Heavy rainfall on 11-12 July caused landslides and flooding in 32 Districts across Nepal. Flooding was most severe in 11 Terai districts of Provinces 1 and 2. A large loss of life and damages to assets, housing, water and sanitation infrastructure, food stocks, crop and livestock all have a significant impact on food security in the region.

An estimated 212,000 people’s food security is significantly affected as a result of the flooding, of which 101,600 people, or 17,400 households, are deemed to be the most in need of assistance.
Shelter and Displacement

Immediately after the flood, many of the affected households initially took shelter on higher ground in schools, tents, community and public buildings, carrying few belongings with them. They are supported by local governments, security personnel, the Nepal Red Cross Society and local agencies. A total of 20,000 families have been displaced.

Displaced families are returning home in areas where flooding has receded. Households whose homes were destroyed or have become unliveable or those whose homes are still under water remain in temporary shelters.

Many families are still estimated to be displaced, are staying in temporary shelters, including about 5,326 (Siraha), 4,571 (Mahottari), 3,240 (Dhanusha), 2,600 (Rautahat), 2,413 (Sarlahi), 1,371 (Saptari), 218 (Sunsari), 92 (Morang).

### Displaced Families

<table>
<thead>
<tr>
<th>District</th>
<th>Number of Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siraha</td>
<td>5,326</td>
</tr>
<tr>
<td>Mahottari</td>
<td>4,571</td>
</tr>
<tr>
<td>Dhanusha</td>
<td>3,240</td>
</tr>
<tr>
<td>Rautahat</td>
<td>2,600</td>
</tr>
<tr>
<td>Sarlahi</td>
<td>2,413</td>
</tr>
<tr>
<td>Saptari</td>
<td>1,371</td>
</tr>
<tr>
<td>Sunsari</td>
<td>218</td>
</tr>
<tr>
<td>Morang</td>
<td>92</td>
</tr>
</tbody>
</table>

### Accessibility and Markets

Road access remains problematic especially in Mahottari, Rautahat and Sarlahi Districts, with some 38 municipalities not accessible or only partially accessible.

In Mahottari a major bridge on the East-West highway was destroyed. Despite a diversion being constructed, the smooth flow of traffic is obstructed.

#### Road Access

<table>
<thead>
<tr>
<th>District</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunsari</td>
<td>Not accessible</td>
</tr>
<tr>
<td>Siraha</td>
<td>Partially accessible</td>
</tr>
<tr>
<td>Sarlahi</td>
<td>Accessible</td>
</tr>
<tr>
<td>Rautahat</td>
<td>Accessible</td>
</tr>
<tr>
<td>Mahottari</td>
<td>Accessible</td>
</tr>
</tbody>
</table>

### Nutrition and WASH

In the identified priority 1 Palikas the number of children and pregnant and lactating women (PLW) are as follows:

- Children < 5: 11,300
- PLW: 4,400

The treatment of Severe Acute Malnutrition (SAM) has been ongoing from all Outpatient Therapeutic Centres (OTC) and Nutrition Rehabilitation Homes (NRH) Province 2.

### Source

DDRC, NRCS, NeKSAP
**Access Markets**

**Food stock and food assistance**
Many households in flooded areas have lost food stock from the winter harvest (wheat), together with stored commodities such as rice, pulses and vegetables. Many people in the flood affected areas are now depending on relief food distributed by the government and I/NGOs, for the most part consisting of dry food goods. Parsa, Bara, Rautahat, Sarlahi and Mahottari Districts have the highest estimated prevalence of food poverty (baseline data).

**Summer rice cultivation**
July is in the lean season and also a peak period for the plantation of rice in the Terai. Rice plantation in the Terai accounts for 70% of the country, and is normally harvested in October/November. At the time of the flooding, the Ministry of Agriculture and Livestock Development estimates that 35% of rice plantation was completed in the Terai (July 16 report). As the inundation area covered a significant area of agricultural land and has still not receded in some areas, this is expected to negatively impact rice production, potentially posing additional food security concerns.

---

**Overview**

**Food Security**

**Prevalence of Food Poverty in Flood-affected Districts**

<table>
<thead>
<tr>
<th>District</th>
<th>Prevalence of Food Poverty (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rautahat</td>
<td>&gt;20%</td>
</tr>
<tr>
<td>Mahottari</td>
<td>&gt;20%</td>
</tr>
<tr>
<td>Sarlahi</td>
<td>15 - 20%</td>
</tr>
<tr>
<td>Siraha</td>
<td>15 - 20%</td>
</tr>
<tr>
<td>Dhanusa</td>
<td>15 - 20%</td>
</tr>
<tr>
<td>Saptari</td>
<td>&lt;15%</td>
</tr>
<tr>
<td>Bara</td>
<td>&lt;15%</td>
</tr>
<tr>
<td>Parsa</td>
<td>&lt;15%</td>
</tr>
<tr>
<td>Sunsari</td>
<td>&lt;15%</td>
</tr>
<tr>
<td>Jhapa</td>
<td>&lt;15%</td>
</tr>
</tbody>
</table>

Source: NHDR 2014, CBS 2011

**Human Development Index**

<table>
<thead>
<tr>
<th>District</th>
<th>HDI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepal</td>
<td>0.6</td>
</tr>
<tr>
<td>Jhapa</td>
<td>0.5</td>
</tr>
<tr>
<td>Morang</td>
<td>0.5</td>
</tr>
<tr>
<td>Sunsari</td>
<td>0.5</td>
</tr>
<tr>
<td>Parsa</td>
<td>0.5</td>
</tr>
<tr>
<td>Bara</td>
<td>0.5</td>
</tr>
<tr>
<td>Saptari</td>
<td>0.5</td>
</tr>
<tr>
<td>Dhanusa</td>
<td>0.5</td>
</tr>
<tr>
<td>Siraha</td>
<td>0.5</td>
</tr>
<tr>
<td>Sarlahi</td>
<td>0.5</td>
</tr>
<tr>
<td>Rautahat</td>
<td>0.5</td>
</tr>
<tr>
<td>Mahottari</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Source: NHDR 2014, CBS 2011

**Resilience Profile**

Most of the districts in Terai rate relatively low as measured by the Human Development Index (HDI): Rautahat, Mahottari, Saptari, Sarlahi, Siraha and Dhanusa are among the 25 districts in Nepal with the lowest HDI rating.

**Population living in poverty**
More than 20 percent of the population in Mahottari, Bara, Parsa, Rautahat, and Sarlahi live below the poverty line. The poorest will be hardest hit by the flood.

**Housing conditions are poor**
60-70 percent of households in Jhapa, Morang, Sunsari, Siraha, Saptari, Dhanusa, Mahottari, Sarlahi, and Rautahat; 50-60 percent in Bara and Parsa; live in poor housing structures unable to withstand flooding.
Food poverty prevalence

Prevalence of Food Poverty in Flood Affected Districts of Terai

Prevalence of Food Poverty (%)
- <15%
- 15 - 20%
- >20%

Vehicle accessibility (22 July)

Accessibility status:
- **Green**: Accessible
- **Yellow**: Partially accessible
- **Red**: Not accessible
- **White**: No update available
- **Orange**: Highway

Data sources: WFP, DDMC, DAO, LG, NRCS, AKC, Livestock Office
Market functionality (22 July)

Market functionality at palika level

- **Functioning**
- **Partially functioning**
- **Not functioning**
- **No update available**

Data sources: WFP, DODMC, DAO, LG, NRCS, ARA, Livestock Office
Methodology

WFP’s 72-hour Approach

Initial estimations of area inundated were calculated by processing Sentinel-1 satellite images of 12-13 July. The inundation surface layer was then overlaid with settlement data to estimate the affected population. Priority population estimates were derived by overlaying the affected populations with small area estimates of food poverty at Municipality level (derived from the Small Area Estimation of Food Insecurity and Under-nutrition study, 2011), as well as with information from the Central Bureau of Statistics on types of building and building materials by municipality. Children under 5 years of age were identified among the targeted population.

The identification and ranking by areas and population of prioritization is based on cutoffs used, namely—above 20% prevalence of food poverty, above 70% of building materials classified as poor, to identify the highest priority population.

From these initial population estimates WFP undertook extensive ground verification and consultations with local government, I/NGOs and the Nepal Red Cross Society, to produce revised estimates of priority populations, based on which prior figures and areas of most need were updated as necessary.

More on WFP’s 72-hour rapid assessment approach can be found at:
https://www.wfp.org/72-hours-emergency-assessment

Acknowledgement

Funding from the UK government has remained critical for supporting the capacity of the Nepal Food Security Monitoring system (NeKSAP), which was mobilized to produce this 72-hour assessment. NeKSAP is operated by the Ministry of Agriculture and Livestock Development (MoALD) with the strategic guidance of the National Planning Commission (NPC). WFP provides technical assistance.

Situation updates received from the Nepal Red Cross Society (NRCS) were used to supplement this report, namely through estimates of population displacement, casualties and asset losses/damages.

Satellite images received from Sentinel-1 SAR (European Space Agency) were used to map the inundation surface in the flood-affected Terai districts.
<table>
<thead>
<tr>
<th>District</th>
<th>Palika</th>
<th>Population</th>
<th>HHs</th>
<th>Children &lt;5yrs</th>
<th>PLW</th>
<th>Palika</th>
<th>Population</th>
<th>HHs</th>
<th>Children &lt;5yrs</th>
<th>PLW</th>
<th>Palika</th>
<th>Population</th>
<th>HHs</th>
<th>Children &lt;5yrs</th>
<th>PLW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siraha</td>
<td>5</td>
<td>24,270</td>
<td>4,045</td>
<td>2,956</td>
<td>1,200</td>
<td>7</td>
<td>13,296</td>
<td>2,526</td>
<td>1,619</td>
<td>657</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mahottari</td>
<td>7</td>
<td>18,354</td>
<td>3,059</td>
<td>2,236</td>
<td>889</td>
<td>3</td>
<td>6,708</td>
<td>1,118</td>
<td>817</td>
<td>325</td>
<td>5</td>
<td>2,364</td>
<td>394</td>
<td>288</td>
<td>14</td>
</tr>
<tr>
<td>Bara</td>
<td>11</td>
<td>15,404</td>
<td>2,439</td>
<td>1,876</td>
<td>708</td>
<td>4</td>
<td>3,705</td>
<td>587</td>
<td>451</td>
<td>170</td>
<td>1</td>
<td>503</td>
<td>80</td>
<td>61</td>
<td>23</td>
</tr>
<tr>
<td>Sarlahi</td>
<td>8</td>
<td>10,722</td>
<td>1,949</td>
<td>1,306</td>
<td>500</td>
<td>10</td>
<td>1,341</td>
<td>244</td>
<td>163</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rautahat</td>
<td>5</td>
<td>10,121</td>
<td>2,023</td>
<td>1,233</td>
<td>465</td>
<td>13</td>
<td>6,451</td>
<td>1,287</td>
<td>786</td>
<td>296</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhanusha</td>
<td>6</td>
<td>9,246</td>
<td>1,541</td>
<td>1,126</td>
<td>440</td>
<td>6</td>
<td>6,486</td>
<td>1,081</td>
<td>790</td>
<td>308</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parsa</td>
<td>4</td>
<td>7,506</td>
<td>1,199</td>
<td>914</td>
<td>337</td>
<td>9</td>
<td>5,608</td>
<td>896</td>
<td>683</td>
<td>252</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saptari</td>
<td>6</td>
<td>6,019</td>
<td>1,143</td>
<td>733</td>
<td>293</td>
<td>10</td>
<td>5,331</td>
<td>1,012</td>
<td>649</td>
<td>259</td>
<td>2</td>
<td>853</td>
<td>162</td>
<td>104</td>
<td>41</td>
</tr>
<tr>
<td>Sunsari</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>14,616</td>
<td>3,149</td>
<td>1,780</td>
<td>715</td>
<td>9</td>
<td>28,572</td>
<td>6,156</td>
<td>3,480</td>
<td>1,398</td>
</tr>
<tr>
<td>Morang</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>5,084</td>
<td>1,133</td>
<td>619</td>
<td>250</td>
<td>15</td>
<td>5,502</td>
<td>1,226</td>
<td>670</td>
<td>271</td>
</tr>
<tr>
<td>Jhapa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>3,873</td>
<td>884</td>
<td>472</td>
<td>195</td>
<td>3,873</td>
<td>884</td>
<td>472</td>
<td>472</td>
<td>195</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>101,643</td>
<td>17,398</td>
<td>12,380</td>
<td>4,832</td>
<td>67</td>
<td>68,626</td>
<td>13,033</td>
<td>8,357</td>
<td>3,296</td>
<td>59</td>
<td>41,668</td>
<td>8,901</td>
<td>5,075</td>
<td>1,943</td>
</tr>
</tbody>
</table>

ANNEX 1 Priority Population
ANNEX 2 Priority areas (23 July)

Priority Area in Flood Affected Terai Districts
(As of 23 July 2019)

Legend
- Priority 1
- Priority 2
- Priority 3
- Protected areas
- NA
ANNEX 2 Children under 5 years

Number of children less than 5 years of age
(Projected 2019)

Children < 5 years
- Yellow: 0 - 100
- Orange: 101 - 300
- Red: 301 - 600
- Maroon: 601 - 1300

Data source: CBS 2011 and Projected 2019
ANNEX 4 Pregnant and lactating women

Number of Pregnant and Lactating Women
(Projected 2019)

Pregnant and Lactating Women

- 0 - 50
- 51 - 150
- 151 - 300
- 301 - 550

Data source: CBS 2011 and Projected 2019
ANNEX 5 Inundation Area

Flood Inundation Area

(12–13 July 2019)

(15 and 17 July 2019)

Legend
- Major rivers
- Inundation area

Land use
- Water body
- Snow/glacier
- Shrubland
- Grassland
- Forest
- Built-up area
- Barren area
- Agriculture area

Data Sources: Oxfam, WFP Nepal, Sentinel-1 Image 15 & 17 July 2019, SCIMOD 2010, DoS 2017
Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Parsa District

(As of 15 July 2019)

Data sources: Sentinel-1 satellite image 12 & 13 July 2019, WFP Nepal, WorldPop 2019
ANNEX 6.c Rautahat (21 July)

Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Rautahat District
(As of 21 July 2019)

Data sources: IRA, DEMC, LG, WFP/MeALD Assessment
Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Sarlahi District
(As of 21 July 2019)
ANNEX 6.e Mahottari (21 July)

Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Mahottari District
(As of 21 July 2019)

Priority area
- Priority 1
- Priority 2
- Priority 3
- NA

Data sources: Sentinel-1 satellite image 12 & 13 July 2019, WFP Nepal, WorldPop 2019
Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Dhanusha District
(As of 23 July 2019)
Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Saptari District

(As of 15 July 2019)
Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Morang District
(As of 15 July 2019)

Data sources: Sentinel -1 satellite image 12 & 13 July 2019, WFP Nepal, WorldPop 2019
ANNEX 6.j Jhapa (15 July)

Priority Areas Based on Flood Affected Population and Prevalence of Food Poverty in Jhapa District
(As of 15 July 2019)

Priority area
- Priority 1
- Priority 2
- Priority 3
- NA

Data sources: Sentinel-1 satellite image 12 & 13 July 2019, WFP Nepal, WorldPop 2019