



### Background

Bangladesh as a tropical country enjoys a moderate winter. However for last few years the country had experienced some severe cold waves that caused serious disruption to livelihood and distress to the affected people. In January 2010 northern and southwest parts of the country experienced a rapid fall in temperature with cold winds and dense fog resulting significant rise in respiratory illnesses, and in some cases deaths, while in January 2011 the Meteorological Department recorded the temperature as 2 to 5 degrees Celsius lower than the normal average temperature (about 10°C) during that time of the year.

Winter is characterized by very light northerly winds, mild temperature with mean temperature in the range of 18-22 C. Sometimes minimum temperature goes below 10°C and cold wave situation occurs. To define that Bangladesh Meteorological Department use different categories of cold wave such as- mild cold wave (when minimum temperature lies between 8-10°C), moderate cold wave (when minimum temperature lies 6-8°C) and severe cold wave (when minimum temperature goes below than 6°C) respectively.

The impact of Cold Waves is as notorious as other regular natural calamities of Bangladesh as far as the damage, distress and disruption as well as death toll is in concern. The impacts of cold wave in previous years are given below.

Table 1: Impacts of cold wave in last five years:

Year	District	No. of death	Impact	Source
2011	21 districts (Barisal, Barguna, Bhola, Chuadanga, Gaibandha, Ishwardi, Khulna, Kishoreganj, Kurigram, Kurigram, kustia, Manikganj, Nilphamari, Pabna, Panchagar, Pirojpur, Rangpur, Sirajganj, Satkhira, Sherpur and Thakurgaon)	39	<ul style="list-style-type: none"> <li>The dense fog creates disturbance in agricultural production a lot. The “BORO” rice is not at good condition. Other agro products such as vegetable, mustard, wheat etc. are also not in good situation for better production. In such circumstance farmers are advised to provide fungus annihilator in their crop land.</li> </ul>	BMD reports, The Daily Star, January 9, 2011 <a href="http://www.ifrc.org/docs/appeals/11/MDRBD008drefOU1">http://www.ifrc.org/docs/appeals/11/MDRBD008drefOU1</a>
2012	22 districts (Bogra, Dinajpur, Faridpur, Gaibandha, Jessore, Joypurhat, Kurigram, Lalmonirhat, Madaripur, Moulvibazar, Mymensing, Kushtia, Naogaon, Nawabganj, Nilphamary, Natore, Pabna, Panchagarh, Rangpur, Rajshahi, Sirajganj and Thakurgaon)	72	<ul style="list-style-type: none"> <li>The normal life and livelihoods of people have become severely disrupted by the cold wave, wherein the homeless and income groups like day laborers are worst sufferers including old aged, and children who are facing fatal problems due to the non-availability of warm clothes</li> <li>The overall health situation is deteriorating day by day. People specially children, old age and women are suffering from cholera, diarrhea and pneumonia.</li> <li>There has been a negative impact of the cold wave situation on poultry and cattle, and if this situation persists, then they might be attacked by disease.</li> </ul>	Annual Report, Disaster Response and Recovery, DDM, 2012

Year	District	No. of death	Impact	Source
2013	24 districts (Barisal, Bogra, Chandpur, Chittagong, Chuadanga, Comilla, Cox's Bazar, Dhaka, Dinajpur, Faridpur, Feni, Iswardi, Jessore, Khulna, Madaripur, Rajshahi, Rangamati, Rangpur, Shitakundu, Sylhet, Sreemangall, Sayedpur, Satkhira and Tangail)	80	<ul style="list-style-type: none"> <li>• Potato, Boro Paddy, Muster crops and different seed beds of Current period are affected</li> <li>• Day-laborers were unable to go to work; women in the poor families faced difficulties to do their household chores; children, women and elderly people suffered from respiratory illness, pneumonia,</li> <li>• Rota viral diarrhea and other cold related diseases</li> </ul>	National Report, Disaster Response and Recovery, DDM, 2013
2014	22 districts (Barisal, Chuadanga Comilla, Gaibandha, Gopalganj, Faridpur, Kurogram, Kushtia, Meherpur, Moulvibazar, Mymensingh, Madaripur, Natore, Pabna, Rangpur, Rangamati Rajshahi, Sitakundu, Sayedpur, Pirojpur, Srimangal and Tangail)		<ul style="list-style-type: none"> <li>• People were suffered from pneumonia, diarrhea, bronchitis, fever and other cold related diseases due to cold waves in many region of country. Children and the elderly was major victim of cold related disease.</li> <li>• During January, the cold wave claimed 11 lives died being children and the elderly.</li> <li>• Day laborers were unable to go to work. Women in the poor families faced difficulties to do their household chores.</li> <li>• The cold weather also disrupted communications via roads, rivers and air</li> </ul>	The Ittefaq, January 9, 2014 The Janakantha, January 11, The Prothom Alo, January 16, 2014
2015	13 districts (Chuadanga, Dhaka, Jibannagar, Kishoreganj Kurigram, Rajshahi, Naogaon, Pabna, Gaibandha, Sayedpur, Sylhet, Sirajganj and Thakurgaon)	75	<ul style="list-style-type: none"> <li>• The cold weather also disrupted communications via roads, rivers and air. Three flights of Novo Airways were delayed by about 30 to 40 minutes to reach Chittagong from Dhaka. Ferry service on Mawa-Kawrakandi routes suspended around 10 hours</li> <li>• Boro (winter rice variety) seedbeds in many areas of the district were damaged under the impact of cold wave marked by foggy weather and lack of sunlight. The cold wave also caused damages to winter vegetables.</li> <li>• Rice mills were closed due to low temperature</li> </ul>	BMD reports, The Daily Star, January, 21, 2015, The Janakanta Newspaper, January, 19, 2015

## The Current Cold wave Situation

Bangladesh is currently experiencing a fall in temperature with cold wind and dense fog. According to Bangladesh Meteorological Department (BMD) the temperature will continue to fall throughout December 2016. It's three month forecast of cold wave situation for the period of December 2016 to February 2017 are as follows:

Table 2: Three month's (December 2016- February 2017) cold wave forecast by BMD:

Month	Cold Wave and predicted temperature	Direction of cold wave
<b>December, 2016</b>	One or two mild (08°C - 10°C) or moderate (06°C - 08°C) cold waves	Sweep across the northern, northeastern and central parts of the country
<b>January, 2017</b>	One or two moderate (06°C - 08°C) or severe (04°C - 06°C) cold waves	Northern, northeastern and central parts of the country
<b>February, 2017</b>	One mild (08°C - 10°C) or moderate (06°C - 08°C) cold waves	Northern and central parts of the country



## Recommendations

A huge portion of the population of the country is living under poverty line not having adequate capacity to cope with extreme weather events such as severe cold waves. Elderly and children tend to suffer more from pneumonia, diarrhea, asthma and other cold related diseases due to cold waves. Due to dense fog transport systems and ferry services are often cease to function. To sustain such calamities people at the affected areas need external support and aids from the government and other humanitarian agencies prior to the event. Therefore some prior arrangement should be made and preparatory measures should be taken by the respective agencies to protect the affected peoples. Some of the preparatory measures are-

- Special care for aged people mainly the patients of asthma.
- Special care for children under five years.
- Improvement of inhaler facilities at rural medical of effected area.
- Necessary anti-biotic and anti-cold/asthmatic medicine should be reached in effected area at short time.
- Blanket to protect cold.
- As emergency relief is not effective after cold waves, prior preparation for emergency response is necessary.