The observed district wise trends in minimum and maximum temperature during the period 1901 and 2002 and precipitation during the period 1971 and 2005 are summarised in the table below (Table 6). As can be seen, information for Kohima (which includes Peren and Dimapur district, carved out of it during the past decade and a half) and Mokokchung is not available for the period, and is, therefore, a limitation. Heat wave vulnerability index, an aggregate of demographic, socio-economic, population health, and land cover indicators ranked districts on a scale from very high to very low vulnerability (Table 7).

Figure 6: Spatial pattern of temperature trends for JJAS (°C per 100 year) over Nagaland for the period 1901-2002. (No data is present for Dimapur, Kohima and Mokokchung)



Source: Nagaland SAPCC 2017

Table 5: Summary of observed trends in Temperature and precipitation

District	Change in precipitation (1971-2005)	Change in Minimum Temperature (1901-2002)	Change in Maximum Temperature (1901-2002)
Mom	+2-3 mm/day	+1.4°C	+0.57°C
Tuensang [^]	+3-4 mm/day	+1.6°C	+0.77°C
Makokchung	No data	No data	No data
Wokha	Negative change	+1.6°C	+1.17°C
Zunheboto	>4 mm/day	+1.6°C	+0.69°C
Phek	1-2 mm/day	+1.6°C	11°C
Kohima	No data	No data	No data

Source: Nagaland SAPCC) 2017

Note: [^]Includes Longleng, Kiphire

Table 6: Ranking of heat vulnerable districts of Nagaland

Sl. No.	Districts (In Descending Order of Vulnerability)	Heat Vulnerability
1	Tuensang	Normal
2	Peren	Normal
3	Mon	Normal
4	Kiphire	Normal
5	Longleng	Normal
6	Kohima	Low Normal
7	Wokha	Low Normal
8	Zunheboto	Low Normal
9	Mokokchung	Low Normal
10	Phek	Low Normal
11	Dimapur	Low Normal

Source: Heat Wave Vulnerability mapping of India 2017

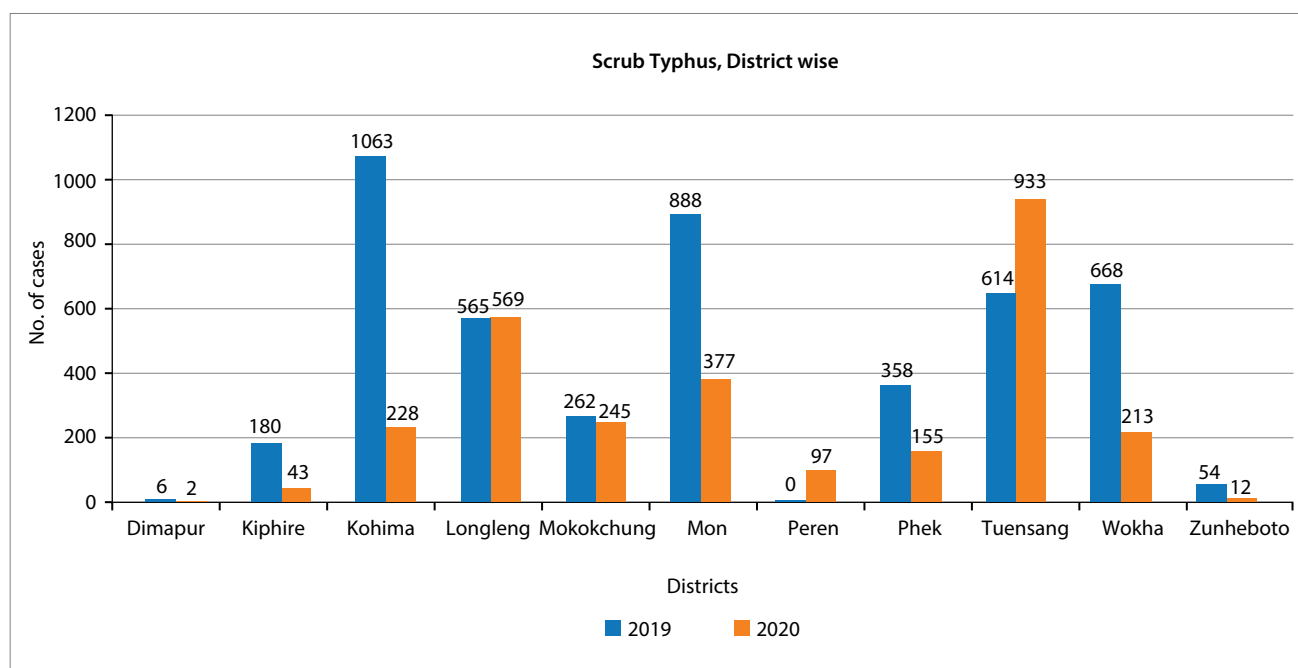
Vector Borne Diseases

All the VBDs are climate sensitive as the pathogens have to complete a part of their development in particular species of the insect vector that transmit them. The temperature, rainfall and relative humidity (RH) affect the development of vectors.

The National Vector Borne Disease Control Program (NVBDCP) covers 6 vector borne diseases namely Malaria, JE, Dengue, Kala Azar, Chikungunya and Filariasis. Out of these, Malaria, JE, and Dengue are found in Nagaland. Malaria is endemic in all the 11 districts while JE is detected in 8 districts (Dimapur, Kohima, Peren, Mokokchung, Zunheboto, Longleng, Tuensang, Wokha), and Dengue in 1 district (Dimapur).

Of late, the State has been seeing an increased trend in Scrub Typhus infection. Table 8 shows the distribution of Scrub Typhus cases in Nagaland.

Figure 7: Graphical representation of Scrub Typhus cases district wise



Source: IDSP Nagaland

Table 7: Major mosquito-borne diseases reported through National Vector-Borne Disease Surveillance in Nagaland, 2018-20

Sl. No.	Name of the District	(Number of Cases)																	
		Malaria			Dengue			Japanese Encephalitis			Kala- Azar			Chikungunya			Filariasis		
		2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
1	Dimapur	15	2	1	321	1	1	0	7	0	0	0	0	0	0	0	0	0	0
2	Kiphire	34	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Kohima	4	1	0	37	3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Longleng	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Mokokchung	5	0	0	4	1	0	0	2	0	0	0	0	0	0	0	0	0	0
6	Mon	7	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Peren	0	1	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Phek	5	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Tuensang	11	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Wokha	8	6	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Zunheboto	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	UVBDS Dimapur	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Total		113	20	12	374	6	1	0	9	0	0	0	0	0	0	0	0	0	0

Table 8: Likely impacts on diseases related to vectors due to climate change in Nagaland

Vector Borne Disease	Driving Climate and Socio-economic parameters	Likely Manifestation
Malaria, Dengue, Chikungunya, Japanese Encephalitis, Kalazar, Filariasis and others	Increase in maximum Temperature, RH remaining >55%	Wider spatial spread and spread to higher altitudes Windows of transmission open for all 12 months Emergence of new vectors Increase in Urban malaria Possibility of dengue even in winters Leave behind flooding conditions for mosquitoes to breed in their habitats* More pathogens breed at a shorter period of time leading to a probability of higher incidences of vector borne diseases
	Decrease in minimum temperature, RH remaining >55%	
	Increase in precipitation, RH increasing further	
	Land use change (deforestation) leading to changes in microclimate in terms of changes in temperature, evapotranspiration, surface runoff, soil moisture etc	
	Migration of population	Bringing in new vectors in the region that might acclimatize to the climate conditions

Source: Nagaland State Action Plan on Climate change 2017)

Table 9: Morbidity and Mortality Statistics of common Vector Borne Disease in Nagaland

Year	Malaria		Dengue		JE	
	Cases	Deaths	cases	Deaths	Cases	Deaths
2018	113	0	374	0	0	0
2019	20	0	6	0	9	2
2020	12	0	1	0	0	0

(Source: NVBDCP Nagaland)

Nagaland is only a step away from being ‘malaria free’ state and is one of the top contenders in the race towards malaria elimination in the Northeast region. According to the available statistics of Health & Family Welfare Department, there were about 850 positive cases of Malaria when the state started the campaign against malaria in 2016 and today down the line in 2021, the state registered a single digit of only 8 positive cases. Meanwhile, according to state’s health and family welfare department, no deaths from Malaria cases have been reported for the last 3 years in the state.

In 2021, zero malaria cases have been reported from six districts- Longleng, Mokokchung, Mon, Peren, Phek and Zunheboto & UVBDS Dimapur. The department is aiming to achieve Nagaland as malaria-free state in the coming years.

Extreme Weather Events

a. Earthquakes

Earthquakes are a real and potential danger to the State of Nagaland. Nagaland lies in Seismic Zone V and hence, falls under a very high damage risk zone. A large number of moderate to large magnitude earthquakes have occurred within the State boundaries as well as within a range of 100 km around it. Altogether twelve major earthquakes have occurred in the region in the last 100 years of which the epicentre of the 1950 Great Earthquake was located only 7 km towards north of Mon, a District Headquarter located about 200 km north

of the capital town of Kohima. One of the most notable earthquakes which had its impact in Nagaland was the Great Shillong Earthquake on 12th June 1897 which measured 8.7 in the Richter scale that left over 1,600 people dead.

b. Flood

Flood affects all the low-lying areas of Nagaland bordering Assam. In the year 2005, the Township of Tuli and the adjoining areas were very badly affected by flood. This left the area marooned for many days. The different colonies of Dimapur Town remained submerged during 11th - 24th September 2008. This includes Dhobinala, Super market, Nagarjan, Burma Camp, Walford, Sachu Colony, Nagagaon, Khermahal, Netaji Colony, Naharbari and Airport Areas. Due to the incessant rain which recorded from 1st to 3rd August 2018 (492 mm rainfall) floods was caused in parts of Dimapur which disrupted normal activities. The flood also caused a casualty in Dimapur (1 dead) at Netaji colony.

c. Windstorm/Hailstorm

Windstorm/Hailstorm is a major disaster that keeps affecting Nagaland especially during the monsoon. A total of 3759 houses were damaged during the year 2016 that ravaged different parts of Nagaland. In Mokokchung district, hailstorm/windstorm incidents caused damages to 1,382 houses of which 283 kutcha houses were completely damaged, 280 kutcha houses severely damaged, and 746 kutcha houses were partially damaged. In Longleng district, hailstorm incidents affected 34 villages from five circles namely, Yachem, Sakshi, Yongnyah Sadar and Longleng. The devastation left 342 partially damaged houses, 245 severely damaged houses and 56 fully damaged houses. In Wokha district, 449 houses were damaged by incidents of hailstorm/windstorm. Damages were also caused to infrastructure and plantations. In Kohima, heavy rainfall accompanied by strong winds damaged six houses in Chiechama and Phezha under Kohima district besides damaging electrical post, power lines, uprooting trees along the NH-2 and even the roof top of two houses were also blown away. During July 2018, Kiphire district became inaccessible to the rest of the state after all the roads leading to the district were completely cut off in multiple locations owing to incessant rains.

d. Droughts

It has been passed down by our ancestors that droughts have occurred in Nagaland in the past. However, there are no documents and records to prove them. 2009 is the first year that Nagaland faced a drought like situation in 3 districts of the state namely Peren, Dimapur and Mon. Jalukie valley in Peren District, which is called the 'Rice bowl' of Nagaland had been badly affected. Huge areas of paddy cultivable land had been left because of shortage of water.

State Operating Centres and Task Force for responding to emergencies

In order to tackle various disasters, the State of Nagaland has various Operating Centres and Task Force in place, some of which are mentioned below:

i. State Emergency Operation Centre

Nagaland State Disaster Management Authority (NSDMA) operates the State Emergency Operation Centre (SEOC) at the Lotha Hoho Ki building at the state capital for effective response to any emergencies in the state. Below are the details of SEOC Kohima:

Address	Contact us
State Emergency Operation Center (SEOC) 3rd Floor, Lotha Hoho Ki Keziekie, Kohima-797001 Nagaland	Toll Free Number 1070 Tel: 0370-2291122/2291120 Fax: 0370-2291123 Email: seoc.nsdma@gmail.com

ii. District Emergency Operating Centres

During any disaster emergencies or crisis situation, immediate first response has to be from the District Disaster Management Administration (DDMA). Hence it is necessary to ensure that District EOCs are strengthened with a fully functional DEOC building, well equipped with all necessary emergency management systems to have effective coordination with the State EOC as well as other local level functionaries. Moreover, the District EOCs had to be made more resilient than the State EOC as it will be the first principal responder in the case of a major local emergency in all the districts having the capabilities implied by the Government of India specifications for a State EOC. Some of the responsibilities envisaged by the DEOCs are as follows;

- ▶ To monitor, coordinate and implement the actions for disaster management for micro- planning and management.
- ▶ Lease with on-site operation center, State EOC and other emergency services.
- ▶ Flow of Information.
- ▶ Function as a center for decision-making.
- ▶ Coordination and Integration of different agencies.
- ▶ The simulation of emergency situations.
- ▶ Recording of events.

The contact details of district management operating Centres are given in Annexure I

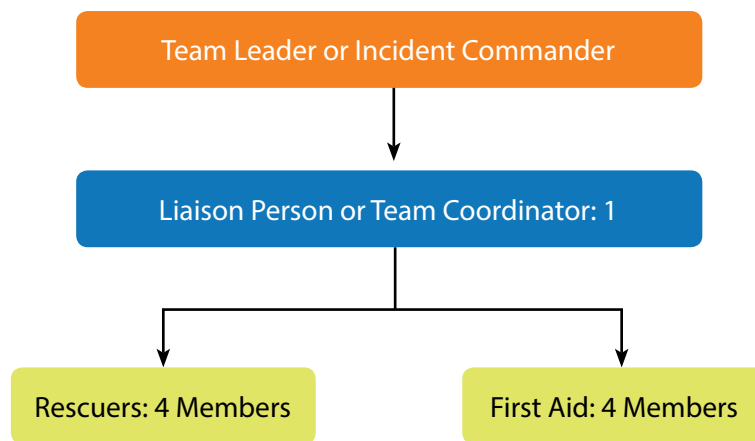
Some IEC and Advisories related to Disaster Preparedness and Mitigation are attached as Annexure II

iii. State Disaster Response Force (SDRF)

With the objective of having full time dedicated personnel for Disaster Response, 240 (Two Hundred Forty) personnel from amongst the Civil Defence and Home Guards have been drawn and imparted training as a Special Force for response to disasters. These personnel are stationed in 8 (Eight) Key Locations Point in the State for responding to disaster promptly and effectively. Though a dedicated SDRF have been drawn from Civil Defence & Home Guards, the other SDRF trained from IRB/DEF and Village Guard will act as a back-up force during a large-scale disaster, so as to create a proper order during emergency. During the normal times, these Personnel will carry out awareness programme in Villages, Schools and Colleges and in an event of disaster they will be the first line response for Search & Rescue Operations. The Government of Nagaland is investing in the safety of the State and its people. Nagaland State Disaster Management Authority endeavours to build a Resilient Nagaland.

iv. Community First Responder

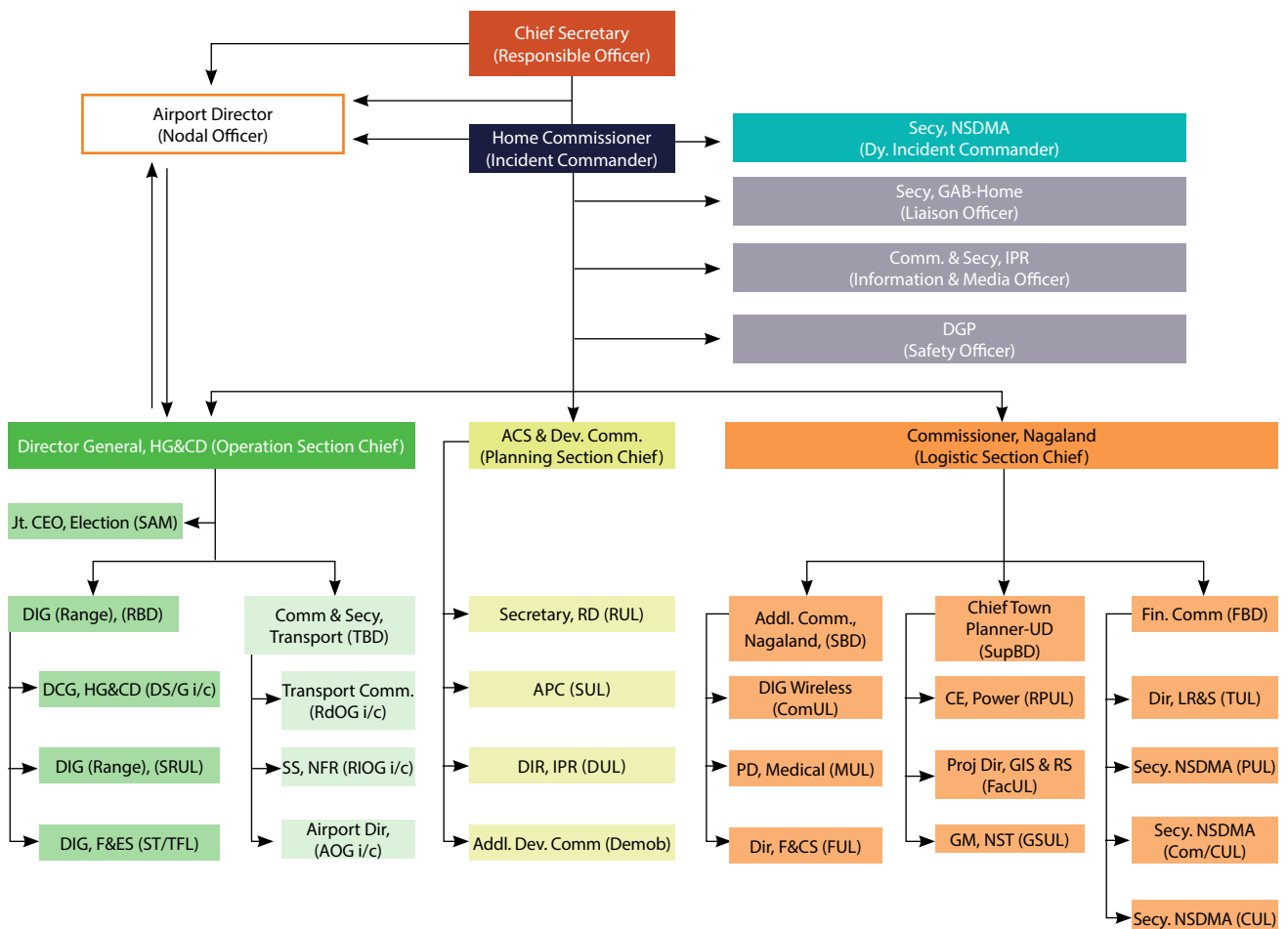
Figure 8: Flow Chart of Community First Responder



Source: Nagaland State Disaster Management Authority

v. State Incident Respondent System

Figure 9: Flow Chart of State Incident Respondent System



Source: Nagaland State Disaster Management Authority

Nagaland State Health Infrastructure

Nagaland has a network of public and private health care facilities. There have been efforts to expand and update public health infrastructure in recent years. Need for concentrated efforts in disaster vulnerability of health facilities and implementation of resilient measures is realized.

Table 10: Public Health Infrastructure in Nagaland

Sl. No.	Type of Health Facility	Total Number of Health Facilities
1.	District Hospitals	11
2.	Community Health Centres	42
3.	Primary Health Centres	160
4.	Urban Primary Health Centres	7
5.	Sub Centres	650

Source: Annual Administrative Report 22-23

Roadmap of Nagaland State for Health Sector Response to Climate Change

Current and Future Priorities of Nagaland state in upcoming years (2022-2027)

- ▶ Awareness Generation among the population especially vulnerable communities
- ▶ Health-Care Providers & Policy Makers Regarding Impacts of Climate Change on Human Health.
- ▶ Capacity Building of Government and Private Healthcare System to Reduce Illnesses/ Diseases Due to Variability in Climate
- ▶ Health Sector Preparedness and Response Including District Level
- ▶ To develop partnerships and create synchrony/ synergy with other Missions, Departments and Programmes to Steer Research on Climate Change and Health.

The above objectives will be implemented through the National Programme on Climate Change and Human Health (NPCCHH). Nagaland has placed considerable emphasis on empowerment of village level institutions through extensive capacity building and proactive facilitation.

The Public Health Engineering Department has been consistently striving to augment the existing water supply systems, regulate proper water distribution, manage water sources, implement roof top rainwater harvesting, rejuvenate traditional wells in water scarce areas and providing material and financial assistance to Water and Sanitation Committees (WATSAN) managing rural water supply systems to further the objective of providing safe, adequate and sustainable drinking water in the State of Nagaland.

The vulnerabilities that climate variability and change create are key issues in the economic and social development of the State. Although, there are studies on climate trends and projections for the Indian region, few focused on the State. Available observational evidence indicates that regional changes in climate, particularly increases in temperature, have already affected a diverse set of physical and biological systems. There is a need to study systematically the inter-relationship between Climate Change impacts to derive effective adaptation and mitigation measures.

Identified 10 components provide a comprehensive approach to integrating climate resilience into existing health systems:

1. Leadership & governance
2. Capacity building on climate change and health
3. Vulnerability and adaptation (V&A) assessments
4. Integrated risk monitoring and early warning
5. Climate resilient and sustainable technologies and infrastructure
6. Research to reduce uncertainty on local conditions, gain insight into local solutions and capacities, and build evidence to strengthen decision-making
7. Management of environmental determinants of health
8. Departments and programs that can become climate-informed
9. Managing changing risks of climate extremes and disasters and lastly
10. Climate and Health financing

Keeping in line with the goals of Climate Resilient Health Systems, the Health & Family Welfare Department through the Nagaland Health Project funded by the World Bank have undertaken several activities listed below:

Table 13: Activities undertaken by Nagaland Health Project funded through World Bank

1	Installation of Solar Panels and Off-Grid Energy (for 24x7 lighting), repair and renovation of electrical items, high mast lights for DH
2	Infrastructure development, including all SoNs and PMTI - floor tiling, ceiling, boundary fencing, roofing, additional rooms, toilets, waiting sheds, Rain water harvesting (75000, 50000, 20000 ltr CC tanks), CC garbage tanks
3	Bio-Medical Waste Management - Deep Burial Pits (including KMC and DMC sites), colour coded bins, waste bags, PPE Kits, Microwave for DH, Autoclave (60L, 40L, 20L, 10L)
4	IEC - Video Documentaries & Information, Booklets, Fliers, Flipcharts on ANC, ASHA, BMWM
5	Currently, the Project has taken up RBF module for District Hospitals and CMOs wherein the CMOs are taking up the above similar activities on their selected HCF across the state.

Source: Nagaland Health Project (NHP)

List of Solarization activities undertake by Nagaland Health Project are attached as Annexure III.

CHAPTER 4

Vision, Goal and Objectives



Vision: Strengthening of healthcare services for all the citizens of the state especially vulnerable like children, women, elderly, tribal and marginalized population against climate sensitive illnesses.

Goal: To reduce morbidity, mortality, injuries and health vulnerability due to climate variability and extreme weathers.

Objective: To strengthen health care services against adverse impact of climate change on health.

Specific Objective

1. To create awareness among general population (vulnerable community), health-care providers and Policy makers regarding impacts of climate change on human health.
2. To strengthen capacity of healthcare system to reduce illnesses/diseases due to variability in climate.
3. To strengthen health preparedness and response by performing situational analysis at state/ district/ below district levels.
4. To develop partnerships and create synchrony/ synergy with other missions and ensure that health is adequately represented in the climate change agenda in the State in coordination with the Ministry of Health & Family Welfare.
5. To strengthen state research capacity to fill the evidence gap on climate change impact on human health.

There are 17 Climate sensitive health issues identified under programme for health sector strengthening e.g. Air Pollution related illnesses, Heat-related illnesses Vector borne diseases Disaster related health issues, Nutrition related diseases, Water-borne diseases, Occupational health, Food security, Mental health, Cardio pulmonary diseases, Hilly region and Mountainous Climate Sensitive Diseases, Coastal Climate Sensitive Diseases, Zoonotic diseases and One Health and Development of Environmentally Friendly (Green) and Climate Resilient infrastructure.

This action plan outlines activities to be conducted under priority climate sensitive diseases:

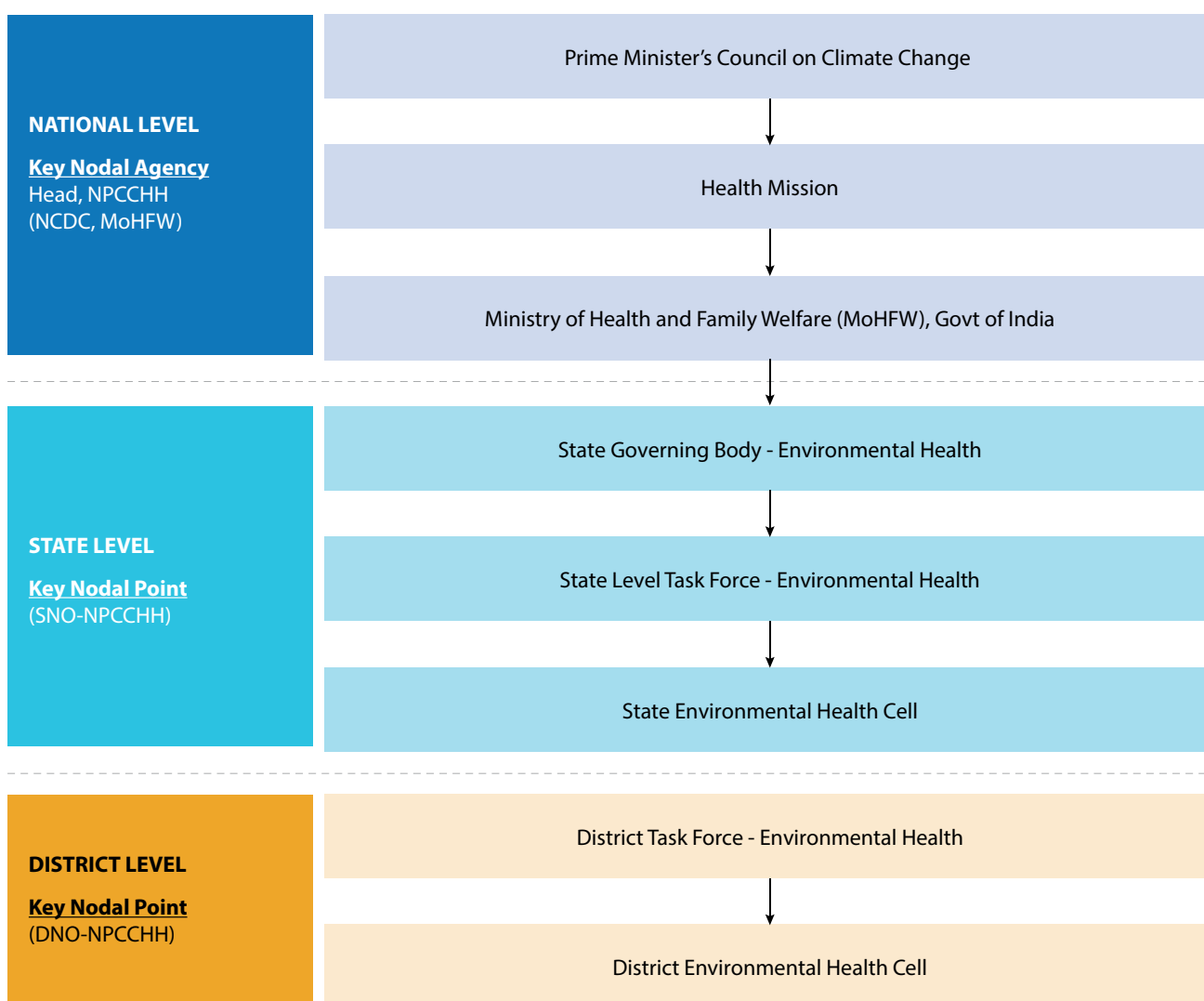
1. Air Pollution related illnesses
2. Heat-related illnesses
3. Vector borne diseases
4. Disaster related health issues
5. Environmentally Friendly (Green) and Climate Resilient infrastructure

CHAPTER 5

Organisational Structure



ORGANISATIONAL STRUCTURE



A. Nagaland State Governing Body for NPCCHH

The state level governing body for policy level decision shall be working under Chairpersonship of Commissioner & Secretary. The other members may be as follows:

Member	Designation
Commissioner & Secretary, Health & Family Welfare	Chairperson
Mission Director, National Health Mission	Member Secretary
Principal Director, Health & Family Welfare	Member
Director (Health)	Member
Director (Family Welfare)	Member

B. Nagaland State Task Force for NPCCHH

Member	Designation
Principal Secretary	Convenor
Health Sector	
Mission Director, National Health Mission	Member
Directors	Member
SPO, NCD	Member
SPO, NVBDCP	Member
SNO/SSO IDSP	Member
Others	Member
Non-Health Sector	
State Pollution Control Board	Member
State Disaster Management Authority	Member
Secretary Agricultural Department	Member
Secretary, PHE Department	Member
Secretary, Food & Civil Supplies Department	Member
Secretary, Water Resource Department	Member
Secretary, Land Resource Department	Member
Secretary Animal Husbandry & Veterinary Services Department	Member

C. Nagaland Environment Health Cell

Member	Designation
SPO, NPCCHH	Nodal Officer
Chairperson, State Pollution Control Board	Member
Chairperson, State Disaster Management Authority	Member
Secretary, Agriculture Department	Member
Secretary, Water Resources	Member
Secretary, Land Resources	Member
Consultant, NPCCHH	Member
Veterinary Consultant	Member

D. District Level Task Force

Member	Designation
Deputy Commissioner	Convener
Chief Medical Officer	Member
Medical Superintendent	Member
Deputy Chief Medical Officer	Member
District Surveillance Officer (NVBDCP)	Member
Epidemiologist, IDSP	Member
District Veterinary Officer	Member

Official orders of following are attached as Annexures:

1. State Task force Notification of Nagaland (Annexure IV)
2. State Environmental Health Cell, Task Force Nagaland (Annexure IV)
3. District Task force Notification (Annexure IV)

E. Roles & Responsibilities of State Task Force

1. Establish organizational structure for implementation of programme activities at state
2. Preparation and Implementation of State Action Plan for Climate Change and Human Health (SAPCCHH)
3. Facilitate implementation of activities at district, sub-district and community level
4. Assessment of needs for health care professionals (like training, capacity building) and organise training, workshop and meetings.
5. Establish/coordinate surveillance of Acute Respiratory Illness in context of Air Pollution and Heat related illness surveillance

6. Ensure Convergence with NHM activities and other related programs in the State and District
7. Maintain State and District level data on physical, financial, epidemiological profile for climate sensitive illnesses
8. Timely issue of warning/ alerts to health professionals and related stakeholders as well as general public through campaign or using mass media (Electronic or printed)
9. Monitor programme, Review meetings, and Field observations.
10. Social mobilization against preventive measures through involvement of women's self- help groups, community leaders, NGOs etc.
11. Advocacy and public awareness through media (Street Plays, folk methods, wall paintings, hoardings etc.)
12. Encourage and implement Green/environmentally friendly and resilient measures and infrastructures in health care sector
13. Conduct Vulnerability assessment and risk mapping for commonly occurring climate sensitive illnesses in the state.

Note: The above Organisational Structure for the State of Nagaland will be revisited, upon the changes and needs of the NPCCHH Program.

PART II

Health Action Plans on Priority Climate Sensitive Health Issues

CHAPTER 6

Health Action Plan on Air Pollution Related Diseases



A. Information, Education Communication (IEC) Activities

i. Target population

Urban areas (NCAP Cities; All District Capitals) Industrial areas (Dimapur)

Vulnerable groups (Primarily Children, women, older adults, traffic police, outdoor workers)

ii. Annual IEC dissemination plan for Air Pollution and Health under NPCCHH, Nagaland

IEC type	Material	Timeline	Mechanism
Advisory	bit.ly/NPCCHHPrg	September	<ul style="list-style-type: none"> By email to DNO for further dissemination to health facilities
Early warning	AQI Level with Health Risk Category	September- March (Priority) Year Round (Ideally)	<ul style="list-style-type: none"> Digital Display on Public Places and Health Facilities Social Media and Newspaper Health department/other government website/application
Posters	12 Posters on Air Pollution and Health Impacts (English)	September-October	<ul style="list-style-type: none"> Printing for state-level dissemination at health facilities, public places/buildings By email to DNO for printing at district level and dissemination to health facilities, schools and other public/government buildings
Wall painting	Using available material	Painted in August-September	<ul style="list-style-type: none"> In schools and selected colleges In health facilities
Hoardings	Posters	September	<ul style="list-style-type: none"> To be planned with Urban/Rural administration/municipalities
Audio- Visual	<ul style="list-style-type: none"> 3 Audio Jingle (Nagamese & English) 2 Video messages (Nagamese & English) 	September	<ul style="list-style-type: none"> Played 3 times a day between September to March
Bus painting	Using available material	Painted in August-September	

IEC type	Material	Timeline	Mechanism
Digital display	4 GIF & Above- mentioned video messages	August- September	<ul style="list-style-type: none"> • Display in health facilities • Public digital display boards in major cities
Social media	All above material + Relevant activity updates	Throughout the Year	<ul style="list-style-type: none"> • Facebook and Twitter handle of Official State NPCCHH, NHM • WhatsApp groups (State DNO, Health facility group)

iii. Preparatory Work for IEC dissemination by EHC

Activity	Nodal Agency and Person
<ul style="list-style-type: none"> • Nagamese Translation of Print Materials • Designing of New Print Materials • Printing • Audio-Video Spot Booking 	State Environment Health Cell/IEC Division, Directorate of H&FW, Nagaland.

iv. Observance of Important Environment-Health Days for Air Pollution & Health Related Activities

Day	Activities
<p>International Day of Clean Air for Blue Skies (September 7)</p> <p>Other days:</p> <ul style="list-style-type: none"> • World Car Free Day (September 22) • World Environmental Day (June 05) • Green Consumer Day (September 28) 	<p>IEC Campaigns</p> <ul style="list-style-type: none"> • Health facility-based patient awareness sessions • Audio-video spots broadcasting • Targeted awareness sessions: traffic police, schools, women, children • Street plays and local cultural activities, Rallies • Sports events • Competition: poster, poem/essay, quiz

B. Capacity Building Activities

i. Training Material

Guidelines:

- Health Adaptation Plan for Disease Due to Air Pollutions
- Health Sector Preparedness for Air Pollution
- Handbook for Health Professionals on Air Pollutions & Its Impact on Health

Training modules:

- Women Training Manual (English, Hindi)
- Children Training Manual (English, Hindi)
- Traffic Police Training Manual (English, Hindi)
- Municipal Worker Training Manual (English/Hindi)

Other training resources: NPCCHH channel at <https://bit.ly/NPCCHHyt>

ii. State Level/District Level Master Trainers and Supporting Training Institutes

Training on Air pollution related diseases may be expanded to include other climate sensitive diseases specifically cardio-pulmonary and allergic diseases.

iii. Annual Training Plan for Air Pollution and Health Under NPCCHH, Nagaland

Training Programme for	Trainer	Topics	Timeline
District level (DNO-CC, trainers)	State Level Trainers SNO-CC, Consultant, Development Partner	<ul style="list-style-type: none"> Air Pollution-health Impact, Prevention Measures Surveillance Reporting and analysis with AQI Health Facility Preparedness 	August - September
Health facility level (MO of DH/CHC/PHC)	District Level Trainers DNO-CC	<ul style="list-style-type: none"> Air Pollution-health Impact, Prevention Measures Surveillance Reporting and analysis with AQI Health Facility Preparedness 	August – September December – January (Review- Repeat)
Community Health care workers (MPH, ASHA, ANM etc)	State & District Trainers	<ul style="list-style-type: none"> Surveillance Case identification and Reporting 	August – September December – January (Review- Repeat)
Village Health Committees	District level trainers, MO, Health care workers	<ul style="list-style-type: none"> Air Pollution-health Impact, Prevention Measures 	September - February

C. Strengthening Health Sector Preparedness

i. Surveillance Guidelines

- Health Adaptation Plan for Disease Due to Air Pollutions <https://bit.ly/NPCCHHNOADS>
- There are two Non-Attainment Cities identified under National Clean Air Programme; Dimapur & Kohima
- All health facilities in a district (PHC and above) especially in NCAP cities and cities with high air pollution levels should ensure implementation of this plan to prepare health facility to prevent and manage cases arising/aggravating from high air pollution exposure.

Table 23: ARI Surveillance Designated Nodal Officer

Sl. No.	Name Of Sentinel Sites	Name of District	Name of Nodal Officer

ii. Health Facility Preparedness

A committee at the hospital level on air pollution and health to be constituted preferably including officials from departments of Medicine, Respiratory Medicine Pediatrics, Cardiology, Neurology, Endocrinologists, etc. Including emergency and nursing division and Pharmacists.

The Committee will be responsible for development of specific action plan for hospital to address the health issues related to air pollution in its catchment areas. Such action plan will consist of activities to strengthen healthcare services in the facility in the context of air pollution, Key activities may include:

- ▶ OPD for Pediatrics/Medicine/Respiratory Medicine/Cardiology/NCD, etc. where more cases of impact of air pollution are likely to come
- ▶ Emergency services for illness related to respiratory and cardiovascular illness
- ▶ Counselling and awareness generation for friends and families of the patients
- ▶ Enhancing functional capacity for emergency, beds, drugs and diagnostics, equipments, etc.
- ▶ Enabling community outreach activities to generate awareness
- ▶ Capacity building of health professionals and workers to address health impacts of air pollution
- ▶ Establishment of surveillance mechanisms
- ▶ Strengthening supply chain and logistics to make medicines, diagnostics and equipments available, including provision for buffer stock
- ▶ Enhancing capacity and availability of oxygen cylinders, nebulizers ventilators in case of increased demand and for intensive care.

iii. Revision of Health Action Plan on Disaster-Related Health Issues in State Action Plan on Climate Change and Human Health (SAPCCHH)

The section should be revised every year after February based on updated surveillance data, its analysis with weather parameters, targets achieved, and predicted climate variability with support from multi-sectoral task force.

D. Roles & Responsibilities

Responsible Officer	Responsibilities
SNO	<ul style="list-style-type: none">• Finalization of IEC material and dissemination Plan• Organize IEC campaigns at state level on observance of important environment-health days• Organize training sessions for district level and surveillance nodal officer• Facilitate training of medical officers in clinical aspects of air pollution's health impact• Monitor AQI levels in states especially in hotspots and NCAP cities• Ensure reporting from sentinel hospitals and DNO• Ensure necessary health facility preparedness• Review surveillance reporting and monthly report submission by DNO• Submit report of activities• Review implementation of IEC and surveillance activities at all levels• Evaluate and update relevant section of SAPCCHH with support from State Task Force

Responsible Officer	Responsibilities
	<ul style="list-style-type: none"> • Liaison with State Pollution Control Board for AQI alerts and its dissemination • Liaison with Department of Environment for combined IEC campaigns and information sharing on health indicators for targeted air pollution reduction activities • Create organization support and strengthen Environmental Health cell to implement NPCCHH vision, Goal and Objectives • Organize sensitization workshops for other stakeholders and line departments • Organize Seminars on Air Pollution and Conference to share knowledge and action under NPCCHH. • Collaborate with academic institute/s for support in updating SAPCCHH, Surveillance activity monitoring, vulnerability assessment and applied research • Advocate for reduction in source of air pollution
DNO	<ul style="list-style-type: none"> • Ensure IEC dissemination to community level • Facilitate community level IEC activities • Conduct training for Block health officers, Medical officer, Sentinel hospital nodal officers with relevant training manuals • Conduct training of vulnerable groups: police officers, outdoor works, women, children • Organize IEC campaigns at district level on observance of important environment health days • Collect and monitor AQI levels in states especially in hotspots and NCAP cities • Ensure daily reporting from Sentinel hospitals and compile the data • Analyze daily health data with AQI level to monitor trends and hotspot in health impacts • Submit analysed monthly report to SNO, NPCCHH, Hq and other departments for necessary action • Submit report of activities • Update DAPCCHH with support from District Task Force • Advocate for reduction in source of air pollution
Surveillance Hospital Nodal Officer	<ul style="list-style-type: none"> • Train hospital staff and clinician responsible for daily reporting in case indentation and reporting flow • Compile daily reports for the health facility and submit it to DNO and NPCCHH, Hq
Block Health Officer	<ul style="list-style-type: none"> • Conduct community level IEC activities • Ensure training of medical officers • Organize Village Health Committee sensitization workshop and training for vulnerable groups
Medical Officer	<ul style="list-style-type: none"> • Conduct health facility-based IEC activities • Support community level IEC activities • Be aware of AQI levels and health impact of air pollution • Ensure necessary health facility preparedness in early diagnosis and management of cases • Community mobilization for reduction in greenhouse gas emissions, and local pollution
Village Health Committees	<ul style="list-style-type: none"> • Conduct community level IEC activities • Community mobilization for reduction in greenhouse gas emissions, and local pollution

CHAPTER 7

Health Action Plan on Heat Related Illnesses



Nagaland is not considered among 23 heat-vulnerable states which requires comprehensive actions to adapt and mitigate impact of extreme heat. However, annual average temperatures in the state have increased and population is exposed to higher temperatures. Special attention should be given to urban areas due to urban heat island effect and vulnerable districts. Ranking of heat vulnerable districts might be used to prioritize actions related to heat-health.

A. Information, Education Communication (IEC) Activities

i. Target population

- ▶ Urban areas (NCAP Cities; Dimapur and Kohima)
- ▶ Vulnerable groups (Primarily Children, women, older adults, traffic police, outdoor workers)

ii. Annual IEC dissemination plan on Heat and Health under NPCCHH, Nagaland

IEC type	Material	Timeline	Mechanism
Advisory	bit.ly/NPCCHH advisory	March- July	By email/Whatsapp to DNO for further dissemination to health facilities
Early warning	Daily Heat Bulletin from IMD with Health Impact Information	March- July	<ul style="list-style-type: none">• Digital Display of Temperatures on Public Places and Health Facilities• Social Media and Newspaper• Health department/other government website/ application
Posters	6 Posters on Heat and Health Impacts (Nagamese and English)	February- March	<ul style="list-style-type: none">• Printing for state-level dissemination at health facilities, public places/buildings• By email to DNO for printing at district level and dissemination to health facilities, schools and other public/government buildings
Wall painting	Using available material	Painted in February-March	<ul style="list-style-type: none">• In schools and selected colleges• In health facilities
Hoardings	Posters	March	<ul style="list-style-type: none">• To be planned in NCAP Cities

IEC type	Material	Timeline	Mechanism
Audio- Visual	• Audio Jingle (Nagamese & English)	March	• Played 3 times a day between March to July
	• Video messages (Nagamese & English)		
Bus painting	Using available material	March-July	With NSTC
Digital display	GIF & Above- mentioned video messages	March- July	• Display in health facilities Public digital display boards in major cities
Social media	All above material + Relevant activity updates	February- July	• Facebook and Twitter handle of Official State NPCCHH, NHM • WhatsApp groups (State DNO, Health facility group)
		June-Sept	• Podcast

iii. Observance of important environment-health days

Although there is no specific day on heat-health, observance of following days may be recommended for awareness on health impact of extreme heat (outdoor-indoor)

Day	Activities on Heat-Health
<ul style="list-style-type: none"> World forest Day (March 21) World Water Day (March 22) World Health Day (April 7) Earth Day (April 22) World Environment Day (June 5) World Day to Combat Desertification and Drought (June 17) 	<p>IEC Campaigns</p> <ul style="list-style-type: none"> Audio-video spots broadcasting Targeted awareness sessions: traffic police, schools, women, children Street plays and local cultural activities, Rallies Sports events Competition: poster, poem/essay, quiz <p>Community level heat mitigation measures</p> <ul style="list-style-type: none"> Plantation drive Cool-roofing drive Energy conservation Health facility level activities <p>Health facility-based patient awareness sessions</p> <ul style="list-style-type: none"> Energy audit and conservation measures Review of preparedness for heat-related illness

B. Capacity Building Activities

i. Training Material

Guidelines:

National Action Plan on Heat Related Illnesses (<https://bit.ly/NAPHRI>)

Training modules: (available bit.ly/NPCCHHguidelines shortly)

- State-District level training modules
- Medical officer training

- ▶ Para medical officers & Health care workers
- ▶ Community level training: vulnerable population group such as women/ children/ elderly/ different type occupations

Other training resources: NPCCHH channel <https://bit.ly/NPCCHHyt>

- ▶ Clinical Aspects of Heat-Related Illnesses
- ▶ Webinars on heatwave and its health impact Day
- ▶ HRI Surveillance Training

ii. State-Level/ District-Level Supporting Training institutes

- ▶ State Institute of Health & Family Welfare Indian institute of Public Health
- ▶ Through the NPCCHH Program Division.

iii. Annual Training Plan for Heat & Health under NPCCHH, Nagaland

Training Programme for	Trainer	Topics	Timeline
District level (DNO-CC, trainers)	State Level Trainers SNO-CC, Consultant	<ul style="list-style-type: none"> • Heat-health impact, prevention measures • Surveillance reporting and analysis with weather parameters • Health facility preparedness 	February
Health facility level (MO of DH/CHC/PHC)	District Level Trainers DNO-CC	<ul style="list-style-type: none"> • Heat-health impact, prevention measures • Surveillance case identification and reporting • Health facility preparedness • Clinical management of HRI • Health facility disaster vulnerability assessment 	February
Community Health care workers (MPH, ASHA, ANM etc)	District Level Trainers, MO	<ul style="list-style-type: none"> • Heat-health impact prevention • Indoor and outdoor mitigation measures 	February- March
Village Health Committees	District level trainers, MO, Health care workers	<ul style="list-style-type: none"> • Heat-health impact prevention • Indoor and outdoor mitigation measures 	April-July

C. Strengthening Health Sector Preparedness

i. National Heat-Related Illness Surveillance (NHRIS), NPCCHH

Surveillance guidelines and reporting formats:

National Action Plan on Heat Related Illnesses (<https://bit.ly/NAPHRI>)

- ▶ Case definitions
- ▶ HRI reporting formats: health facility to state level (forms 1 to 4)
- ▶ Death investigation form for suspected heatstroke deaths

Reporting units: All health facilities in a district (PHC and above) should submit daily reports from March 1-July 31 regardless of observed temperatures and rainfall.

Surveillance training: included under capacity building section

Surveillance activity monitoring: Review of surveillance activity with DNO: every month (March-July)

ii. Hospital Preparedness

Following key activities for hospital preparedness to ensure uninterrupted availability of services against heat stress are encouraged and supported by State EHC:

- ▶ Standard Operating procedures to tackle all levels of heat-related illnesses.
- ▶ Capacity building measures for doctors, nurses and other staff should be undertaken.
- ▶ Assessing cases with suspected heat stroke using standard Treatment Protocols.
- ▶ Identifying surge capacities and marking of beds dedicated to treat heat stroke victims and enhance emergency department preparedness to handle more patients.
- ▶ Identifying RRT (Rapid Response Teams) to respond to any exigency call outside the hospitals.
- ▶ Ensure adequate arrangements of Staff, Beds, IV fluids, ORS, essential medicines and equipment to cater to management of volume depletion and electrolyte imbalance.
- ▶ Establishing outreach clinics at various locations easily accessible to the vulnerable population to reduce the number of cases affected.
- ▶ Health facilities to undertake awareness campaigns for neighborhood communities using different means of information dissemination.
- ▶ Hospitals to ensure proper networking with nearby facilities and medical centres to share the patient load which exceeds their surge capacities.
- ▶ All cases of heat-related illnesses (suspected or confirmed) to be reported to IDSP (Integrated Disease Surveillance Programme) unit of the district.

In addition, using Nation Action Plan on Heat Related Illness (NAPHRI), guidelines by MoHFW state will ensure health facility wise preparedness in all the public health facilities in the state.

As per NAPHRI, state will conduct infrastructure and logistics, capacity building and IEC/awareness activities for three different levels of health facilities, i.e., primary health centre (PHC), Community Health Centre (CHC) and District Hospital (DH)/Medical College (MC). The activities will be prioritized for three seasons, i.e., pre-heat season, heat season and post-heat season.

iii. Revision of Health Action Plan on Heat Related Illnesses in State Action Plan on Climate Change and Human Health (SAPCCHH):

The section should be revised every year after July based on targets achieved, surveillance data, climate change impacts and health indicators with support from multisectoral task force.

iv. Heat Action Plan for Specific Cities/Rural Districts

Urban areas often become hotspots of heat impact due to altered land use, reduced land cover, reduced natural shade and use of built material that trap heat during day and night time. Urban heat island effect

poses greater threat to larger swath of population by impeding night natural cooling leading to continuous heat stress compared to that in rural area. As such health-centric multisectoral coordinated adaptation and mitigation efforts at city level are necessary for not only reducing heat impact but also for reduction of greenhouse gas emission.

City-specific Heat-Health Action Plans are encouraged and supported by State EHC.

v. City-Specific Heat-Health Action Plans should include

1. Early warning system and inter-agency emergency response plan:
 - a. Analysis of historic city level all-cause mortality with observed temperatures to establish health impact-based warning and response trigger (IMD, SDMA)
 - b. Daily dissemination of forecast and observed temperatures during summer to public and government agencies (IMD)
 - c. Identification of roles and responsibilities of coordinating agencies with activity matrix and action checklists (Refer: Ahmedabad Heat Action Plan¹²)
2. Public awareness a. Communicating risk to vulnerable population/groups
3. Capacity building of medical professionals
 - a. On identification, management and reporting of HRI cases and deaths
2. Promoting short and long-term adaptation and mitigation measures
 - a. Access to potable water, shaded area, cooling spaces
 - b. Plantation, cool-roof

D. Roles & Responsibilities

Responsible Officer	Responsibilities
SNO	<ul style="list-style-type: none"> • Disseminate early warnings to district level • Finalization of IEC material and dissemination Plan • Liaison with IMD for weather alerts and its dissemination • Liaison with other departments for combined IEC campaigns, coordinated response and information sharing of health indicators for targeted action • Organize IEC campaigns at state level on observance of important environment - health days • Organize training sessions for district level and surveillance nodal officer • Facilitate training of medical officers in clinical aspects of heat-health impact • Ensure daily surveillance reporting from district level • Ensure submission and analysis of heat related death at state and district level • Monitor daily health data with temperature and humidity levels to monitor trends and hotspots in the state • Review health facility preparedness and ambulance services to manage HRI • Identify health facilities at different levels that can have heat illness wards with necessary treatment/cooling facilities • Keep existing Rapid Response Teams under IDSP prepared to manage HRI if needed for emergency response to extreme heat • Review implementation of IEC and surveillance activities at all levels

Responsible Officer	Responsibilities
	<ul style="list-style-type: none"> • Evaluate and update relevant section of SAPCCHH with support from State Task Force • Create organization support and strengthen Environmental Health cell to implement NPCCHH vision, Goal and Objectives • Organize sensitization workshops for other stakeholders and line departments • Organize seminars and conference to share knowledge and action under NPCCHH • Collaborate with academic institute/s for support in updating SAPCCHH, Surveillance activity monitoring, training of health care professionals, vulnerability assessment and applied research • Submit report of activities on heat-health under NPCCHH • Advocate for reduction in source of greenhouse gas emissions
DNO	<ul style="list-style-type: none"> • Disseminate early warning to block and health facility levels • Ensure IEC dissemination to community level and facilitate community level IEC activities • Liaison with IMD to get daily observed temperature and relative humidity information • Liaison with other departments for combined IEC campaigns, coordinated response and information sharing of health indicators for targeted action • Conduct training for block health officers, medical officers, with relevant training manuals • Conduct sensitization of vulnerable groups: police officers, outdoor works, women, children etc • Organize IEC campaigns at district level on observance of important environment-health days • Ensure daily reporting from health facilities and compile the data • Analyze daily health data with temperature and humidity levels to monitor trends and hotspots in district • Support timely suspected heatstroke death analysis and its reporting • Submit analysed weekly reports to SNO, NPCCHH, Hq and other departments for necessary action • Coordinate with other agencies for response • Update DAPCCHH with support from District Task Force • Submit report of activities on heat-health under NPCCHH • Advocate for reduction in source of greenhouse gas emission
Block health officer	<ul style="list-style-type: none"> • Conduct community level IEC activities • Ensure training of medical officers • Organize Village Health Committee sensitization workshop and training for vulnerable groups • Implement Heat Mitigation Efforts
Medical officer	<ul style="list-style-type: none"> • Conduct health facility-based IEC activities • Support community level IEC activities • Ensure necessary health facility preparedness in early diagnosis and management of cases
Village Health Committees	<ul style="list-style-type: none"> • Conduct community level IEC activities

Health Action Plan on Extreme Weather Event-Related Health Issues



A. Information, Education Communication (IEC) Activities

i. Target Population

- ▶ Areas/hotspots identified
- ▶ Vulnerable groups: Primarily children, pregnant women, older adults, immuno compromised, outdoor workers/vendors

iii. Annual IEC dissemination plan for Extreme Weather Events in the context of climate change under NPCCHH, Nagaland

IEC type	Material	Timeline	Mechanism
Advisory	Flood and other advisory bit.ly/NPCCHHPrg	Seasonal	By email to DNO for further dissemination to health facilities
Early warning	Bulletins/ advisory by IMD (storm), CWC (flood) sent by NPCCHH	Seasonal	<ul style="list-style-type: none"> • Health department/other government website/application • Digital display of temperatures on public places and health facilities
Posters	Posters on various EWE and health impacts bit.ly/NPCCHHIEC Posters on heat and health impacts	Seasonal as needed	<ul style="list-style-type: none"> • Printing for state-level dissemination at health facilities, public places/buildings • By email to DNO for printing at district level and dissemination to health facilities, schools and other public/government buildings
Wall Painting	Using available Material	July-September	<ul style="list-style-type: none"> • In schools and selected colleges • In health facilities
Hoardings	Posters	Seasonally as needed	<ul style="list-style-type: none"> • To be planned with hotspot, Municipalities and District
Audio- Visual	<ul style="list-style-type: none"> • Audio Jingle (Nagamese & English) • Video messages (Nagamese & English) 	Seasonally as needed	<ul style="list-style-type: none"> • Played seasonally and around relevant extreme weather events
Bus painting	Using available material	June-July	<ul style="list-style-type: none"> • Collaborate With NSTC

IEC type	Material	Timeline	Mechanism
Digital display	GIF & video messages	Seasonally as needed	<ul style="list-style-type: none"> Display in health facilities Public digital display boards in major cities
Social media	All above material + Relevant activity updates	Seasonally as needed	<ul style="list-style-type: none"> Facebook and Twitter handle of Official State NPCCHH, NHM WhatsApp groups (State DNO, Health facility group)

B. Observance of important environment-health days

Day	Activities
International Day for Disaster Risk Reduction	<p>IEC Campaigns</p> <ul style="list-style-type: none"> Audio-video spots broadcasting Targeted awareness sessions: women, children, occupational groups Mock drill, disaster response exercise Sports events Competition: poster, poem/essay, quiz Health facility level activities <p>Health facility-based patient awareness sessions</p> <ul style="list-style-type: none"> Conduct assessment of disaster vulnerability/energy/ water conservation measures Review of implementation of climate-resilient measures

C. Capacity Building Activities

i. Training Material

Guidelines: National Action Plan on Disaster related Health Issues

Training modules:

- ▶ State-District level training modules
- ▶ Medical officer training
- ▶ Para medical officers & Health care workers
- ▶ Community level training: vulnerable population group such as women/ children/ elderly/ different type occupations

Other training resources: NPCCHH channel <https://bit.ly/NPCCHHyt>

ii. State-Level/ District-Level Supporting Training institutes:

State Institute of Health & Family Welfare

Training on Heat-related illnesses diseases may be expanded to include other climate sensitive health issues specifically extreme weather events.

iii. Annual training plan for Extreme Weather Events and Health under NPCCHH, Nagaland

Training Programme for	Trainer	Topics	Timeline
District level (DNO-CC, trainers)	State Level Trainers SNO-CC, Consultant	<ul style="list-style-type: none"> Climate change and impact of extreme weather events in India Formation of disaster management committees and plans Health facility vulnerability, resilient measures and disaster preparedness Disaster response in coordination with state/district disaster management authority Post-disaster health impact assessment and response 	February
Health facility level (MO of DH/CHC/PHC)	District Level Trainers DNO-CC	<ul style="list-style-type: none"> Health facility disaster vulnerability assessment Disaster management committee and plan Climate resiliency measures (structural/functional) Health facility preparedness for EWE/disaster response Post-disaster surveillance and damage assessment 	February
Community Health care workers (MPH, ASHA, ANM etc)	District Level Trainers, MO	<ul style="list-style-type: none"> Climate change and health impact of extreme weather events Disaster planning and response 	February-March
Village Health Committees	District level trainers, MO, Health care workers	<ul style="list-style-type: none"> Climate change and health impact of extreme weather events Disaster planning and response with community participation 	February-April

D. Strengthen Health Sector Preparedness

i. Early warning:

Dissemination of early warnings for Cold wave, Flood etc to health facility level and community level

ii. Surveillance:

- ▶ Post-disaster health impact assessment
- ▶ Support post-disaster surveillance of communicable disease, health facility affected conducted by SDMA, IDSP or other agencies

iii. Health Facility Preparedness

- ▶ Vulnerability assessment of health facility in context of climate change-extreme weather events
- ▶ Identify structural changes/retrofitting measures at the facility level to equip the healthcare facility
- ▶ Formalize disaster management plan and committee

- ▶ Emergency procurement arrangements & functioning of essential health services (safe water, immunization, maternal-child care etc)
- ▶ Post-disaster damage assessment and referral plan in case of health facility damage
- ▶ Ensure routine monitoring and maintenance of support functions (Water quality, waste management)
- ▶ Establish Sustainable procurement committee

E. Revision of Health Action Plan on Disaster-Related Health Issues in State Action Plan on Climate Change and Human Health (SAPCCHH)

The section should be revised every year after December with support from coordinating agencies based on updated surveillance data, its analysis with weather parameters, targets achieved, and predicted climate variability with support from multi-sectoral task force.

F. Roles & Responsibilities

	Responsibilities
SNO	<ul style="list-style-type: none"> • Disseminate early warnings to district level • Finalization of IEC material and dissemination Plan • Formalize intersectoral coordination for disaster planning, management and response with SDMA/IMD and other response departments • Organize training of district level officers • Facilitate assessment and implement of climate resilient measures in health facilities • Review implementation of IEC, training and surveillance activities at all levels • Evaluate and update relevant section of SAPCCHH with support from State Task Force • Create organizational support and strengthen Environmental Health cell to implement NPCCHH vision, Goal and Objectives • Organize sensitization workshops for other stakeholders and line departments • Collaborate with academic institute/s for support in updating SAPCCHH, Surveillance activity monitoring, training of health care professionals, vulnerability assessment and applied research • Submit reports of activities on EWE and health under NPCCHH
DNO	<ul style="list-style-type: none"> • Disseminate early warning to block and health facility level • Ensure IEC dissemination to community level and facilitate community level IEC activities • Organize training for block health officers and MO • Formalize inter sectoral coordination for disaster planning, management and response with SDMA/IMD and other response departments • Liaison with other departments for combined IEC campaigns, coordinated response and information sharing of health indicators for targeted action • Identification and communication of Evacuation routes & relief camps • Support planning and management of health care services in relief camps

	Responsibilities
	<ul style="list-style-type: none"> • Provide necessary IEC on health and sanitation in relief camps • • Training for block health officers, medical officers, with relevant training manuals • Conduct sensitization of vulnerable groups: police officers, outdoor works, women, children etc • Organize IEC campaigns at district level on observance of important environment-health days • Facilitate disaster vulnerability assessments in health facilities and maintain records of such assessment and health facility damage due to EWE • Update DAPCCHH with support from District Task Force • Submit reports of activities on EWE and health under NPCCHH
Block health officer	<ul style="list-style-type: none"> • Conduct community level IEC activities • Ensure training of medical officers • Organize sensitization workshop and training for vulnerable groups • Facilitate disaster vulnerability assessments in health facilities and maintain records of such assessment and health facility damage due to EWE
Medical officer	<ul style="list-style-type: none"> • Conduct health facility-based IEC activities • Support community level IEC activities • Preparation of Disaster Management Plans and hospital safety plan • Assessment of health facility in context of climate change-extreme weather events • Identifying structural changes/retrofitting measures at the facility level to equip the healthcare facility • Ensuring routine monitoring and maintenance of support functions (Water quality, waste management) • Health facility preparedness for seasonal events
Village Health Committees	<ul style="list-style-type: none"> • Conduct community level IEC activities • Community involvement in planning and demonstration of measure taken before-during-after an EWE

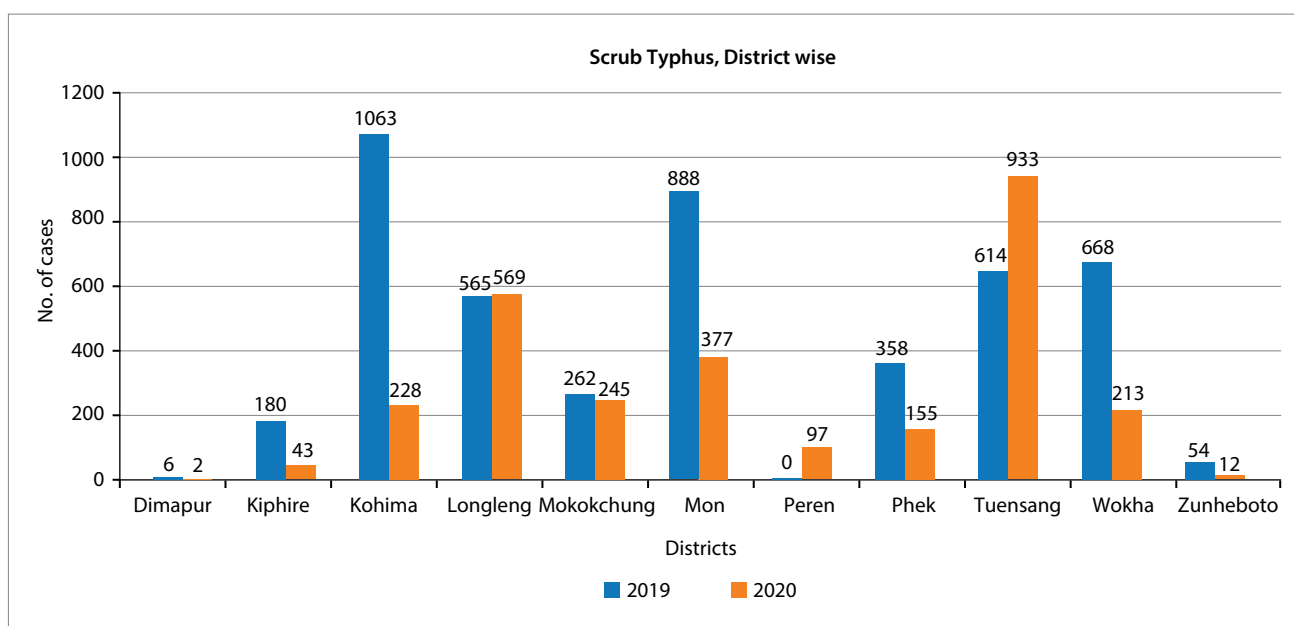
Health Action Plan on Vector-borne Illnesses in Context of Climate Change



A. VBD Situation in the State

The National Vector Borne Disease Control Program (NVBDCP) covers 6 vector borne diseases namely Malaria, JE, Dengue, Kala Azar, Chikungunya and Filariasis. Out of these, Malaria, JE, and Dengue are found in Nagaland. Malaria is endemic in all the 11 districts while JE is detected in 8 districts (Dimapur, Kohima, Peren, Mokokchung, Zunheboto, Longleng, Tuensang, Wokha), and Dengue in 1 district (Dimapur).

Of late, the State has been seeing an increased trend in Scrub Typhus infection. Table below shows the distribution of Scrub Typhus cases in Nagaland.



B. Information, Education Communication (IEC) Activities

i. Target Population

- Areas/hotspots identified in Part I, section V (above)
- Vulnerable groups: Primarily children, pregnant women, older adults, immuno compromised, outdoor workers/vendors)

ii. Annual IEC dissemination plan for Vector-borne diseases in context of climate change under NPCCHH, Nagaland

IEC type	Material	Timeline	Mechanism
Posters	<ul style="list-style-type: none"> Posters on VBD and climate change bit.ly/NPCCHHIEC May update posters made by state NVBD 	Pre- Monsoon Season	<ul style="list-style-type: none"> Collaborate with NVBDCP
Wall painting	Using available material	June-July Seasonally as needed	<ul style="list-style-type: none"> In schools and selected colleges In health facilities
Hoardings	Posters	June-July Seasonally as needed	<ul style="list-style-type: none"> To be planned with hotspot, Municipalities and District
Audio- Visual	<ul style="list-style-type: none"> Audio Jingle (Nagamese & English) Video messages (Nagamese & English) 	June-July Seasonally as needed	<ul style="list-style-type: none"> Plan according to PIP guidelines and in coordination with NVBDCP
Bus painting	Using available material	June-July Seasonally as needed	<ul style="list-style-type: none"> Collaborate With NSTC
Digital display	GIF & video messages	June-July Seasonally as needed	<ul style="list-style-type: none"> Display in health facilities Public digital display boards in major cities
Social media	All above material + Relevant activity updates	June-July Seasonally as needed	<ul style="list-style-type: none"> Facebook and Twitter handle of Official State NPCCHH, NHM WhatsApp groups (State DNO, Health facility group)

C. Observance of Important Environment – Health Days

Day	Activities on Heat-Health
<ul style="list-style-type: none"> World Malaria Day (April 25) World Mosquito Day (August 20) World Environmental Day (5th June) 	<p>IEC Campaigns</p> <ul style="list-style-type: none"> Audio-video spots broadcasting Targeted awareness sessions: traffic police, schools, women, children Street plays and local cultural activities, Rallies Sports events Competition: poster, poem/essay, quiz <p>Collaborate with NVBDCP</p>

D. Capacity Building Activities

i. Training Material

Training modules: (available bit.ly/NPCCHHguidelines shortly)

- State-District level training modules
- Medical officer training

- ▶ Para medical officers & Health care workers
- ▶ Community level training: vulnerable population group such as women/ children/ elderly/ different type occupations

Other training resources: NPCCHH channel <https://bit.ly/NPCCHHyt>

- ▶ Training on climate change and its impact on VBD burden

ii. State-Level/ District-Level Supporting Training institutes

State Institute of Health & Family Welfare

Training on Vector-borne diseases may be expanded to include other climate sensitive health issues specifically extreme weather events.

iii. Annual training plan for vector-borne diseases in context of climate change under NPCCHH, Nagaland

Training Programme for	Trainer	Topics	Timeline
District level (DNO-CC, trainers)	State Level Trainers SNO-CC, Consultant	<ul style="list-style-type: none"> • Role of climate change impact in VBD burden, prevention measures • Tracking of VBD and Integrating rainfall, humidity and temperature parameters with VBD surveillance • Post-disaster VBD surveillance, prevention, management 	July or after extreme weather events/natural disasters
Health facility level (MO of DH/CHC/PHC)	District Level Trainers DNO-CC	<ul style="list-style-type: none"> • Role of climate change impact in VBD burden, prevention measures • Strengthen surveillance reporting • Post-disaster VBD surveillance, prevention, management in community and at relief camps 	July-August or after extreme weather events/natural disasters
Community Health care workers (MPH, ASHA, ANM etc)	District Level Trainers, MO	<ul style="list-style-type: none"> • Role of climate change impact in VBD burden, prevention measures • Post-disaster VBD surveillance, prevention, management in community and at relief camps 	
Village Health Committees	District level trainers, MO, Health care workers	<ul style="list-style-type: none"> • Role of climate change impact in VBD burden, prevention measures 	

E. Strengthen Health Sector Preparedness

i. Integrate weather parameters with VBD surveillance under NVBDC at District level

- ▶ Monitor VBD with weather parameters
- ▶ Initiate surveillance based on predicted expansion of vectors to pick up emerging foci with support from State Programme Officers (SPO) and DVBO
- ▶ VBD prevention and control measures

- ▶ Planning of indoor residual spray, a month before peak of malaria cases based on historical data
- ▶ Management of new foci of transmission
- ▶ Epidemic preparedness especially after extreme weather events or natural disasters

F. Roles and responsibilities in implementation of VBD activities in context of climate change under NPCCHH, Nagaland

Department/Agency	Area of Collaboration	Specifics
NVBDCP Nagaland	Overall guidance and policy formulation	<ul style="list-style-type: none"> • Guide the state governments in resurgence and containment of any VBD
State Nodal Officer, Climate Change	To support the state govt. in control of VBDs particularly in climate sensitive states	<ul style="list-style-type: none"> • Oversee vector control measures • Oversee health sector preparedness • Oversee VBD surveillance, control in post disaster situations in community and relief camps • Train DNO, DMO • Sensitization workshops to increase awareness on climate change and its impact on VBD
India Meteorological Department	To provide meteorological data as and when required	<ul style="list-style-type: none"> • To help the state govt. in collaboration with any research institute, in analysis of relationship between climatic factors and a particular VBD so as to forewarn the impending outbreaks
State Programme Officer	Overall planning and execution of surveillance and intervention measures to control VBDs	<ul style="list-style-type: none"> • Supervise and guide the DMOs in control of VBDs • Organize training sessions for district level
State Entomologist	To provide guidance in vector control	<ul style="list-style-type: none"> • Generate data on fortnightly fluctuations in density of vector species so as to guide the state government in choosing appropriate time of IRS activities. • To generate data on susceptibility status of disease vectors focusing appropriate insecticide for IRS/ larvicide for vector control
Chief Medical Officer/ District Malaria Officer/ Disease Surveillance officer	Execution of task assigned by the SPO	Supervise and guide surveillance and intervention measures for control of VBDs in the district

G. Revision of Health Action Plan on VBD in State Action Plan on Climate Change and Human Health (SAPCCHH)

The section should be revised every year after December in collaboration with NVBDCP based on updated surveillance data, its analysis with weather parameter, prevention and control activities, targets achieved, and predicted climate variability with support from multi-sectoral task force.

CHAPTER 10

Action Plan for Green and Climate Resilient Health Care Facilities



A. Capacity Building Activities

i. Training Material

Guidelines: National Action Plan on Green and Climate-Resilient Health Care Facilities Training modules: (available bit.ly/NPCCHHguidelines shortly)

- ▶ State-District level training modules
- ▶ Medical officer training
- ▶ Para medical officers & Health care workers
- ▶ Community level training: vulnerable population group

Other training resources: NPCCHH channel <https://bit.ly/NPCCHHyt>

- ▶ Clinical Aspects of Heat-Related Illnesses
- ▶ Webinars on heat wave and its health impact
- ▶ HRI surveillance training

ii. State-Level/ District-Level Supporting Training institutes

State Institute of Health & Family Welfare

For State Institute of Health & Family Welfare Contact person designation: Contact detail

Training on green and climate-resilient health care facilities (GCRHCF) may be expanded to include other climate sensitive health issues specifically extreme weather events.

iii. Annual training plan for GCRHCF under NPCCHH, Nagaland

Training Programme for	Trainer	Topics	Timeline
District level (DNO-CC, trainers)	State Level Trainers SNO-CC, Consultant	<ul style="list-style-type: none">• Role GCRHCF in terms of climate impact• Assessments required for implementation• Coordination with supporting agencies	August-September
Health facility level (MO of DH/CHC/PHC)	District Level Trainers DNO-CC	<ul style="list-style-type: none">• Role GCRHCF in terms of climate impact• Assessments required for implementation• Coordination with supporting agencies	September

Training Programme for	Trainer	Topics	Timeline
Community Health care workers (MPH, ASHA, ANM etc.)	District Level Trainers, MO	<ul style="list-style-type: none"> Role GCRHCF in terms of climate impact 	September-October
Village Health Committees	District level trainers, MO, Health care workers	<ul style="list-style-type: none"> Role GCRHCF in terms of climate impact Assembling support for implementation 	Anytime

B. Strengthen Health Sector Preparedness

i. Implementation of Climate Resilient measures at health facilities

- ▶ New HCF should be built in compliance with Green & Climate Resilient Infrastructural features as of updated IPHS
- ▶ Existing HCF are recommended to undergo retrofitting to implement structural climate- resilient (i.e.to withstand disasters and provide continuous, quality care to the affected population post disaster) measures as per IPHS guidelines. Health facilities' vulnerability to prevalent climate change impact should be assessed to determine retrofitting the measures. For the retrofitting locally sourced and sustainable building designs and construction technologies should be considered to reduce energy requirements, carbon footprint, and cost-effectiveness.
- ▶ Extreme weather event specific measures (Refer: Guidelines on Green (Environmentally Sustainable) and Climate Resilient Health Care Facilities <https://bit.ly/NPCCHHPIP>)
 - Flood resilient measures
 - Cooling measures

ii. Implementation of Green (Environmentally-friendly and sustainable) considered in FY 2023-24 are as following

- ▶ Energy Auditing of the Healthcare Facilities for Energy Efficiency level in the HCFs
- ▶ Replacement of existing (non-LED) lighting with LED in Healthcare Facilities
- ▶ Installation of Solar Panels in Healthcare Facilities
- ▶ Install Rainwater Harvesting System in Healthcare Facilities

iii. Monitoring and evaluation of activities should be done in-line with targets set in PIP. Refer PIP Guidelines <https://bit.ly/NPCCHHPIP>

C. Roles & Responsibilities

	Responsibilities
SNO	<ul style="list-style-type: none"> Disseminate early warnings to district level Finalization of IEC material and dissemination Plan Organize training sessions for district level officers and trainers Identify health facilities for priority implementation based on disaster and health facility vulnerability Identify relevant state and district level nodal agencies and collaborate with them for assessment of health facilities for implementation of measures Facilitate and monitor necessary assessments at health facility level Facilitate implementation of structural and functional measures at health facility level Submit report of activities on heat-health under NPCCHH Advocate for reduction in source of greenhouse gas emission
DNO	<ul style="list-style-type: none"> Conduct training for block health officers, medical officers, with relevant training manuals Support conduction for following assessment at health facility level <ul style="list-style-type: none"> Energy audit Water audit Disaster Vulnerability assessment Support following functional measures at health facility level <ul style="list-style-type: none"> Water committee Sustainable procurement committee Operational measures to make health facility functioning during disasters or power cut Coordinate with other agencies for assessment and implementation of identified structural and functional measures Update DAPCCHH with support from District Task Force Submit report of activities on heat-health under NPCCHH
Block health officer	<ul style="list-style-type: none"> Ensure training of medical officers Organize VHC sensitization workshop Coordinate with other agencies for assessment and implementation of identified structural and functional measures
Medical officer	<ul style="list-style-type: none"> Conduct health facility assessment <ul style="list-style-type: none"> Energy audit Water audit Disaster-vulnerability assessment Lead following functional measures <ul style="list-style-type: none"> Water committee Sustainable procurement committee Operational measures to make health facility functioning during disasters or power cut Support community level IEC activities Identify local funding opportunities: e.g. CSR initiative, NGO funding
Village Health Committees	<ul style="list-style-type: none"> Support retrofitting and new health facilities with local funding source and community involvement

PART III

Budget

CHAPTER 11

Budget



Approved budget for implementation of NPCCHH activities during 2022-24, Nagaland

Sl. No.	Activities	Year 1 (in lakhs)	Year 2 (in lakhs)
1.	Capacity Building	13.50	14.17
2.	Other Operating Cost	07	6.50
3.	IEC & Printing	08	8.40
4.	Planning & M&E	13	13.34
5.	Surveillance, Research, Review, Evaluation (SRRE)	05	5.25

Note: Year 1 = FY 2022-23; Year 2 = FY 2023-24.

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7. Health NF. National Family Health Survey (NFHS-5) India 2019-21. Published online 2019
8. Heat Wave Vulnerability Mapping for India - PMC (nih.gov)
9. Assessment of climate change over the Indian region: A report of the Ministry of Earth Sciences (MoES), Government of India - India | ReliefWeb
10. Viral respiratory infections and air pollutants - PMC (nih.gov)

Annexures



Annexure 1: Contact Details of District Disaster Management Authority

List	Telephone	E-mail
Deputy Commissioner, Kohima	0370-2292209/2290355	ddmakma123@gmail.com/dckma-ngl@mail.nic.in
Deputy Commissioner, Dimapur	03862-248530 (Off)/237247 (R)248530	ddmadimapur@gmail.com/dcdmp-ngl@mail.nic.in
Deputy Commissioner, Mokokchung	0369-2225103 (Off)/2226163 (R)	ddmamkg123@gmail.com/dcmok-ngl@mail.nic.in
Deputy Commissioner, Wokha	03860-243103/242040	wokhaddma@gmail.com/dcwok-ngl@mail.nic.in
Deputy Commissioner, Phek	03865-223037	ddmaphek2019@gmail.com/dcphek-ngl@mail.nic.in
Deputy Commissioner, Longleng	03869-2236271	longlengddma@gmail.com/dclong-ngl@mail.nic.in
Deputy Commissioner, Tuensang	03861-220791 (Off)/220333	ddmatsg@gmail.com/dctsg-ngl@mail.nic.in
Deputy Commissioner, Mon	03869-251246	ddmamon123@gmail.com/dcmon-ngl@mail.nic.in
Deputy Commissioner, Zunheboto	03867-220325	zbto@gmail.com/dcznb-ngl@mail.nic.in
Deputy Commissioner, Peren	03862-267220	ddmapm11@gmail.com/dcperen-ngl@mail.nic.in
Deputy Commissioner, Kiphire	03863-225552	kiphireddma@gmail.com/dckip-ngl@mail.nic.in

Annexure 2: IEC and Advisories related to Disaster Preparedness and Mitigation


GOVERNMENT OF NAGALAND
 Directorate of Health & Family Welfare
DISASTER MANAGEMENT CELL


How to prepare for floods in urban areas?



Evacuate low lying areas if advised by authorities



Be alert to weather forecast, and warning messages or evacuation announcements





Place valuables on a raised platform in the house



Do not throw waste and plastic products in drains

Carry the following in waterproof bags while evacuating:

 Torch	 Dry foods	 Drinking water	 Dry clothes	 ID cards
 Important Medicines	 First-Aid Box	 Strong Ropes	 Chlorine Tablets	 Necessary Documents


GOVERNMENT OF NAGALAND
 Directorate of Health & Family Welfare
DISASTER MANAGEMENT CELL


What precautions do we take during floods in urban areas?



Evacuate low lying areas if advised by authorities



Disconnect and place electrical appliances off ground level





Keep an eye for gas leaks



Avoid smoking or using candles, lanterns, or open flames



Boil water before drinking or use chlorinated water



Avoid food that may have come in contact with floodwater



Avoid entering floodwaters or driving through flooded areas



Be alert to any open drain holes or flood channels, report them immediately to the authorities to avoid accidents

Continue to follow COVID Appropriate Behaviours (CAB) in evacuation centers

 Wear a mask	 Wash your hands	 Watch your distance
--	--	---



What are a few health tips after floods?

Risk of diseases, like water-borne (typhoid, fever and leptospirosis) and vector-borne (malaria, dengue) increases after floods

Follow these tips to stay safe:



Drink water from a safe source



Maintain hand hygiene before using stored water



Cook food well, and store it at a safe temperature



Dispose food waste properly



Wash hands before eating and after using the toilet



Prevent children from walking in floodwaters



Clean surroundings to avoid mosquito breeding



Use mosquito nets to prevent malaria and dengue



Dispose of perished food or those that may have come in contact with flood water



Consult a doctor in case of symptoms to prevent infection

Continue to follow COVID Appropriate Behaviours (CAB) in evacuation centers



Wear a mask



Wash your hands



Watch your distance



Emergency Preparedness Checklist

When disaster strikes, you may not have much time to act. Prepare now for a sudden emergency.

1. Prepare an emergency plan.
2. Follow reliable information, have an emergency bag ready during disaster warnings, and
3. Know about the help available.

Following checklist will help you to prepare. Discuss these ideas with your household members and plan in advance.

Plan in advance: Preparing for emergencies saves lives



MAKE A PLAN

- Find out which disasters could occur in your area.
- Learn how to prepare for each disaster. (For more info visit: ndma.gov.in)
- Find out how you would be warned of an emergency.
- Know evacuation routes, secure places in your neighbourhood/village.
(For more information contact Aapda Mitra in your district or request a community awareness session by State/National Disaster Response Force, email: hq.ndrf@nic.in)
- Meet with household members to prepare a household **Emergency Plan** (See table below)
- Discuss the dangers of fire, severe weather, earthquakes and other emergencies. Explain how to respond to each.
- Find the safe spots in your home for each type of disaster.
- Show family members how to turn off the water, gas and electricity main connections.
- Keep emergency telephone numbers near telephones.
- Teach children how and when to call immediately for police (100), fire (101), ambulance (102), National Emergency number (112) and other important contact numbers
- Know authentic sources (social media/application/TV-Radio stations) of weather updates and emergency information (For more info visit: mausam.imd.gov.in, ndma.gov.in)
- Develop an emergency communication plan. Separation from family members is a real possibility when disaster strikes, have a plan for getting back together.
- Decide one out-of-state and one local friend or relative or family members to call if separated during a disaster.
- Develop an **Escape Plan** for your household. (See table below)
- Decide two emergency meeting places
 - A place near your home in case of a fire.
 - A place outside your neighbourhood in case you cannot return home after a disaster.
- Discuss how to manage power outages, personal injuries. (For more info visit: dghs.gov.in)
- Learn basic first aid and CPR (For more info visit: ndma.gov.in)

Prepare Emergency Plan	Develop Escape Plan of your residence
<p>Keep following details handy for all household members</p> <ol style="list-style-type: none"> 1. Out-of-state contact 2. Local contact 3. Nearest relative 4. Emergency phone no 5. Family doctor 6. Meeting locations <ul style="list-style-type: none"> - near house & - in neighbourhood 	<ul style="list-style-type: none"> • Using a black/blue pen, show the location of doors, windows, steps, and large furniture. Indicate the location of emergency supplies (Emergency bag), fire extinguishers, smoke detectors, first aid kits and main utility connection. • Next, use a coloured pen to draw a broken line charting at least two escape routes from each room. • Mark a place outside home where household members should meet in case of fire. • Be sure to include important points outside such as parking lot, verandas, steps, elevators, driveways and entryways. • If your home has multiple floors, use additional paper to plan for each floor. • Practice emergency evacuation drills with all household members at least two times each year. <p style="text-align: right;"><i>For more info visit: redcross.org</i></p>

In Emergency call: Police-100, Fire-101, Ambulance-102, National Emergency-112



Emergency Checklist



If emergency/disaster warnings are issued

- Gather emergency supplies, including your prescription medicines, non-perishable food and water
- Store at least 5 litres of water per day for each person and each pet.
- Store at least 3-day supply of water and food. Utilities and water supply might be disrupted in case of severe weather.
- Keep foods that have a long storage life and require little or no cooking, water, or refrigeration. Avoid very salty or spicy food items.
- Meet the needs of babies, other family members regarding special diets.
- Keep mobile phone charged. Use SMS for emergency communications
- Collect **important documents** including Aadhar Card, Ration card and Voter ID card. Health/Vaccination records etc and store them in a waterproof bag/container
- Discuss what to do if authorities ask you to evacuate. Make arrangements for a place to stay with a friend/relative who lives out of town and/or learn about shelter locations.



BUILD A KIT

Prepare an emergency bag: Gather following items in a waterproof bag

- | | |
|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Drinking water (packed and sealed) <input type="checkbox"/> Dry, non-perishable food (e.g., biscuits) <input type="checkbox"/> Battery-operated torch. Extra batteries. <input type="checkbox"/> Candles and matches/lighter in a waterproof container <input type="checkbox"/> First aid box, essential medicines, face-mask, hand sanitizer <input type="checkbox"/> Prescription medicines <input type="checkbox"/> Chlorine tablets (to purify water) <input type="checkbox"/> Knife, scissors, whistle, duct tape, Paper and pencils, Battery operated radio <input type="checkbox"/> Mobile phone, charger, power bank <input type="checkbox"/> Emergency reference materials, (e.g. first-aid book/its photocopy) | <ul style="list-style-type: none"> <input type="checkbox"/> Emergency plan, local map, contact numbers, details of family members <input type="checkbox"/> Important documents, extra cash/valuables <input type="checkbox"/> Extra set of vehicle keys, house keys <input type="checkbox"/> [] e.g. glasses <input type="checkbox"/> [] Sanitary pads, wipes, toilet paper, paper towels <input type="checkbox"/> Thick ropes and cords <input type="checkbox"/> Weather-appropriate dry cloths including undergarments, blankets <input type="checkbox"/> Safe, protective footwear |
|--|---|



BE INFORMED

- Stay **informed** through your local radio or television or authentic social media or application for weather updates and emergency information.
- Keep a family member informed if you are caught in a disaster.
- Know national and local helplines.

Continuing Climate Change will likely lead to more frequent and severe natural hazards, and concurrent (natural, man-made) disasters.

Follow authentic sources of information.



Floods



Heatwave, Drought



Thunderstorm



Cyclone



Wild Fires



Landslide



Air pollution

In Emergency call: Police-100, Fire-101, Ambulance-102, National Emergency-112

Annexure 3: List of Solarization activities undertaken by Nagaland Health Project

List of District Hospitals, NHP Solar			
Sl. No.	Site Name	District	Statue
1	Wokha DH	Woka	Complete
2	Dimapur DH	Dimapur	Complete
3	Kiphire DH	Kiphire	Complete
3	Tuensang DH	Tuensang	Complete
4	Zunheboto DH	Zunheboto	Complete
5	Longleng DH	Longleng	Complete
6	Mon DH	Mon	Complete
7	Phek DH	Phek	Complete
9	Mokokchung DH	Mokokchung	Complete
10	Peren DH	Peren	Ongoing

List of CHC/PHC/SC, NHP Solar			
Sl. No.	Site Name	District	Status
1	Changtongya CHC	Mokokchung	Complete
2	Mangkolemba CHC	Mokokchung	Complete
3	Tuli CHC	Mokokchung	Complete
4	Alongkima PHC	Mokokchung	Complete
5	Chuchuyimlang PHC	Mokokchung	Complete
6	Merangkong PHC	Mokokchung	Complete
7	Longjang PHC	Mokokchung	Complete
8	Longchem PHC	Mokokchung	Complete
9	Mongsenyimti PHC	Mokokchung	Complete
10	Sabangya PHC	Mokokchung	Complete
11	Aliba SC	Mokokchung	Complete
12	Khar SC	Mokokchung	Complete
13	Jupu SC	Mokokchung	Complete
14	Dibuia SC	Mokokchung	Complete
15	Longpayimsen SC	Mokokchung	Complete
16	Longmisen SC	Mokokchung	Complete

List of CHC/PHC/SC, NHP Solar

Sl. No.	Site Name	District	Status
17	Fazl Ali College SC	Mokokchung	Complete
18	Marepkong SC	Mokokchung	Complete
19	Yaongmisen SC	Mokokchung	Complete
20	Unger SC	Mokokchung	Complete
21	Mopungchuket SC	Mokokchung	Complete
22	Sungratsu SC	Mokokchung	Complete
23	Khanimo SC	Mokokchung	Complete
24	Medziphema CHC	Dimapur	Complete
25	Dhansiripar CHC	Dimapur	Complete
26	Khuboto PHC	Dimapur	Complete
27	Niuland PHC	Dimapur	Complete
28	Singrijan PHC	Dimapur	Complete
29	Chumukedima PHC	Dimapur	Complete
30	Molvom PHC	Dimapur	Complete
31	Sahoi SC	Dimapur	Complete
32	Hukai SC	Dimapur	Complete
33	Pimla SC	Dimapur	Complete
34	Sovima SC	Dimapur	Complete
35	Pukhato SC	Dimapur	Complete
36	Tseminyu CHC	Kohima	Complete
37	Vishwema CHC	Kohima	Complete
38	Chiephobozou CHC	Kohima	Complete
39	Sechu PHC	Kohima	Complete
40	Tesophenyu PHC	Kohima	Complete
41	Mezoma PHC	Kohima	Complete
42	Chunlikha SC	Kohima	Complete
43	Botsa PHC	Kohima	Complete
44	Jakhama PHC	Kohima	Complete
45	Kezocha PHC	Kohima	Complete
46	Kimipfuphe PHC	Kohima	Complete
47	Khuzama SC	Kohima	Complete
48	Dihoma SC	Kohima	Complete

List of CHC/PHC/SC, NHP Solar

Sl. No.	Site Name	District	Status
49	Pfuchema SC	Kohima	Complete
50	Rusoma SC	Kohima	Complete
51	Kijumetuoma SC	Kohima	Complete
52	Phenshuny SC	Kohima	Complete
53	Rumensinyu SC	Kohima	Complete
54	Bhandari CHC	Wokha	Complete
55	Sanis CHC	Wokha	Complete
56	Chukitong PHC	Wokha	Complete
57	Sungro PHC	Wokha	Complete
58	Wozhuro PHC	Wokha	Complete
59	Akuk SC	Wokha	Complete
60	Changsu SC	Wokha	Complete
61	Chudi SC	Wokha	Complete
62	Chumpolong SC	Wokha	Complete
63	L Longidang SC	Wokha	Complete
64	Liphayan SC	Wokha	Complete
65	Longsa SC	Wokha	Complete
66	N Longidang SC	Wokha	Complete
67	Pongtitong SC	Wokha	Complete
68	Tongtongo SC	Wokha	Complete
69	Tsungiki SC	Wokha	Complete
70	Wokha Village SC	Wokha	Complete
71	Chozuba CHC	Phek	Complete
72	Meluri CHC	Phek	Complete
73	Pfutsero CHC	Phek	Complete
74	Rüzazho PHC	Phek	Complete
75	Chizami PHC	Phek	Complete
76	Phesachodu PHC	Phek	Complete
77	Wezihu PHC	Phek	Complete
78	Porba PHC	Phek	Complete
79	Zuketsa PHC	Phek	Complete
80	K.Basa SC	Phek	Complete

List of CHC/PHC/SC, NHP Solar

Sl. No.	Site Name	District	Status
81	Sekrezu SC	Phek	Complete
82	Thenyizumi SC	Phek	Complete
83	Zipu SC	Phek	Complete
84	Chesezu Nawe SC	Phek	Complete
85	Chozuba Village SC	Phek	Complete
86	Mesulumi SC	Phek	Complete
87	Pfutseromi SC	Phek	Complete
88	Zapami SC	Phek	Complete
89	Aghunato CHC	Zunheboto	Complete
90	Pughoboto CHC	Zunheboto	Complete
91	Akuluto PHC	Zunheboto	Complete
92	Atoizu PHC	Zunheboto	Complete
93	Ghatashi PHC	Zunheboto	Complete
94	Ighanumi PHC	Zunheboto	Complete
95	Satakha PHC	Zunheboto	Complete
96	Satoi PHC	Zunheboto	Complete
97	VK PHC	Zunheboto	Complete
98	Chisholimi SC	Zunheboto	Complete
99	Chishilimi SC	Zunheboto	Complete
100	Lazami SC	Zunheboto	Complete
101	Hoshepu SC	Zunheboto	Complete
102	Aghuito SC	Zunheboto	Complete
103	Akuhaito SC	Zunheboto	Complete
104	Yongyah PHC	Longleng	Complete
105	Tamlu PHC	Longleng	Complete
106	Yachem PHC	Longleng	Complete
107	Pongo SC	Longleng	Complete
108	Namching SC	Longleng	Complete
109	Tangha SC	Longleng	Complete
110	Sakshi SC	Longleng	Complete
111	Pungro CHC	Kiphire	Complete
112	Likhimro PHC	Kiphire	Complete

List of CHC/PHC/SC, NHP Solar

Sl. No.	Site Name	District	Status
113	Amahator PHC	Kiphire	Complete
114	Seyochung PHC	Kiphire	Complete
115	Anantongre SC	Kiphire	Complete
116	Phelungre SC	Kiphire	Complete
117	Longmatra SC	Kiphire	Complete
118	Jalukie CHC	Peren	Complete
119	Dungki PHC	Peren	Complete
120	Mhainamtsi SC	Peren	Complete
121	Samzuiram PHC	Peren	Complete
122	Ntuma PHC	Peren	Complete
123	Tening PHC	Peren	Ongoing
124	Bonkalong SC	Peren	Ongoing
125	Gaili SC	Peren	Complete
126	Noklak CHC	Tuensang	Ongoing
127	Longkhim CHC	Tuensang	Ongoing
128	Noksen PHC	Tuensang	Ongoing
129	Angangba PHC	Tuensang	Complete
130	Tsadanger PHC	Tuensang	Complete
131	Chessore PHC	Tuensang	Complete
132	Thonoknyu PHC	Tuensang	Complete
133	Kongsang SC (Yangpi)	Tuensang	Complete
134	Sangtak SC	Tuensang	Complete
135	Sangphur SC	Tuensang	Complete
136	Nokhu SC	Tuensang	Complete
137	Tsuwao SC	Tuensang	Complete
138	Peshu SC	Tuensang	Complete
139	Sanglao SC	Tuensang	Complete
140	Tonglongsore SC	Tuensang	Complete
141	Waphur SC	Tuensang	Complete
142	Chiphur SC	Tuensang	Complete
143	Sangsangnyu SC	Tuensang	Complete
144	Sotokur SC	Tuensang	Complete

List of CHC/PHC/SC, NHP Solar

Sl. No.	Site Name	District	Status
145	Aboi CHC	Mon	Ongoing
146	Tobu CHC	Mon	Ongoing
147	Tizit PHC	Mon	Ongoing
148	Oting PHC	Mon	Ongoing
149	Chen PHC	Mon	Ongoing
150	Naginimora PHC	Mon	Ongoing
151	Phomching PHC	Mon	Ongoing
152	Tang PHC	Mon	Ongoing
153	Shamnyu SC	Mon	Complete
154	Ukha SC	Mon	Complete
155	Yakshu SC	Mon	Complete
156	Chenmoho SC	Mon	Complete
157	Longching SC	Mon	Complete
158	Lapa SC	Mon	Complete
159	Tizit Village	Mon	Complete
160	Longwa SC	Mon	Complete
161	Sheangha Chingnyu SC	Mon	Complete
162	Sheangha Tangten SC	Mon	Complete
163	Mon Mission Centre SC	Mon	Complete
164	Monyakshu SC	Mon	Complete

Annexure 4: Notification for State and District Level Task Force for NPCCHH

**GOVERNMENT OF NAGALAND
HEALTH AND FAMILY WELFARE DEPARTMENT
NAGALAND: KOHIMA.**

HFW-28/B-43/SAPCCHH/2018(Pt) Dated Kohima the th May 2019

NOTIFICATION

In order to strengthen and expedite activities related to Climate Change-Health Sector, the Government of Nagaland is pleased to constitute the following as State Task Force for Climate Health Services:

- **Governing Body**

1. Principal Secretary, H & FW	: Chairman
2. MD (NHM)	: Member Secretary
3. Principal Director	: Member
4. Director (Health)	: Member
5. Director (Family Welfare)	: Member
6. Sr. Regional Director, MoHFW, Imphal, Manipur	: Member
- **Task Force**

Convenor	: Principal Secretary, H & FW
A) Health Sector	B) Non-Health Sector
1. Mission Director	1. State Pollution Control Board
2. Directors	2. State Disaster Management Authority
3. SPO, NCD	3. Secretary, Agriculture Department
4. SPO, NVBDCP	4. Secretary, PHE Department
5. SNO/SSO, IDSP	5. Secretary, Food & Civil Supplies Deptt.
6. Others	6. Secretary, Water Resources Deptt.
	7. Secretary, Land Resources Deptt.
	8. Secretary, AH & Vety. Services Deptt.
- **Environment Health Cell**

1. State Nodal Officer, IDSP	: Nodal Officer
2. Chairman, State Pollution Control Board	: Member
3. Chairman, State Disaster Management Authority	: Member
4. Secretary, Agriculture Department	: Member
5. Secretary, Water Resources	: Member
6. Secretary, Land Resources	: Member
7. State Surveillance Officer	: Member
8. Veterinary Consultant	: Member
- **District Level**

1. Deputy Commissioner	: Convenor
2. Chief Medical Officer	: Member
3. Medical Superintendent	: Member
4. Deputy CMO	: Member
5. District Surveillance Officer (NVBDCP)	: Member
6. Epidemiologist, IDSP	: Member
7. District Veterinary Officer	: Member

Sd/-
L. HIMATO ZHIMOMI
Principal Secretary to the Government of Nagaland
Dated Kohima the 22nd May 2019

HFW-28/B-43/SAPCCHH/2018(Pt) 4/19

Copy to:

1. The Commissioner & Secretary to the Governor, Raj Bhawan, Nagaland, Kohima.
2. The Principal Secy. to the Chief Minister, Nagaland, Kohima.
3. OSD to the Chief Secretary, Nagaland, Kohima.
4. The Sr. PS to Minister Health & Family Welfare, Nagaland, Kohima.
5. The Sr. Regional Director, Ministry of H&FW, GoI, Imphal, Manipur.
6. All concerned members / SNO, IDSP
7. Office copy.

(WEZOPE KENYE)
Additional Secretary to the Government of Nagaland

