PRE-DISASTER SECONDARY DATA

Date of Publication: **March 2014**

Prepared by: **The JNA Consolidation Project, Bangladesh (supported by ACAPS)**

Nature of disaster: **Cold Wave**

Note about this document: This document was a study undertaken in Bangladesh with the support of government departments, NGOs and UN agencies. This is a living document and should be updated on a regular basis, after the publication of new national data sources and as more information becomes available. Any feedback on the document should be made to ACAPS at info@acaps.org.

Word versions of this document are available from ACAPS.

BANGLADESH COLD WAVE-AFFECTED AREAS

- Bangladesh's northern region is usually hit by cold temperatures accompanied by cold-related diseases every year. The homeless, older people, and infants are the most affected (BDNnews24 2014).
- A moderate cold wave for Bangladesh is generally when the temperature drops to between 6 - 8^0 Celsius. During an extreme cold wave, it stays between 4 - 6^0 Celsius
- Bangladesh, which is a tropical country, normally sees temperatures fall to around 10 degrees Celsius during January (ABC 2013).
- In January 2011, a mild cold wave occurred in the regions of Srimangal, Rajshahi, Pabna, Dinajpur, Jessore and Kushtia districts. The people in Rangpur, Panchagar, Thakurgaon, Dinazpur, Kurigram, Lalmonirhat, Nilphamari, and Gaibandha districts were badly exposed to the cold wave (IFRC 2011).
- Rangpur District in the very north of Bangladesh, was among the districts hardest hit during the winter of 2002/2003 (BBC 2002/12).
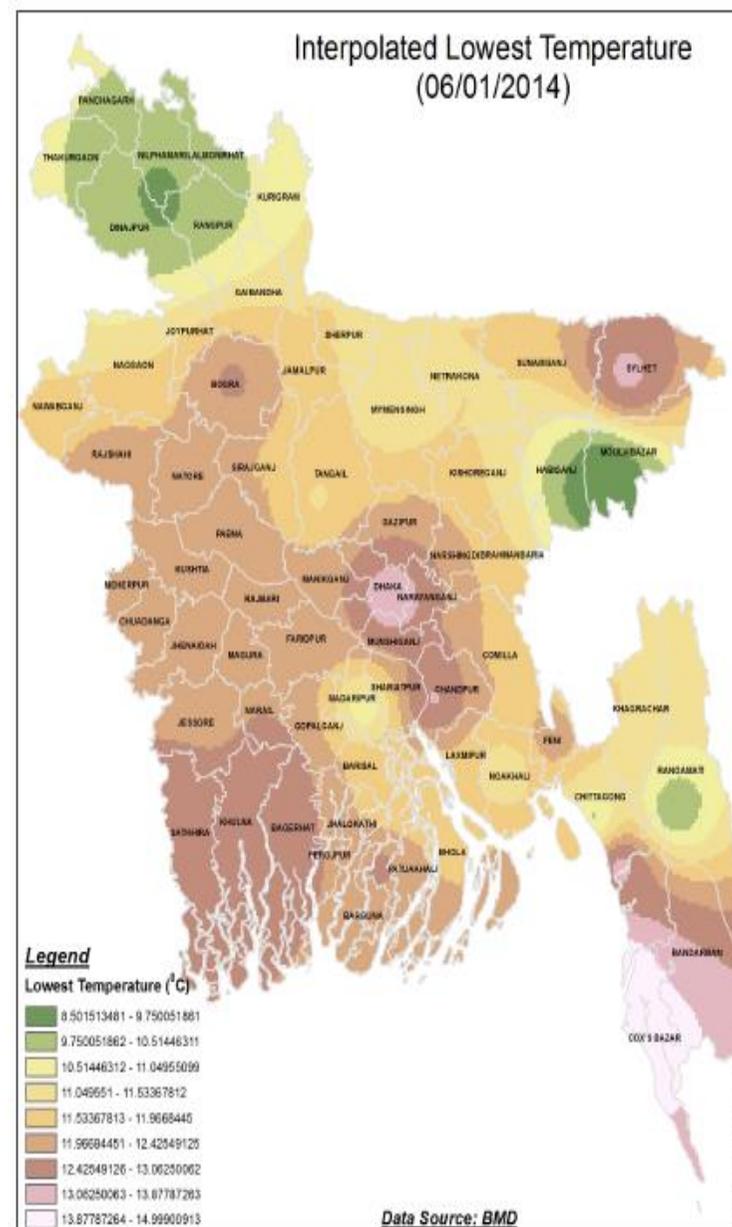

Figure 1: Source: DMIC

26 December, 2013

Cold Wave Situation

Legend

Cold Wave Affected District

Response

G — Govt of Bangladesh

D — Dutch-Bangla Bank

00000 — Total Allocation of Blanket

Figure 2: Source: (DDM 2013)

2013/2014

- A cold wave was identified on 1st January, 2014 over the regions of Sayedpur, Srimangal, and Rangamati (DMIC 2014).
- A moderate cold wave occurred over the regions of Sitakunda, Srimongal, Rajshahi, Pabna, Jessore and Chuadanga, while a mild cold wave affectied Rangpur and Barisal divisions and the regions of Tangail, Faridpur, Madaripur, Rangamati Hatiya and Satkhira (Bangladesh Today 2014).

2012/2013

- During winter of 2012/2013, a cold wave affected more than two million households. A total of almost 50 million BDT (over 600,000 USD) in cash grants were distributed by the GoB during the cold-wave, starting in December. Around 730,000 blankets in cold wave vulnerable districts of all seven divisions were distributed, of which 58,700 were supported from UN agencies (OCHA 20131).
- The northern town of Syedpur recorded temperatures of 3^0 Celsius in January 2013, the lowest in the last 45 years of recorded history (ABC 2013), (DoDM, MoDMR, UNDP, 2013).
- In January 2013, the temperature reached levels just above freezing: on January 9th in Dinajpur the temperature reached a low of 3.2^0 Celsius, while in Dhaka, the temperature went down to 7.2^0 Celsius (ERDO 2014).

2010/2011

- A mild cold wave affected Bangladesh at the beginning of January 2011. The wind blowing from the Himalayas intensified the cold in the north, especially in the northern and western districts, with cold winds and severe fog prevailing across many affected districts. The minimum temperature at Rajshahi district on 10 January was 5^0 Celsius, in Jessore district 8^0 Celsius, Chuadanga district 7^0 Celsius,

and in Dinajpur district 6.7^0. In Rajshahi, this is the lowest recorded temperature since 2003 (IFRC 2011).

- The cold wave caused suffering to the poor and to homeless people living without shelter. Poverty, poor dwellings, seasonal unemployment, winter crop failure due to cold and geographical location as the areas are in the foothills of the Himalayas increased the vulnerability of affected populations (IFRC 2011).
- Winter temperatures in 2010/2011 were (IFRC 2011):

Name of the District	Lowest Temperature(in degree Celsius)
Rajshahi	5
Tetulia	Between 4 to 5
Dinajpur	6.3
Panchagarh	6.09
Rangpur	10
Chuadanga	7.2
Pabna	7.6

Source: (DMIC 2014).

2009/2010

- During the second week of January 2010, some parts of the country saw temperatures as low as 7.7°C (IFRC 2010).
- December 2009, the northern and south western part of Bangladesh experienced a severe cold wave which lasted up to end of January 2010. The cold wave combined with dense fog had an adverse impact on the agriculture and fisheries sector as well as on people's health and their way of living. Poor people in the north suffered most during the cold wave (IFRC 2010).

PRIOR TO 2009

- In the winter of **2002/2003**, Bangladesh was hit by a cold wave during which roughly 100 people died. Many deaths have been of older persons and person who were already ill before the cold wave started (BBC 2002).
- February **1968** saw temperatures as low at 3C, when Bangladesh was still part of Pakistan (ABC 2013).

IMPACT OF THE COLD WAVE - HEALTH

MORBIDITY/MORTALITY

- Academic research in Bangladesh has shown that (from 1994-2002), every 1°C decrease in mean temperature was associated with a 3.2% increase in all-cause mortality. The cold effect was seen to be especially strong in children, especially for infants < one year with deaths due to perinatal causes increasing sharply with low temperatures (Nagasaki/OUP 2009/12).
- Cold waves create respiratory problems, especially for children and older persons (FPD-BD 2013/04).

2013/2014

- By December 2013, at least 15 children had died that winter season as a result of cold weather in the northern districts of Bangladesh (Radio Vatican 2013).
- In December 2013, the hospital director of Rangpur noted over 100 hospitalisations of children <2 years of age with pneumonia, due to cold weather. Another 50 children were admitted to the Kurigram Sadar Hospital, plus an additional 141 admitted because of complications due to cold with another 800 being cared for in the day hospital (Radio Vatican 2013).

2012/2013

- By mid-January 2013, 80 people had died as a result of the cold wave (ABC 2013).
- The cold temperatures in January 2013 claimed more than 72 lives. Most of these deaths were children who suffered from hypothermia (ERDO 2014).

- In early 2013, the Red Crescent said that hospitals were packed with patients suffering from respiratory illnesses. Reports from district offices and local administrations highlighted health concerns from cold-related diseases, including respiratory problems, pneumonia and cough (ABC 2013).
- Older people and children tend to suffer more from pneumonia, diarrhoea, asthma and other cold related diseases due to cold temperatures (NIRAPAD 2012).

2010/2011

- The cold wave had claimed more than 30 lives, most of whom are children and the elderly, by mid-January 2011 (NIRAPAD 2012).
- Hospitals in the affected districts reported high numbers of admissions with cold weather related illness (IFRC 2011).
- According to a networking NGO report, the death toll reached 45 nationally, with over 60% of deaths recorded in Rangpur division. Women, older people, children, and persons with disability were prioritised for assistance (IFRC 2011).

2009/2010

- In 2010, 135 people died in the cold wave (IFRC 2010).
- The impact of the cold wave resulted in a significant rise in respiratory illnesses, and in some cases, death among the elderly and the children (IFRC 2010).
- Hospitals in the affected districts reported higher numbers of admissions than usual with cold related illnesses (IFRC 2010).

PRIOR TO 2009

Many Bangladeshis are ill-prepared for sudden periods of cold weather, and lack adequate shelter. Most of the **2002/2003** cold wave casualties either lived either in shanty towns or were homeless (BBC 2002).

IMPACT OF THE COLD WAVE - LIVELIHOODS

- At the end of February 2014, day farm-labourers in Rangpur were cited as being hardly able to work and earn livelihoods because of biting cold, dense fogs, clouds, and mists in the air (Bangladesh Today 2014).

- The severity of the cold in late January 2014 forced thousands to stay indoors affecting business, office and normal activities throughout the day as the sun remained covered behind dense fogs, mists and clouds amid blowing stronger cooler winds (OneWorld 2014).
- The January 2013 cold wave resulted in people being unable to work (ABC 2013).
- The 2010/211 cold wave caused crop and other natural resource loss, which had a longer term negative impact on the national economy (IFRC 2011).
- Low income groups are severely affected (in terms of health and livelihoods) due to the cold weather conditions (DoDM, MoDMR, UNDP, 2013).
- The cold spells have significant impacts on crop agriculture and consequently on poverty and economic growth (FPD-BD 2013).
- In drought prone areas, an estimated 30% of seedlings of Boro may be affected due to cold waves (FPD-BD 2013).
- Cold waves and fogginess adversely affect fisheries. Cold wave affects breeding performance and growth of fish species which reduces fish production. Fogginess causes fish mortality in aqua-culture pond and small water bodies due to depletion of dissolved oxygen (FPD-BD 2013).

RESPONSE TO THE COLD WAVE – COORDINATION

- The response to the cold wave is led by the Department of Disaster Management, with the support of the Early Recovery Cluster.
- A contingency plan is undertaken on annual basis to ensure that there are adequate blankets in the pipeline and to understand who will be able to distribute where.
- Organizations with a presence in cold prone areas also have their own cold wave contingency plans and these may not be coordinated with other stakeholders. In addition private sector actors respond significantly to the cold wave and these may also be missed out from coordination structures.

RESPONSE TO THE COLD WAVE - NEEDS

BLANKETS

- For those living in poverty, the ability to stay warm is limited to huddling around fires. Blankets are critically needed (ERDO 2014).
- The GoB response to cold wave in **2014** has focused on distribution of almost 300,000 blankets (DMIC 2014):

GoB 2014 Blanket Distribution	
Dhaka	67,708
Rajshahi	48,065
Rangpur	43,355
Khulna	31,127
Chittagong	46,156
Sylhet	16,289
Barisol	18,951

- The **2012/2013** GoB response included a total of over 700,000 (GOB 313,608 and other contributors 410,354) blankets distributed. In addition, BDT 51 million was allocated from the MoDMR to the districts for blankets (DoDM, MoDMR, UNDP, 2013).
- In **2012/2013**, cold wave gap analysis (DDM supported by UNDP ERF) show more than 1.5 million households needed assistance (defined as blankets/warm clothes) to minimize their suffering (DoDM, MoDMR, UNDP, 2013).
- As of 11 February **2010**, the distribution of packages of warm clothing to 10,000 families by IFRC in the ten affected districts had been successfully completed. The three major items in the relief package are blankets, shawls, and woollen caps (IFRC 2010).

LIVELIHOODS

- The 2013 GoB response included 22,675 metric ton of rice allocated to the affected districts (DoDM, MoDMR, UNDP, 2013).
- In winter 2013, Rajshahi, Rangpur, Bogra, Dinajpur, Chuadanga and Jessore district temperatures were far lower than the normal minimum temperature range for the winter season (BMD). Due to extreme cold in northern part, the normal growth of all crops, particularly boro seedlings were affected, potentially impacting the boro harvest (DoDM, MoDMR, UNDP, 2013).
- The 2013 GoB response included 22,675 metric ton of rice allocated to the affected districts (DoDM, MoDMR, UNDP, 2013).
- Due to dense fog transport systems and ferry services are often cease to function (NIRAPAD 2012).

LESSONS LEARNED

- A huge portion of Bangladeshis live under the poverty line and thus have inadequate capacity to withstand extreme weather events such as severe cold waves, causing cause serious damage, disruption and distress (NIRAPAD 2012).
- The impact of cold wave is more difficult to measure than the impact of other events such as floods or cyclones (DoDM, MoDMR, UNDP, 2013).
- There is an overall lack of coping capacity due to poverty and lack of preparedness (DoDM, MoDMR, UNDP, 2013).
- In 2013, the GoB blanket allocation reached beneficiaries slightly earlier than in the past years due to better preparedness and prepositioning of stocks (DoDM, MoDMR, UNDP, 2013).
- This 2013 response included substantial assistance from other organizations (UN Agencies, RCRC, I/NGOs, Private sector) – 57% (DoDM, MoDMR, UNDP, 2013).
- People in the cold-prone areas need external support from the government and other humanitarian agencies prior to the cold weather setting in to be ready for it and avoid negative affected and negative coping strategies. . Therefore, prior arrangement should be made and preparatory measures should be taken by the respective agencies to protect the affected people; (NIRAPAD 2012):
  o Special care is required for older people, especially asthmatics
  o Special care is required for children <5
  o Improvement of inhaler facilities and supplies of antibiotics anti-cold/asthmatic medicines at rural medical centres in previously impacted areas should be available at the start of the cold season.
  o Blankets should continue to be stockpiled and made available in cold wave prone areas to reduce any lead time when they are required.

- Better targeting of beneficiaries (through prior agreed beneficiary selection criteria) and improved coordination and documentation of cold wave assistance were lessons learned from the 2013 cold wave response (DoDM, MoDMR, UNDP, 2013).
- IFRC challenges to cold wave response in 2010 noted that (IFRC 2010):
  - Many of the most vulnerable people affected by the cold wave live in extremely remote areas of Bangladesh making the logistics of reaching them difficult.
  - The governance in branches closest to the affected communities was newly elected and had little experience in responding to disasters, causing delays in distribution with some beneficiaries forced to wait hours before receiving relief items.
- There is also a need to look beyond responding in the same way every year to the cold weather with blankets. While needs must clearly be addressed, a greater understanding of the reasons behind the severity of the impact of the cold weather which includes poverty, housing design and construction and other underlying vulnerabilities should help to inform a response that is sustainable and has longer term benefits in increasing resilience to the cold weather.

KEY INFORMATION GAPS

- Lack of disaggregated data on numbers and locations of cold wave affected populations.
- Lack of information regarding contribution of the private sector and non-formal charity sector to blanket distribution
- Lack of data comparing "regular" winters with cold wave periods.