**Highlights**

Heavy rains and flash floods continue to threaten many parts of Sudan. Around 250 000 people in 13 states are affected.

To date, there are 96 temporary health facilities functioning in different flood-affected localities; 31 more mobile health facilities are urgently needed.

Over the last 72 hours, the trends of notifiable communicable diseases remained within the normal range.

Only six out of the 13 flood-affected states have reported vector control activities. In these states, around 57 987 breeding sites were monitored. So far, only 4317 sites were treated.

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**Health situation**

Heavy rains and flash floods continue to threaten many parts of Sudan. The country is receiving more than the average rainfall this year, and weather forecasts state that more rains are expected over the next weeks. In addition, the water level of Blue Nile River in Khartoum has slightly increased on Saturday due to heavy rains in neighbouring Ethiopia, as reported by Sudan’s National Civil Defense Authority (NCDA).

According to the Federal Ministry of Health (FMoH), 38 localities in 13 states have already been affected. As of 17 August 2013, around 49 664 families or almost quarter of a million population have been forced from their homes. To date, there are 45 deaths and 70 injuries.

In Blue Nile, heavy rains and floods destroyed almost 12 000 houses in Damazine, El Roseires, Giessan and Bau localities, with the majority of destruction reported from Damazine. To date, around 20 000 people need urgent health assistance, and more destruction is expected as flood waters from Ingasana Mountains continue to flow. The state is facing the following environmental health issues: collapsed latrines, contamination of water sources, and the increase in the number of mosquito breeding sites.

Over the last 72 hours, the trends of notifiable communicable diseases remained within the normal range. So far, no peaks nor rumors were reported in Khartoum and other affected states. During this crisis, reporting of communicable diseases has been changed from weekly to daily basis. (Source: Epidemiology, FMoH)

**Health needs**

Across the flood-affected states, 96 emergency health facilities are functional. To date, 31 more mobile clinics are urgently needed.

The FMoH needs financial support to procure additional 100000 long-lasting insecticide-treated nets, 65 spray machines, 250 sets of Hudson pumps, five tons insecticides, as well as one ton insecticides.
All areas affected by the floods are at risk of water and vector borne disease outbreaks such as diarrhoea, malaria and hemorrhagic fevers. Initial response activities to reduce the public health risks and threats from communicable diseases outbreak have been conducted. These include water quality monitoring as well as chlorination in all affected areas, disinfection or closing down of collapsed latrines and spraying of flies/mosquitoes breeding sites.

With support from WHO and health partners, the environmental health units from both FMoH and State Ministries of Health have been monitoring the sources of water, and providing necessary interventions. So far, chlorination activities are on-going in 2756 waters sources in twelve states, 94% of the targeted 2915 water sources.

52 644 latrines collapsed in the affected localities. These latrines need to be urgently disinfected and dumped with soil, to avoid breeding of flies and other insects which are disease carriers. As of 18 August 2013, 36 510 (69%) latrines have been disinfected.

Search and monitoring for mosquito breeding sites is on-going. So far, only six states of the flood-affected 13 states have reported vector control activities. In these states, around 57987 breeding sites are monitored, and only 4317 sites were treated.

The State Ministry of Health in Blue Nile has requested WHO for urgent assistance of SDG 85000 (US$15000) to support partially its ten-day flood response plan. The plan includes operations of eight mobile health clinics in Damazine (3), El Roseires (2), and Bau (3), as well as health awareness and vector spraying campaigns.

Heavy rains also damaged the El Fasher maternity hospital in North Darfur. Flooding of the operation theater and many other parts of the hospital was reported by the end of last week.

### Urgent health, water and sanitation needs as of 19 August 2013

<table>
<thead>
<tr>
<th>State</th>
<th>Locality</th>
<th>Population</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Health</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Mobile health facilities</td>
</tr>
<tr>
<td>Khartoum</td>
<td>All 6 localities -Umbadda, Karrari, Bahri, Umdurman, Jebel Alawlya, Sharq Anil</td>
<td>25000 households (HH)</td>
<td>- Essential medicines and supplies</td>
</tr>
<tr>
<td>River Nile</td>
<td>Abuhamad, Barbar, Shandi, Atbara</td>
<td>3231 HH</td>
<td><strong>WASH</strong></td>
</tr>
<tr>
<td>Northern State</td>
<td>Halfa, Dongola, Marawi</td>
<td>1016 HH</td>
<td>- Solid waste management</td>
</tr>
<tr>
<td>Gezira</td>
<td>Um Elqura, Shargel GEzira, Madani, Akamlyn, Gjanoub Elgaizar, Hisa hisa</td>
<td>7548 HH</td>
<td>- Water quality monitoring</td>
</tr>
<tr>
<td>South Darfur</td>
<td>Nyala, Belil</td>
<td>4980 HH</td>
<td>- Vector control</td>
</tr>
<tr>
<td>Blue Nile</td>
<td>Damazine, El Roseires</td>
<td>10000 HH</td>
<td>- Hygiene promotion</td>
</tr>
<tr>
<td>Eastern states</td>
<td>Aroma, Nahr Atbara, Waadelhelow Gadaref rural</td>
<td>24000 HH</td>
<td>- Training of volunteers on chlorination</td>
</tr>
<tr>
<td>North Darfur</td>
<td>Elfasher town, Kuma, Tawila and Malha, Mellit</td>
<td>2207 HH</td>
<td></td>
</tr>
<tr>
<td>South Kordofan</td>
<td>Alairy, Abo jbeha, Gadir, Dalang</td>
<td>1135 HH</td>
<td></td>
</tr>
</tbody>
</table>

### Health response

#### South Darfur

Targeting mosquito breeding sites, spraying campaigns in camps and host communities are continuously conducted in the localities of Nyala, Kass, Eid Elfursan, Rehaid Elburdi, Tulus, Buram, El whida, Elsalam, Eldeain, Al Firdous and Bahr Al Arab. Additionally, entomological surveys were carried out in water stations in the State.
As part of the acute watery diarrhoea (AWD) prevention activities, WHO has supported water quality monitoring activities including water sampling, testing for free residual chlorine, and implementation of urgent interventions. A total of 14,969 water samples were collected and analysed for presence/absence of free residual chlorine (FRC), 7,187 samples presented standard FRC level (0.2 – 0.5mg/l) or fit for human consumption.

**North Darfur**
WHO provided medicines, supplies, as well as disinfectants, to restore the services of El Fasher maternity hospital which was earlier damaged by heavy rains. In addition, an oxygen concentrator for its nursery room was donated by WHO. It is estimated to reduce the monthly consumed oxygen cylinders by 50% and support to avail oxygen for at least 45 neonates per month.

As heavy rains and floods are still expected, WHO provided essential medicines and supplies to Humanitarian Aid and Development to cover the shortage faced by its health facility inside Zam Zam IDP camp. The medicines will cover around 1000 people for three months. In addition, WHO supported Abu Shouk (PHCC run by SMoH) with life-saving medicines and supplies to cover the shortage in the clinic. The donated medicines are sufficient for the needs of 1000 patients for one month.

**South Kordofan**
Some localities of South Kordofan are also affected by floods, namely Al lairy, Abo-jbaha, Gadair, and Al-Dalang. Rapid response kits and diarrhoeal disease kits are needed, and WHO will provided the kits through SMoH.

**East Sudan**
In East Sudan, Kassala and Gedaref States are also affected by flash floods due to heavy rains. One of the severely affected areas in Kassala is Alkow village in Rural Aroma locality. Initial rapid assessment of health needs of the community was conducted. During the visit, the medical assistant was transferred to the nearest dry place and set-up a temporary health facility. Essential medicines required for one month were provided to the mobile clinic.

**Blue Nile**
WHO provided two emergency basic health kits (EBHKs) to support mobile health clinic activities in Damazine locality. Moreover, WHO will support the Ministry of Health’s urgent financial requirements to implement activities identified in its ten-day response plan.

**Coordination**
Sudan’s health sector meets on 19 August 2013 at the FMoH to discuss health gaps and response activities of health partners in flood affected areas.

In the affected states:
- Apart from assessments and joint planning for response activities with the SMoH and OCHA in South Darfur, WHO has also augmented its supplies for immediate response to potential flood crisis;
- The environmental health committee in Nyala, South Darfur met to discuss emergency response activities, and agreed to accelerate environmental health interventions in all flood-affected areas;
- The rainy season preparedness task force in El Fasher, North Darfur meets daily to assess health problems and to monitor responses. Daily reports on pattern of water borne diseases and findings of water quality monitoring activities are presented during the meetings.
- The emergency task force meeting has been activated in Kassala, and is in a weekly basis. However, if heavy rains continues, frequency of the meeting will be shifted to daily.

**Donors and funding**
The Embassy of the Republic of Korea has provided US$50 000 to support WHO’s urgent health activities in flood-affected villages.
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