Brief Report on the Extent and Impacts of Floods in Sudan as at 06 September 2020

1. Background

The IGAD Climate Prediction and Applications Centre (ICPAC) issued a seasonal climate forecast in May 2020 for June, July and August of 2020 which indicated high chances of above-normal rains for countries in the equator and north of the equator, including Sudan. Starting in the second decade of July, Sudan and the Nile River Basin in Ethiopia and South Sudan, have experienced heavy rains leading to high water levels in the Nile river and tributaries; causing extensive floods with loss of human lives, infrastructural damage, and affecting over half a million people. The findings from the visual satellite image interpretation and change detection carried by IGAD clearly shows the extensive flood inundated areas from both riverine and flash floods. The analysis from optical and radar satellite imagery from NASA were used to produce the flood extent maps in this report. Location data for the analysis were obtained from the Humanitarian Aid Commission (HAC) of the Ministry of Labor and Social Development of Sudan.

Figure 1. Flood extent map from Satellite images from 01 August to 05 September 2020 (Sentinel 1 & 2, NASA)
2. Immediate Impacts of the Floods

The Sudan is affected by a flood disaster that has caused havoc at the moment. According to the report from the Government of Sudan as of 6th September 2020, more than 500,000 have been affected, over 100 persons lost their lives, and about 100,000 houses are reported to have been destroyed or damaged with many families rendered homeless. With a high possibility for heavy rains expected in the coming weeks, the challenge is far from over and all preparedness measures need to be activated and put in place. The extensive floods affected over 80 localities and villages, from 16 out of 18 States of Sudan, clearly show the widespread areal coverage poses a perpetual risk and formidable challenge for humanitarian response.

The map below shows the districts that are currently affected by the floods.

**Figure 2.** Localities affected by floods as at 6th September 2020 (Data obtained from HAC and map by ICPAC)

The States of Khartoum, North Darfur, Sinnar, West Kordofan, Kassala and Gadarif are the topmost affected States in Sudan with close to 70 % of the total population affected and 68 % of the houses damages or destroyed by floods.
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**Figure 3.** Number of People affected by floods at States level as at 6th September 2020 (Source: HAC).

**Figure 4.** Number of People affected by floods at Locality level as at 6th September 2020 (Source: data is from HAC, map is from ICPAC)
Figure 5. Satellite imagery showing inundate areas growth (source ESA Sentinel-2).

Figure 6. Inundation extend around Khartoum at the confluence of the Blue and White Nile Rivers (photo credit: Abd Almohimen Sayed)
Figure 7. Tuti Island under water (photo credit: Ibrahim Younis, MSF)