

Briefing Note – 07 January 2015

# Sri Lanka: Floods



|  |               |                 |                      |             |        |
|--|---------------|-----------------|----------------------|-------------|--------|
| <b>Need for international assistance</b> | Not required  | Low<br><b>X</b> | Moderate             | Significant | Urgent |
| <b>Expected impact</b>                   | Insignificant | Minor           | Moderate<br><b>X</b> | Significant | Major  |

## Crisis Overview

- Severe flooding and landslides started on 19 December, caused by heavy rains and high winds and affecting 22 out of 25 districts. Central, North Central, Uva, and Eastern provinces are worst affected. As the rains abated by end of December, waters have begun receding and displaced people have begun returning to their homes.
- On 5 January, OCHA reported 1.1 million people affected and 30,000 people hosted in 230 evacuation centres. However, according to the Sri Lankan Disaster Management Centre (DMC), fewer than 100,000 people were affected as of 6 January and 5,700 were in evacuation centres. Differences in numbers might be related diverging definitions of affected people.
- According to the Government, 660 houses have been completely destroyed and over 3,500 houses have been partially damaged. OCHA reports 18,500 houses partially damaged and 6,400 houses destroyed.
- 3,000 hectares of farmland have been severely damaged as of 7 January; and 25,000 hectares have been partially damaged.

## Key Findings

### Anticipated scope and scale

The floods had a high initial impact, affecting a high number of people with pre-existing vulnerabilities caused by previous disasters, particularly the drought of 2014. Although the Global Disaster Alert and Coordination System (GDACS) issued a red alert on 20 December 2014, the rapid decrease reported in the numbers of people affected and displaced suggests a fast normalisation of the situation.

### Priorities for humanitarian intervention

- WASH: provision of clean water, and rehabilitation of water sources. Latrines and waste disposal may be an issue, especially in temporary shelters, as well as vector control.
- Non-food items
- Food distribution

### Humanitarian constraints

- Affected areas are generally accessible
- Several major roads were flooded

## Crisis Impact

- Heavy rains began on 15 December, triggering severe floods and landslides from 19 December, affecting 22 out of 25 districts in the country (ECHO 30/12/2014). On 5 January, OCHA reported 1.1 million people affected and 30,000 people hosted in 230 evacuation centres (OCHA 05/01/2014). The Sri Lankan Disaster Management Centre (DMC) reported that less than 100,000 people affected as of 6 January, with 5,700 staying in evacuation centres (DMC 06/01/2015). 18,700 people are affected in Central province, almost 70,000 in North Central, and 6,100 in Uva (DMC 06/01/2015). Rains began to abate around the end of December, and the flooding situation started gradually to normalise and people began returning home (OCHA 05/01/2014).
- At the peak of disaster, the majority of the 1.1 million people affected (930,000), were located in Eastern province, where inundations lasted five days and Batticaloa, Ampara, and Trincomalee districts were worst affected (ECHO 02/01/2015, DMC PI 07/01/2015). 120,000 people were displaced into 618 safety centres (OCHA 29/12/2014). Others found shelter with friends and families; official numbers for these are not available.
- As of 7 January, 73 major water reservoirs had filled again to 93% of their capacity (Department of Irrigation 07/01/2015). Many of the major reservoirs are located in Central and North Central provinces. On 21 December, the Government opened sluice gates in the affected provinces, as hundreds of reservoirs (300 in Anuradhapura district alone) had exceeded danger levels (ECHO, 22/12/2014). The opening of the sluice gates has aggravated the inundation (local media, 20/12/2014). The overflowing of reservoirs has also compounded the impact of flooding (DMC PI 07/01/2015).
- The Global Disaster Alert and Coordination System (GDACS) issued a red alert on 20 December 2014, classifying the floods as an extreme event with an estimated recurrence interval greater than 100 years (GDACS 06/01/2015).

### Protection

39 people have been killed, 15 injured, and two people are missing (Government 06/01/2014). Four people drowned in flooding triggered when authorities opened the sluice gates at a number of reservoirs to reduce pressure on their dams (AFP 26/12/2014).

### Food Security

People displaced by the disaster are in need of emergency food assistance (OCHA/DMC 29/12/2014). Limited food availability for displaced people hosted in shelters has been recorded (Al Jazeera 28/12/2014).

Countrywide, 3,000 hectares of farmland have been severely damaged as of 7 January and 25,000 hectares have been partially damaged (Department of Irrigation 07/01/2015). The destroyed paddy lands are mainly in Polonnaruwa, Anuradhapura, and Batticaloa districts, Eastern province (local media 02/01/2015). As of 25 December, the spillover from 53 major water tanks had flooded agricultural land, including more than 10,000 hectares of paddy (rice) cultivated areas in the North Central province. The communities living in these areas had already been seriously impacted by prolonged dry conditions (Sri Lanka Red Cross Society 25/12/2014).

The floods hit just after the main planting season for rice and maize had finished (HEWS 06/01/2015). The tea and rubber sectors have also been affected by adverse weather in December (CARITAS 30/12/2014), as has vegetable production. Prices have increased significantly, further contributing to the hardships of the most vulnerable in the country (Sri Lanka Red Cross Society 25/12/2014 local media 07/01/2015).

### WASH

- Water purification tablets are needed (OCHA 15/12/20014).
- Inadequate hygiene conditions in shelters have been recorded and residents have reported scarce drinking water (Al Jazeera 28/12/2014).
- In low-lying areas, there have been reports of sewage seeping into groundwater (CARITAS 30/12/2014). In the worst-affected areas, there was no centralised sewage system in place prior to the floods (DMC PI 07/01/2015), making it harder to assess sewage contamination.

### Shelter and NFIs

According to the Government, 660 houses have been fully damaged and over 3,500 houses have been partially damaged (Government 06/01/2014). OCHA reports an estimated 18,500 houses partially damaged and 6,400 houses fully destroyed (OCHA 05/01/2015).

It has been reported that crucial NFIs are not available for purchase in affected areas, and shortages of sleeping mats, bedsheets, and mosquito nets have been reported (Floodlist 23/12/2014).

### Health

Contaminated and stagnant waters increase the risks of diseases and outbreaks. Displaced people were in need of ad hoc provision of medical services.

## Education

An unspecified number of schools hosting displaced people have been reported affected by the floods and thus provide insufficient protection against adverse weather conditions (CARITAS 30/12/2014).

## Impact on Infrastructure

There have been reports of tank walls destroyed or at risk of bursting by the flooding (Government 30/12/2014). According to the National Building Research Organization, the damage to infrastructure due to landslides has yet to be evaluated (NBRO 30/12/2014). Similarly, the impact of the floods on critical infrastructure has yet to be evaluated, though several damaged bridges, hospitals and schools have already been recorded (DMC PI 07/01/2015).

There are reports from 20 December of railway services being hampered due to flooding, and completely submerged at several locations (Gulf Times, 21/12/2014).

## Vulnerable Groups Affected

Female-headed households; pregnant women; children; older people; people with disabilities; and small-scale farmers.

## Humanitarian and Operational Constraints

- Affected areas are generally accessible.
- Roads have been flooded and road conditions have deteriorated in some parts. Major roads in the worst-affected areas have been affected: the Puttalam–Chillaw road has been obstructed. Additionally, the Manampitiya area along the Polonnaruwa–Batticaloa road has been inundated and transport along the Somawathiya–Sungawila road is hampered. The Disaster Management Centre states that the Trincomalee–Batticaloa Road and the Puttalam–Mannar Road are also obstructed by floods (local media 28/12/2014).

## Aggravating Factors

### Weather/Altitude

The northeastern monsoon season runs from December to March, whereas the southwestern season lasts from May to October (HWES, 06/01/2015). At the time of publication, there were no severe weather warnings issued for the affected areas.

Over 7–8 January, several spells of showers are forecast in the Eastern and Uva provinces and in the Hambantota district. Showers or thundershowers will develop at

several places in the Western, Sabaragamuwa and Central provinces and in Galle and Matara districts (Department of Meteorology 06/01/2015).

## Population Density

Sri Lanka has a national population density of 323 per square km. The Eastern province has a population density of 166 per square km, North Central 129/skm, Central 459/skm, Uva/skm. 18.3% of total Sri Lankan population is urbanised (Government 2012).

## Location and Type of Housing/Infrastructure

81% of the national population live in permanent structures, with 17% in semi-permanent and 1% in improvised. The majority of affected regions have over 90% of the living in single storied-single housed domiciles (Government 2012).

## Election-related Political Stability and Security

Presidential elections will be held on 8 January 2015. There has been a surge in violence during the campaigning period, including dozens of cases of assault, intimidation or damage to property (Amnesty 06/01/2015). There have also been accusations that the incumbent government has used the military to prevent voters, particularly ethnic minority Tamils, from voting in the North and East (AFP 01/01/2015).

## Other Factors of Vulnerability

- Heavy rains in October caused flooding in Matara district, Southern province, and landslides on 29 October in Meeriyabadda Estate, Haldummulla division, Badulla district, which killed 37 and left 22 missing (OCHA 17/11/2014). 4,970 people remained in evacuation centres prior to the December flooding (Government 20/12/2014).
- The delayed December 2013–February 2014 northeast monsoon resulted in a drought which affected more than 1.2 million people across 13 districts in six provinces, including 900,000 people in the Northern and Eastern provinces (Inter Press Service 29/09/2014; Government 21/10/2014).

## Key Characteristics of Host Population and Area

- **Demographic profile:** The total population is 20,271,464. 18.3% is urbanised.
- **Gender and age distribution of population:**
  - 0–14 years: 24.7% (male 2,758,360/female 2,648,073)
  - 15–24 years: 14.9% (male 1,651,901/female 1,606,465)
  - 25–54 years: 42.1% (male 4,504,395/female 4,708,288)
  - 55–64 years: 9.5% (male 966,295/female 1,117,310)
  - 65 years and over: 8.7% (male 812,669/female 1,092,689)

- **Food:** 770,000 drought-affected people are food insecure, according to WFP.
- **Health:** Sri Lanka has an infant mortality rate of 1 per 1,000 live births, an under-five mortality rate of 10 per 1,000 live births, and a maternal mortality rate of 39.3 per 100,000 live births.
- **WASH:** 95.6% of population with access to improved toilets and 92.6% of population have access to an improved source of drinking water.
- **Lighting and cooking:** 78.2% of the population use solid fuels for cooking and 87% of population get electricity from the national grid.
- **Nutrition:** GAM is 15%, as of 2012.
- **Literacy:** 95.6% of the population is literate.
- **Poverty:** Eastern Province has the highest % of poor households (12.4%) compared to a national average of 7.0%.

Main sources - (CIA 07/01/2015), (Government 2012), (UNICEF 07/01/2015), (WFP 13/11/2014), (WFP 01/10/2014). (Government 07/01/2015)

## Response Capacity

### Local and National Response Capacity

The DMC is responsible for disaster response. It has offices in all 25 districts (Inter Press Service 31/12/2014). The Sri Lankan armed forces have undertaken relief operations, running medical clinics, repairing infrastructure, and providing logical support transport of victims and relief items (Government 30/12/2014). The Ministry of Disaster Management announced that it intends to pay compensation for property damage (OCHA 05/01/2015) and enough seeds for farmers for the next cultivation season (Government 04/01/2015). The Government, with assistance from local NGOs, has provided food rations to the affected and requested humanitarian agencies provide non-food items (OCHA 29/12/2014). Sri Lanka Red Cross Society (SLRCS) mobilised volunteers on 20th December 2014 in Anuradhapura, Polonnaruwa, Batticaloa, Trincomalee, Matale, Puttalam and Mannar districts. They have provided first aid, food items, drinking water and non-food items. Tarpaulin sheets were also provided for evacuation centres and houses, which are partially damaged (SLRCS 25/12/2014).

### International Response Capacity

UNICEF has provided 30,000 water purification tablets and 120 tarpaulin sheets in Mullaitivu district as requested by the District Secretary. UNICEF aims to provide another 150,000 water purification tablets (OCHA 15/12/2014).

### Population Coping Mechanisms

- As both Northern and Eastern regions are generally poor and dependent on agriculture, the flooding on top of previous disasters has weakened their ability to withstand further natural disasters, and ability to recover (Inter Press Service 29/09/2014). It has been reported that communities share resources from less affected areas.
- Due to the arrival of the monsoon season, and past experiences with severe weather, people have become sensitised to monitoring weather reports issued by DMC and NBRO and moving to safer areas when a disaster is imminent (Caritas 30/12/2014).

## Information Gaps and Needs

- Consolidated definitions of affected people across agencies.
- Number of people displaced by floods staying outside evacuation centres.
- Information on WASH, food security and livelihoods needs.
- Information on damages of infrastructure and livelihoods.

## Lessons Learned

Whilst a SMS-based early warning system is in place for tsunamis and the DMC carries out regular emergency evacuation drills and has designated evacuation sites, there was no clear warning disseminated to the villagers in October, despite the National Building Research Organisation (NBRO) issuing warnings of possible landslides several days before. Neither was any pre-planning undertaken in already identified areas as at risk (Inter Press Service 31/12/2014). In several areas, local actors in conjunction with the SLRCS ran training and awareness programmes, involving mock drills and distribution of rain gauges. However, there was no evidence to suggest that villagers used the training or equipment prior to the landslides in October (Inter Press Service 31/12/2014).

In the long term, flooding can cause erosion, increasing the likelihood of landslides, destroyed assets and waterlogged land for extended periods of time. This was the case after the 2008 Kosi floods in India, where land was waterlogged for three months on average.

There is a need to adapt disaster reduction measures after a disaster such as severe floods, for example expanding the early warning systems first developed following the 2004 tsunami. It is necessary to pre-empt potential outbreaks of associated diseases like diarrhoea by avoiding the interruption of water and sanitation services. This was identified as the second most important disaster risk reduction activity by communities consulted in India and Bangladesh, after reinforcing housing (ALNAP 07/2014).

