

## Floods in Ninewa and Salah al-Din

Briefing note – 07 December 2018

Torrential rainfall on 22 and 23 November caused severe flooding across Iraq. Ninewa and Salah al-Din are the most affected governorates with bridges and roads damaged and villages inundated with water. In total, at least 22,000 people in Ninewa governorate and 10,000 people in Salah al-Din governorate are affected, including people still displaced from conflict. Thousands of civilians are newly displaced due to the floods. Displaced households need urgent shelter assistance. NFIs, WASH, food security and livelihoods, education and health assistance are also needed. The government is responding and international aid actors are present in the country (Rudaw 25/11/2018; OCHA 27/11/2018).

### NEED FOR INTERNATIONAL ASSISTANCE



### IMPACT



### Anticipated scope and scale

Evacuations from cut-off areas are ongoing, which could lead to further displacement. In areas where floods have receded, **severely damaged critical infrastructure** will require reconstruction (The National 02/12/2018).

Many houses, agricultural fields, and other livelihood assets are destroyed, which will have lasting impacts on food security and livelihoods (IOM 27/11/2018; Shelter Cluster 29/11/2018)..

Forecasts show that **more rains are predicted** in the coming weeks and winter is approaching (ECHO 6/12/2018; Shelter Cluster 29/11/2018).

### Key priorities



**+32,000**  
people affected by floods



**New IDPs**  
and existing IDPs affected



**Access restricted**  
as roads and bridges are blocked

### Humanitarian constraints



Major damage to roads and bridges hinder humanitarian response. Insecurity levels remain high and restrict operations. Unexploded ordnance may have been moved in the floods (CSIS 11/2018).

#### Limitations

Displacement and evacuation figures are vague, making the scale of need unclear. Affected population is not clearly disaggregated by geographic area. The status of ongoing emergency reconstruction efforts following the floods, especially on road access and critical infrastructure, remain unclear. Other flood affected governorates include Basra, Diyala, Duhok, Diyala, Erbil, Kirkuk, Maysan, and Wasit, however they are outside the focus of this briefing note.

## Crisis impact

Since the start of the rainy season (November to April), intense rainstorms have affected several regions in Iraq. Torrential rainfall on 22 and 23 November is causing severe floods (Arab News 25/11/2018; OCHA 25/11/2018). Basra, Diyala, Duhok, Diyala, Erbil, Kirkut, Maysan, and Wasit governorates have been affected; however, this briefing note focuses on Ninewa governorate, where at least 22,000 people have been affected and Salah al-Din governorate, where at least 10,000 people have been affected. People still displaced by the conflict are among the affected populations (OCHA 27/11/2018). At least 21 people have died and more than 180 were injured (Rudaw 25/11/2018; The National 25/11/2018). An unidentified number of people are still missing (WHO 28/11/2018). Flash floods have led to the damage of property, agriculture, livestock, and infrastructure in Ninewa, Salah al-Din (IRCS 02/12/2018; OCHA 27/11/2018, IOM 27/11/2018).

Localities alongside the Tigris river are affected the most. Mosul city, the Qayyarah Airstrip and Jeddah IDP camps in Qayyarah district in Ninewa governorate as well as Shirqat town, Al-Khadraniya and Hureya villages in Al-Shirqat district in Salah al-Din governorate are among the most affected areas (OCHA 27/11/2018).

On 29 November, further heavy rain in Ninewa governorate affected several districts in Mosul, displacing hundreds and destroying critical road infrastructure. Schools are closed (Al Jazeera 03/12/2018). On 1 December, the provincial government in Ninewa declared a state of emergency (Rudaw 1/12/2018).

**Shelter and NFI** assistance is urgently needed across all affected areas as floodwaters have damaged many houses and caused displacement (OCHA 27/11/2018). Main reported needs for NFIs are mattresses, blankets, containers for water, cooking utensils and hygiene kits. Winterisation support is urgent (OCHA 27/11/2018; Shelter Cluster 29/11/2018). As forecasts predict more rains in the near future, displacement and evacuation measures are expected to continue (Al Jazeera 03/12/2018).

**Ninewa Governorate:** Only 2 out of 24 formal IDP sites in Ninewa governorate score “high” (compared to “medium” or “low”) under the Camp Coordination and Camp Management (CCCM) monitoring tool. Many IDP shelters are inadequate to protect them from heavy rains (FSMT 03/2018). On 28 November around 7,000 IDPs were evacuated from Madraj camp, Qayyarah district, to neighbouring camps due to flooding (IRCS 28/11/2018). More than 2,300 tents in Qayyarah Airstrip camp, where around 7,500 families live, were flooded and need replacement, and hundreds of IDPs were forced to take refuge in the IOM health clinic (IOM 27/11/2018). Urgent tent replacement is also needed for IDPs living in Jeddah camps 1–6, Salamiyah camps 1 and 2, Hamam Al Alil camp 2 and Nimrud Camp (OCHA 27/11/2018).

In Mosul city, at least 425 displaced people (85 families) are in need of shelter. In all parts of the city, houses and NFIs were damaged and lost, as families tried to escape the floods (Al Jazeera 03/12/2018). Hundreds of families are trapped in Al Arabi and Shurta neighbourhood in Mosul city due to floodwaters, as well as in Shuwairat village, south of Mosul. The provincial government told residents to wait for rescue teams to allow safe evacuation (The National 02/12/2018, Rudaw 01/12/2018).

Some remote villages in rural areas are cut off and in need of assistance (AA 03/12/2018; Arab News 26/11/2018).

**Salah al-Din Governorate:** In Al-Shirqat district, a minimum of 3,000 houses destroyed or damaged by floods. More than 5,000 residents from Al-Khadrania and Horria villages were evacuated to safe neighbouring villages (IRCS 28/11/2018; WHO 28/11/2018). Information on the extent of the flooding in Salah al-Din is limited compared to Ninewa, but flooding impact is understood to be significant.

**WASH:** Safe drinking water is urgently needed in affected areas. Due to limited road access, water trucks cannot reach Jeddah 4, 5, 6 and Qarayya Airstrip camps. In the IDP camps Jeddah and Qarayya Airstrip in Ninewa governorate, cesspool and septic tanks have been flooded, which could lead to a disease outbreak if not contained. Furthermore, drainage channels and tunnels have been damaged and flooded, especially in Jeddah 3 and 5, (west) Mosul city and in Al-Shirqat district, Salah al-Din (The National 02/12/2018; OCHA 27/11/2018; WHO 28/11/2018). Reparation and reconstruction of water infrastructure are urgently needed to prevent further health concerns.

**Food security and livelihoods:** More than 9,500 IDPs living in Al-Saldin Centre, Salah al-Din governorate, are in need of food support. (IRCS 28/11/2018). Transportation of food to markets is likely to be affected as main roads are inundated and important bridges damaged.

Ninewa governorate is known for its wheat production, which is planted from November to December. 2019 harvests may be reduced due to floods interrupting the agricultural process in some areas (IOM 27/11/2018). A significant part of the population in northern Iraq are depending on agricultural activities for livelihoods, and will feel negative effects of flooded farmland (Reuters 25/07/2018). Already planted crops have been destroyed and further planting will be delayed, although the extent of the damage caused by the floods is unclear. Many NFIs and other livelihood assets have been lost or damaged, which will cause longer term impacts (IOM 27/11/2018; Shelter Cluster 29/11/2018).

**Protection** concerns arise as unexploded ordnance (UXO) and remnants of war might be moved in the floods, particularly in Salah al-Din as well as in and around Mosul city, where heavy fighting occurred during recent conflict (OCHA 27/11/2018; UNHCR 26/04/2018). Iraq is still heavily contaminated with explosive devices after years of conflict (IMMAP 05/12/2018).

**Education:** Universities and schools have been closed in Mosul city (Rudaw 01/12/2018).

**Health** facilities are not reported to be damaged by floods. However, access to hospitals in Ninewa and Salah al-Din governorates remains limited as many hospitals remain damaged by conflict. Iraq's health system is fragile due to a lack of personnel and funding following years of conflict (MSF 09/07/2018; WHO 31/03/2018 HRP 02/2018).

## Impact on critical infrastructure

Infrastructure damage is widespread due to conflict or is in poor condition due to neglect and corruption of authorities. The floods have added to the urgent need for the restoration of critical infrastructure (Al Jazeera 03/12/2018; Rudaw 23/11/2018; MSF 09/07/2018). The old sewage system and water infrastructure are highly vulnerable to damage during events of extreme weather, and failed to withstand rains and flooding in some areas. As of 2 December, some areas were without power as electricity poles were uprooted (The National 02/12/2018).

Floods have damaged, blocked and inundated many critical roads and bridges. The only two bridges connecting east and west Mosul city have been destroyed. As west Mosul is still heavily damaged from conflict, civilians are cut off from public services (Phys 25/11/2018, OCHA 27/11/2018).

## Vulnerable groups affected

People displaced due to the conflict with IS residing in northern governorates are more vulnerable to floods because their shelter arrangements are less secure and livelihood options are limited (CSIS 11/2018; NRC 11/2018; HRP 02/2018). In total, around 585,000 IDPs are in Ninewa and 150,000 IDPs are in Salah al-Din governorates (IOM 31/10/2018). IDPs residing outside camps are of particular concern as their needs are less well known and they are harder to reach (Shelter Cluster 29/11/2018).

Intercommunal tensions have been reported previously among IDPs and returnees in areas of origin, which can exacerbate vulnerabilities (UNHCR 26/04/2018; HRP 02/2018).

People dependent on agricultural land are likely to be vulnerable to the floods. Coping capacities are already limited following severe water shortages over the summer months (July-October), which limited harvests and food stocks (The Independent 8/10/2018; Reuters 25/07/2018).

Flooding also disproportionately affects people who live in housing arrangements susceptible to damage by floodwaters (ACAPS 01/2012). Persons with disabilities face higher vulnerabilities as floods only add to their access difficulties (HRP 02/2018).

Displaced women and girls are a particularly vulnerable group affected by flooding due to the heightened risk of gender-based violence. Temporary shelter arrangements for newly displaced women, with a lack of privacy and inadequate toilets and washing facilities, further increases their vulnerability. Access to antenatal care may be limited (UNFPA 08/2016; UNDP 2013).

## Humanitarian and operational constraints

Major roads and bridges connecting urban centres, IDP and refugee camps are cut off due to flooding and debris (The National 25/11/2018; ECHO 6/12/2018;).

At the beginning of November, new procedures accessing Kurdistan Region of Iraq (KR-I) were set up, which presents bureaucratic challenges for organisations based in Erbil trying to operate in Federal Iraq (Shelter Cluster 29/11/2018). Restrictions of movement due to insecurity are also of concern. Even though IS was officially defeated in December 2017, pockets of insecurity and small-scale violent attacks remain (CSIS 11/2018; HRP 02/2018).

## Aggravating factors

### Rainy season

The main rainy season in Iraq lasts from November to April accounting for 90% of annual rainfall. Rainfall this year is unusually heavy and early; much more could be expected before March (Al Jazeera 23/11/2018; ECHO 6/12/2018; Global Security 2018).

### Inadequate winterisation

As the winter months are approaching, temperatures are dropping below zero, leaving out of camp families in the flood-affected areas especially vulnerable (Shelter Cluster 29/11/2018, Rudaw 23/12/2018). Reparations work and bridge construction will be further delayed as winter months affect operations.

### Impact of rains on other areas of Iraq

Floods have affected people in the KR-I in Erbil, Duhok, and Kirkuk governorates since 1 December 2018. Several houses have been damaged and roads inundated (NRT 1/12/2018, NRT 1/12/2018). Erbil governorate was hit by heavy rains in late October, damaging houses and causing landslides that blocked roads, destroyed bridges, and cut entire villages of power. Access is still limited in these eastern regions of Erbil, response capacity exhausted, and infrastructure fragile, impacting the delivery of assistance for increased needs in this area (Rudaw 30/10/2018 IRCS 29/10/2018).

Southern governorates such as Diyala, Wasit, Maysan and Basra were also impacted by rains, yet only minor damage and limited casualties were attributed to the heavy rains. (OCHA 27/11/2018). Southern governorates are mainly affected by blocked roads and power outages (The National 25/11/2018; IRCS 02/12/2018). Road infrastructure, including many bridges are in inadequate conditions and damaged due to heavy rains from 5 to 8

November when an estimated 50,000 people from Baquba, Mandali and Qazani towns were cut off (Floodlist 9/11/2018; IRCS 11/11/2018; IRCS 14/11/2018).

## Key characteristics

### Demographic profile:

Total population Iraq: 39,800,000 (est) (World Bank 12/2018)

Total Number of IDPs: 1,867,000 (IOM 31/10/2018)

- In Ninewa governorate: 585,000
- In Salah al-Din governorate 152,000

Total Number of Returnees: 4,114,000 (IOM 31/10/2018)

- In Ninewa governorate: 1,592,000
- In Salah al-Din governorate 576,000

**Food:** 1.9 million people in Iraq are in need of food assistance (HRP 02/2018)

**Nutrition levels:** 14,560 children screened for malnutrition (Health Cluster 05/2018)

**Health:** 7.3 million people in Iraq are in need of health assistance (WHO 09/11/2018)

Infant mortality rate (1 per 1,000 live births): 26.7 (WHO, 2015)

Hospital beds (per 10,000 population): 14 (WHO 2014)

Births attended by skilled health personnel (%): 70.4 (WHO 2012)

### WASH statistics:

Population using at least basic sanitation services (%): 86 (WHO, 2015)

Population using safely managed sanitation services (%): 32 (WHO, 2015)

Population using at least basic drinking water services (%): 86 (WHO, 2015)

## Response capacity

### Local and national response capacity

Iraq's Prime Minister called a Crisis Management Cell meeting on 23 November to coordinate the emergency response activities of relevant ministries and the Iraqi Red Crescent Society. (OCHA 27/11/2018, The National 25/11/2018, IRCS 02/12/2018)

Different ministries are supporting the affected population, as well as providing means to local authorities in order to supply relief items and facilitate evacuation measures. Food, tents and other emergency supply such as free fuel is provided to Salah al-Din and Ninewa governorates. The government is involved in removing debris from blocked roads and repairing damaged infrastructure. (Rudaw 23/11/2018 The National 25/11/2018, AA 03/13/2018) It remains unclear whether actions are completed and at what stage reconstruction is.

Local rescue teams with the support of the Iraqi army have been deployed. Army, police forces and civil defence teams are on high alert as more floods are expected. Additionally, the government in cooperation with local municipalities tries to redirect floodwater to lakes around Baghdad to limit the expected impact on Iraq's capital. (Arab News 25/11/2018)

### International response capacity

Major UN partners such as IOM, WHO and UNFPA have begun relief activities in affected areas in coordination with the government, local authorities and other humanitarian partners. Two needs assessments by health, WASH and protection partners have been carried out. Further humanitarian funds could be granted, once needs have been more clearly assessed. (OCHA 24/11/2018) Most of the operations are coordinated from Baghdad. However, many UN and humanitarian partners have offices in Erbil, KR-I. There is a lack of more detailed information about the coordination on the ground.

## Information gaps and needs

- Most data available provides a summary of the impact of the floods across Iraq. A clear geographical breakdown of the affected population is lacking.
- Lack of information on the number of people displaced by the floods. Several sources report about thousands of people being displaced, however, the numbers are unclear and not verified.
- Lack of information about the damage on roads and other critical infrastructure. The current status is unknown.

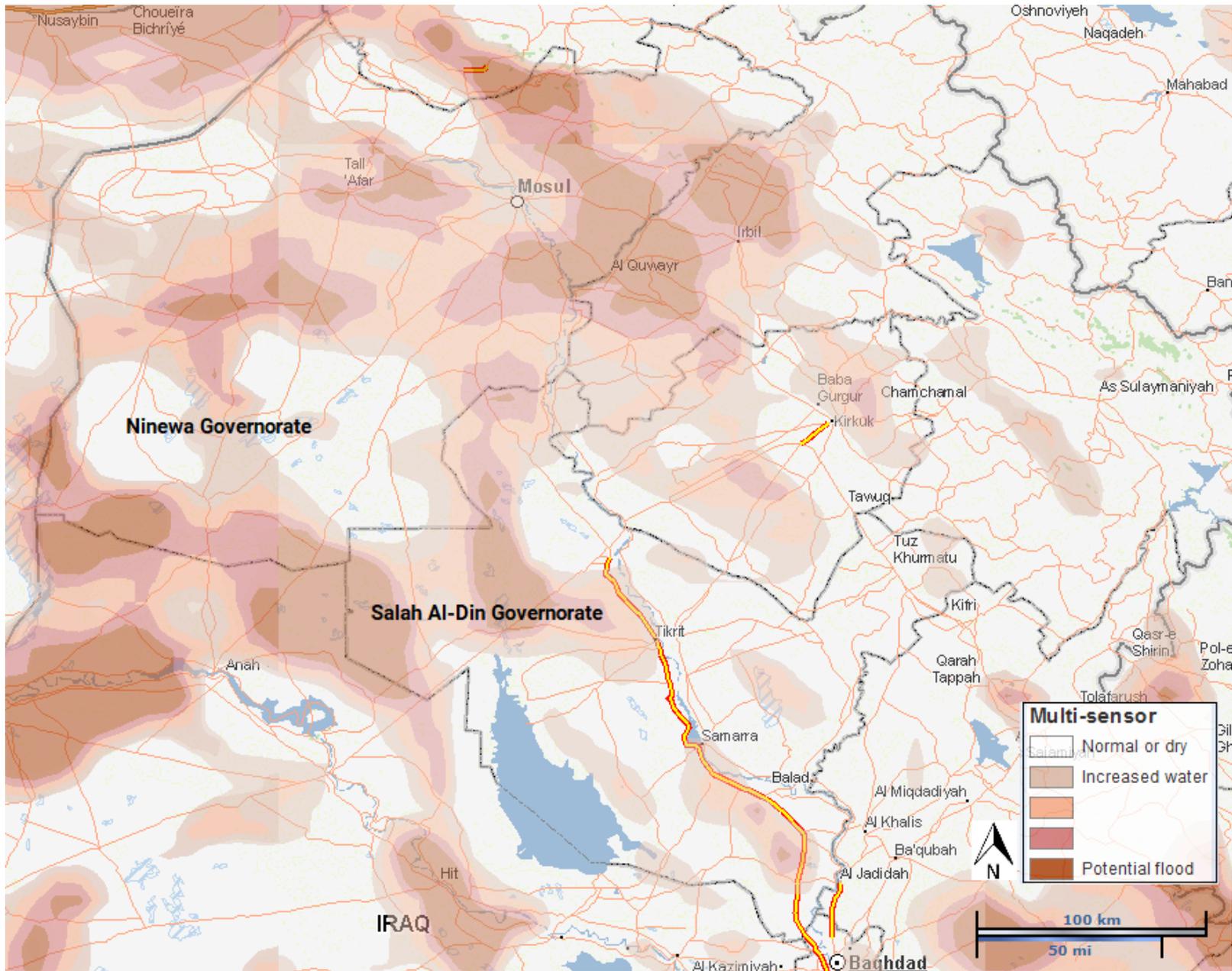
## Lessons learned

Improved preparedness plans are needed, including an early-warning and response systems to be implemented in Iraq, to ensure that the population at risk of flooding can evacuate in advance (NRT 19/20/2018).

Restoration and improvement of critical infrastructure are crucial in order to ensure humanitarian access and higher resilience for future events. This includes not only the reconstruction of war-affected areas but also the building of sufficient bridges, roads as well as robust water pipes, functioning sewage systems and power poles.

The implementation of an Early Warning Alert and Response Network system (EWARN), set up by WHO, enhances the early detection of diseases. (WHO 28/11/2018) Coordination among local authorities and health partners seems to work well which reduced the likelihood of an outbreak of a disease during the event of floods.

### Current and potential flood areas in northern Iraq as of 6 December



Source: JRC 6/12/2018