

SIERRA LEONE

Flooding

Anticipated crisis impact

The height of the rainy season is expected in August, with 90% of Sierra Leone's yearly rainfall normally recorded in July and August (UCL 2018). Western Area Urban and Western Area Rural districts are particularly vulnerable due to their high population density, proximity to the coast and deforestation in the neighbouring hills (UNFPA 2018, SLURC 2018). The recent flooding of 14 July 2020 raises a number of concerns regarding the level of preparedness. There has already been minor displacement but no assessment of the needs of those displaced highlighting the limited capacity of emergency response in Sierra Leone (Sierra Leone Telegraph 15/07/2020).

The recent urban sprawl in Freetown has resulted in a population of over one million. The city was originally designed to house and provide WASH facilities for 300,000 people (Thomson Reuters Foundation 02/11/2017). High population density has led to urban expansion in areas particularly at risk of flooding, heightened the pressure on sewage systems and put increasing strain on already unstable ground.

In the past five years, four major instances of flooding and landslides have occurred across the country affecting some 220,000 people (Freetown City Council 01/07/2018). In August 2017, a major mudslide caused by heavy rainfall displaced 11,000 people (ICRC 30/10/2019). Over 450 people died in what was a man-made disaster following uncontrolled deforestation and building on unstable terrain in the neighbouring hills of Freetown (DW 18/08/2017). In 2019, more flooding occurred in August affecting the livelihoods of some 5,400 people (ICRC 18/02/2020).

Malaria and diarrhoea are already present in the country, particularly in informal settlements across Freetown (Government of Sierra Leone 2018). Flooding heightens the risk of these diseases spreading, particularly waterborne diseases with cholera still being a risk since an outbreak in 2012. There are between 27 and 61 informal settlements, depending on the definition, scattered along the coastline and with limited access to health facilities (SLURC 2018).

Key priorities/figures



61
informal settlements with unsanitary conditions



220,000
affected by flooding between 2013 and 2018

National response capacity

Sierra Leone Red Cross Society

International response capacity

WFP, FAO

Vulnerability group

People living in informal settlements

Health

Very high risk of waterborne disease

Anticipated scope and scale

The risk of flooding in August 2020 is high with urban expansion increasing the number of people in flood prone areas. Waterborne disease, shelter facilities and lack of WASH facilities will be the main issues. COVID-19 has stretched the already limited health facilities capabilities which may limit access to adequate healthcare and authorities may face difficulties in providing socially distant shelter facilities.

Lessons learned

Extensive flooding in 2017 and 2019 caused mass displacement, destroyed buildings and had long-term socio-economic impacts. The establishment of the Flood Mitigation Plan in 2018 has helped reach 52 communities across Freetown clearing blocked drainage systems and waterways. However, this seems limited as urban expansion along floodplains and waterways continues as well as deforestation. This reduces the water catchment area and expands the at risk population. Community engagement was key in past response and successfully reduced the spread of waterborne diseases.

Humanitarian constraints

Past flooding has resulted in parts of Freetown becoming inaccessible due to flooded roads and bridges. Road infrastructure is particularly limited in the East of the city. Poor transportation networks across the capital hinder the provision of humanitarian aid. COVID-19 measures have restricted movement via land, air and sea and constrained aid provision.

Sectoral needs



Shelter and NFIs

Flooding on 14 July 2020 has displaced residents living in lowlands and floodplains. The needs are currently unclear but with peak rains expected from the beginning of August, the number of displaced people is expected to rise (Freetown City Council 25/07/2020).

Several informal settlements across Freetown (Kroo Bay, Cockle Bay, Dwarzarck, Moyiba and Portee) are especially prone to flooding given their location. Blankets, tarpaulin, and mosquito nets were provided after flooding in past responses to reduce the risk of contact with mosquitos and help build temporary shelter.

Flooding and landslides in 2017 resulted in 11,000 people displaced, of which 7,000 were living in temporary shelter and IDP camps set up in and around Freetown (ICRC 30/10/2019). Government policies limited how long these camps could stay in place prioritising shelter that was permanent and made of concrete (ICRC 30/10/2019).

1,500 people were displaced in 2019 across host communities with the livelihood of some 5,400 people affected. The immediate needs included household kits, blankets and tarpaulin (ICRC 18/02/2020).



WASH

Due to rapid urbanisation and over population, there is a lack of WASH facilities across Freetown (Thomson Reuters Foundation 02/11/2017). Access to clean water is a pre-existing issue in the capital, with flooding heightening the risk of water-contamination and overflowing of sewage facilities. This is further exacerbated by COVID-19, which requires regular handwashing to avoid its spread.

The most common water source in Freetown are water wells, running streams and underground sources which run a high risk of contamination after flooding or landslides. Cockle bay is the only informal settlement with easy access to safe drinking water through taps and underground wells (SLURC 12/2018).

Toilets in informal settlements are built with sticks and sacks over the sea with poor waste-management systems. This spreads to waterways and increases the risk of waterborne disease (SLURC 12/2018).



Health

The risk of waterborne diseases is heightened as a result of flooding. Cases of malaria are widespread in Western Area Urban and Western Area Rural districts, which account for nearly 15% of all malaria cases and 26% of all malaria deaths in Sierra Leone (WHO 29/06/2020). Malaria accounts for 40% of the disease burden in the country with almost 1,000 deaths annually among children under five years of age (WHO 29/06/2020). With stagnant water building up as a result of flooding, mosquitos could propagate and further spread the disease. Other high risk waterborne diseases in Sierra Leone include typhoid and cholera with previous outbreaks identified in the country (WHO 06/2020).

Inhabitants in informal settlements in and around Freetown lack basic access to healthcare. The majority of people living in the settlements self-treat and use non-evidence based medicine. The biggest barrier to accessing healthcare in informal settlements is the high cost of treatment, as well as long distances, poor roads and long waiting times (SLURC 12/2018). In the likelihood of continued flooding, the needs of this population would be difficult to meet.

In Freetown public services are limited and unevenly distributed (see Figure 3). Before the COVID-19 outbreak, Sierra Leone was short 32,000 health professionals to meet the normal needs of its population (Robinson 2019). 30 out of 74 public health facilities have substandard water facilities which have been placed under increased strain since COVID-19 (FCC 27/03/2020). In the likely event of flooding the strain would be even greater.



Food and livelihoods

Food insecurity in Sierra Leone is systemic with 48% of the population not consuming a sufficiently nutritious diet (FAO 01/2020). In Western Area Urban, 30% of the population are moderately food insecure or worse, while 38% in Western Area Rural area are moderately food insecure or worse (FAO 01/2020). In Freetown, 30% of households earn less than \$1a day (FCC 27/03/2020).

Food access in Sierra Leone has been constrained for the past three years as a result of inflation and a depreciation of the local currency (FAO 05/2020). COVID-19 has also limited people's access to food with almost 60% of the population forced to stay in their homes (FAO 05/2020). Markets have been forced to close impacting access to food, livelihood opportunities and the wider socio-economic landscape. Sierra Leone is dominated by small scale markets, small scale business and petty trading which are severely impacted by COVID-19 containment measures (SLURC 03/2017) (FCC 27/03/2020).

Food insecurity is also the result of the abnormal rainfall in 2018 and 2019 impacting the crops productivity which resulted in poor seed germination and waterlogging of fields and crops. This reduced the overall yield and contributed to an increase in food prices, which was already made worse by the effects of COVID-19 (OCHA 15/06/2020).

The 2012-2016 Ebola crisis impacted the number of household heads working in urban areas from 75% in August 2014 to 67% in November 2014 (International Growth Centre, 23/06/2020). Whilst nationwide food prices were not affected, the number of traders in markets substantially reduced. This is still felt in certain areas where the heavier restriction on movements resulted in a higher economic impact (Mercy Corps 13/08/2019).

Aggravating factors

COVID-19:

As of 30 July, Sierra Leone has recorded 1,800 cases and 67 deaths (John Hopkins 30/07/2020). COVID-19 containment measures have stretched the response capacity of existing health facilities in Freetown with strikes leaving certain patients without care (BBC 03/07/2020). Health workers blame the government for misusing funds and not putting enough resources into protecting key health workers (BBC 03/07/2020).

Furthermore, COVID-19 has stopped the monthly cleaning activities mandated by the government. As part of the Flood Mitigation plan, waste management and cleaning activities of waterways were prioritised to reduce the risk of flooding and increase feasibility of access to informal settlements (Concordtimes 20/07/2020). Surplus waste blocked drainage systems and stopped the access to informal settlements (SLURC 12/2018).

Since March, the government has put in place strict lockdown measures meaning that up to 60% of people are in their homes (FAO 05/2020). Whilst some containment measures have eased since June, there is still a weariness of people leaving their houses which could then be exposed to flooding with nowhere else to go.

Freetown's 68 informal slums house 35% of the city's population, indicating a high percentage of people living in inadequate conditions. This may aggravate the spread of COVID-19 as the density and living conditions may make physical distancing measures and improved hygiene practices difficult practice, mirroring the country's experiences with Ebola from 2013 to 2016 (World Bank 2019, ACAPS 02/04/2020)

Ebola:

In May 2014, Sierra Leone declared its first case of Ebola and quickly became one of the countries most affected by the disease with over 8,000 cases and 3,600 deaths (FAO 05/2020). It took the country almost two years to control the disease with a flare up in 2016.

Health care provision was severely impacted by Ebola where at the time, up to 50% of health care workers stopped working in health facilities and focused on Ebola-related activities (CMI 04/2020). This substantially reduced the provision of other vital health services and it is unclear what percentage of the health workforce continues their work specific to Ebola. Furthermore, the health workforce has shrunk by 6.9% (CMI 04/2020).

Fig.1 Map of settlement type across Freetown

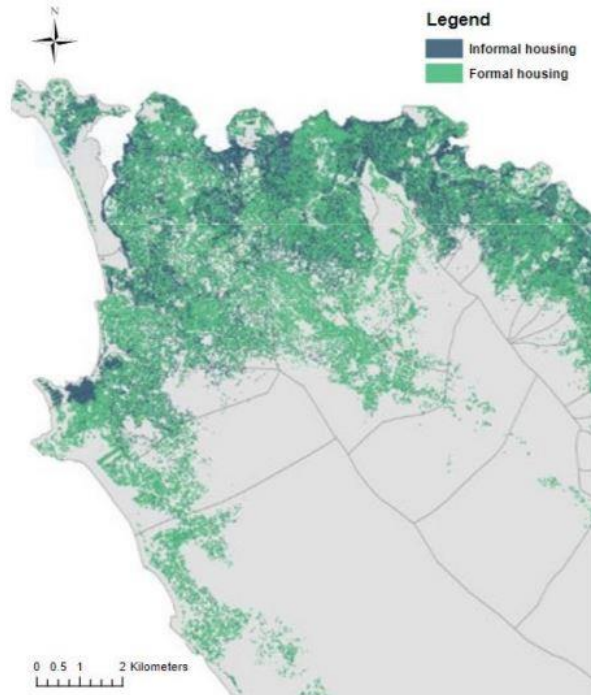


Fig.2 Map of Population density across Freetown

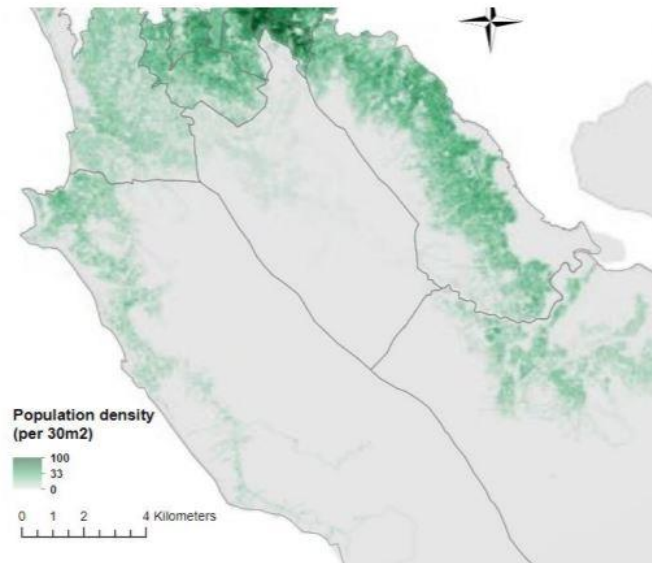
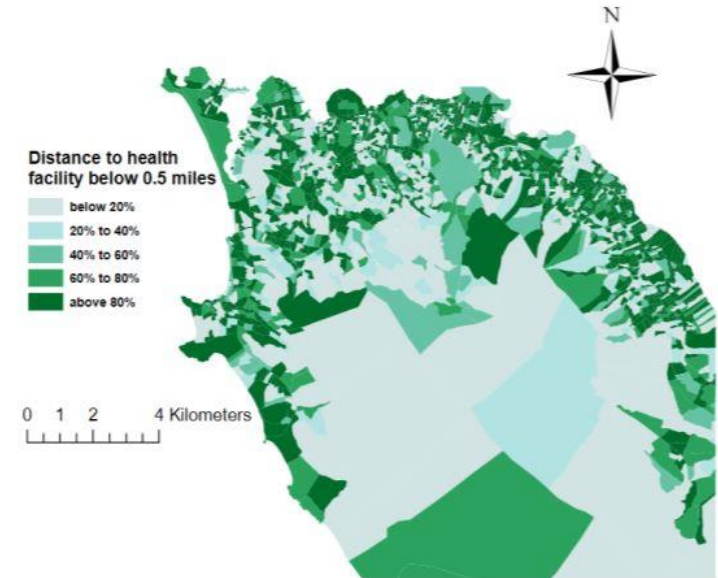


Fig.3 Distance to health facility below 0.5 miles



Source: World Bank 2019