

ZAMBIA

Drought – Southern Province

Zambia is currently experiencing a prolonged drought largely as a result of below-average precipitation from the seasonal rains (November-March). The significant rainfall deficit, especially noticeable in Southern and Western provinces, has resulted in decreased agricultural production. Consequently, households are sharply depleting food stocks and are increasingly dependent on market purchases, driving up the prices of staple foods such as maize.

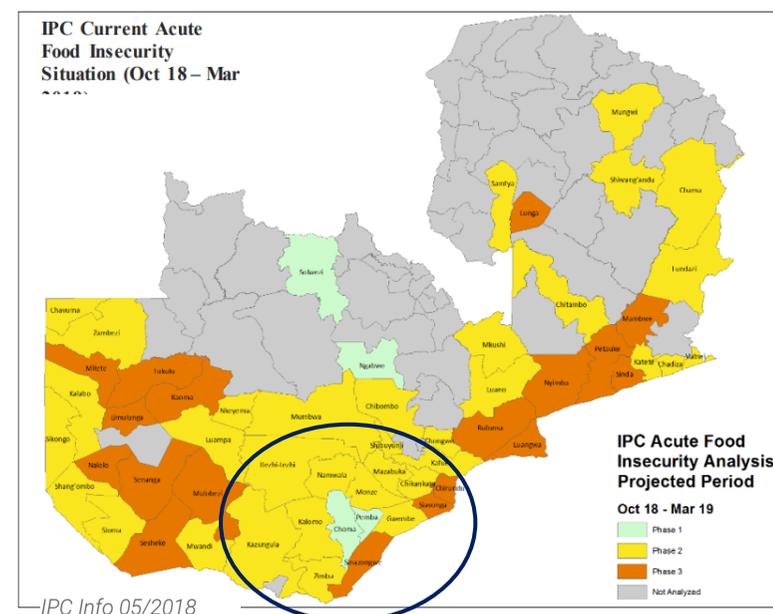
Previous droughts have been increasing people's vulnerabilities. 192,000 people in Southern province have been estimated to face Crisis and 54,000 Emergency levels, marking respectively 10% and 3% of the province's population according to the latest IPC estimation (from October 2018 to March 2019). Due to aforementioned factors, the projected number of people in need of food assistance is likely to reach the estimations or even exceed them, despite the end of the main harvest season (around June) when usually food security levels improve.

Low water levels in major rivers and groundwater may further impact people's access to clean drinking water. Hydro generated electricity has already been declining due to low water levels in dams.

IMPACT



NEED FOR INTERNATIONAL ASSISTANCE



Anticipated scope and scale

Siavonga, and Sinazongwe districts are most impacted with 21% (13,000 people) and 20% (25,000 people) of the district's population facing food insecurity levels of Crisis and above. As predictions indicate **below average rainfall** for the coming months, worsening food insecurity levels are expected. Coping capacities from farmers, are low due to previous droughts-like events: The whole country shows persistent high malnutrition rates. It is expected that the **number of people facing high food insecurity levels will rise** in the coming months. Hindered access to clean water will increase the needs of people in the Southern province.

Key priorities



+246,000
in Crisis (IPC Phase 3) and above
between October - March



Safe drinking water
Access is limited



Livelihoods
severely impacted

Humanitarian constraints



There are no severe humanitarian constraints found. Remote areas might only be reached via 4x4 vehicle due to underdeveloped road infrastructure. Sporadic electricity cuts might challenge operations.

Limitations

Significant information gaps make it difficult to obtain a complete picture of the impact of the drought and to determine the level of needs. There is a lack of information regarding how needs have evolved over time, particularly for sectors other than food security. This briefing note only focuses on Southern province, yet Western and parts of Central and Eastern provinces are also affected by the ongoing drought.

Crisis impact

Since the regional start of the 2018/2019 rainy season, often around October, countries in southern Africa have been facing abnormal dry conditions. 2018/2019 marks the driest season since 1981 in central and western parts of southern African region due to a weak El-Niño cycle (WFP 11/07/2019). Zambia has been experiencing drought conditions since the end of 2018. The rainy season, typically lasting from November to March, was delayed and only started in early January. Zambia has been receiving below average precipitation in the rainy season for the second consecutive year. Limited rainfall compounded with extremely high temperatures has resulted in mostly stressed vegetation conditions as of March 2019 (FAO 15/04/2019; FAO 22/01/2019; WFP 05/2019; Lusaka Times 10/07/2019).

Southern province is particularly affected with a minimum of 13% (246,000 people) of the total population experiencing food insecurity at IPC phase 3 (Crisis) and above, according to the latest IPC predictions for October 2018 to March 2019 (IPC Info 05/2018). It is likely that the figures meet those predictions for July 2019. There is even a risk that people's food security levels have worsened due to severe impacts of the current dry conditions on agricultural productivity. Seasonal food security improvements due to the harvest season (typically from April to June) are not expected, as the harvest is below-average. Farmers' and pastoralists' coping capacity is already low due to several drought events, dry spells, localised floods, and crop pests that reduced crop production in the past years (FAO 15/04/2019; Caritas Zambia 19/06/2019; Bloomberg 08/05/2019; GEOGLAM 07/2019).

Western province is also strongly affected, with 260,000 people (22% of the total population) facing IPC-3 and above in the same time period (IPC Info 05/2018). The extent of the current drought can be seen by the countrywide increase with more than 1,172,000 people estimated in need of food assistance (IPC Info 05/2018). Despite the impact across Zambia, this briefing note is mainly focusing on the Southern province.

Food: The food security situation is expected to worsen beyond the estimated 246,000 people in need of food assistance in Southern province (IPC Info 05/2018). Kalomo, Gwembe, Siavonga and Sinazongwe district have been worst affected (see table).

The main reason for their need for food assistance is decreased availability of food. As the main harvest season (usually April to June) is still underway in parts of Zambia and expected to end in July, final assessments on drought impacts on food security and availability are not yet available. However, it is certain that dry conditions from the previous season have impacted the planting of the 2018/2019 season, and a reduced yield this year is highly likely. The unfavourable production prospects for the 2019/2020 season will further worsen food security levels in Southern province and across the country (FAO 15/04/2019; GEOGLAM 07/2019; WFP 11/07/2019).

Most affected districts in Southern Province, Zambia (Oct. 2018 – Mar. 2019)

District	Total Population	IPC-3	%	IPC-4	%
Chikankata	68,200	8,400	13	3,000	5
Gwembe	79,600	9,500	13	4,200	6
Kalomo	278,700	43,200	16	7,000	3
Siavonga	63,400	10,800	17	2,200	4
Sinazongwe	127,000	20,300	16	5,100	4

Source: IPC Info 05/2018

Access to food is continuously declining. People were unable to replenish their food stocks due to a limited harvest 2018/2019, are depleting their savings, and local and national food prices are constantly rising due to heightened demand. Depreciation of the local currency, as well as expectation for a below-average 2019/2020 harvest, increase food prices further (FAO 15/04/2019). In Choma, the capital city of Southern province, the price for white maize (the main staple food in the area) more than doubled from April 2018 to April 2019. As of April 2019, white maize cost more than 3.00 ZMW/kg, which is more than 1.25 ZMW/kg higher than the 5-year average (FEWS NET 05/019).

Zambia's main maize production is farmed from the center of the Southern Province, the Southern Plateau, Zambia's biggest area of commercial farmland. Mazabuka grows 90% of Zambia's sugar, out of which 60% is exported to international markets. Reduced crop production will not only impact local farmers but furthermore have a negative effect on the food security situation and the economy of the whole country.

WASH: Reoccurring dry spells are resulting in limited access to clean drinking water for people and animals as boreholes dry out and groundwater levels retreat. However, there is limited information about the impact of the current drought on WASH in Southern province, apart from Gwembe district, where people are sharing water with animals (Zambian Eye 15/06/2019; The Mast 15/03/2019).

Livelihoods: The drought will very likely have a severe and potentially long-term negative impact on the livelihoods of farmers, reducing their household incomes. The main source of livelihoods for 70% is farming and crop sales. Especially in rural areas in the southern province, farmers and pastoralists will face severe income challenges with the continuous reduced harvest (FEWS NET 07/2014). Pastoralists' livelihoods will further negatively be impacted by limited water sources for animals, the death of livestock, and the reduction of suitable land for grazing. However, there is no information about losses of livestock so far. It is already evident that higher prices are forcing more household

resources to be channeled towards food expenditure (FAO 15/04/2019; GEOGLAM 07/2019). There is no capacity for farmers to invest in alternative livelihood and/or begin savings. Seasonal migration in order to access new water sources further impacts the livelihoods of farmers severely (Water Journal Africa 02/2018).

Export restriction, reintroduced in April for maize, will impact traders locally in markets close to the borders, as well as countrywide (FEWS NET 05/2019).

Protection: Due to lack of water sources, people are obliged to look for resources further from their houses, increasing protection concerns for women and children who might be exposed to SGBV (Zambian Eye 15/06/2019; Sibanda 13/02/2018)

Education: With ongoing droughts, the schooling of children might be at risk, as their attendance could decline due to decreased household resources paying for school fees and school materials, hunger, and children looking for alternative livelihood strategies to help their families. Forced absences from school, related to seasonal migrations to ensure access to water, are a common phenomenon especially observed in Sinazongwe district, one of the worst drought-affected districts in Southern Province (Water Journal Africa 02/2018). Nevertheless, no reports have yet been published confirming this development.

Health: People who are facing severe food insecurity, malnutrition, and poor access to clean water and sanitation are at particular risk of diarrhoeal and communicable diseases (OCHA 20/01/2019). High malnutrition rates, persisting outbreaks of tuberculosis, cholera, and malaria are limiting people's resilience to reduced (nutritious) food intake, linked with negative coping mechanisms. High HIV/AIDS rates in Zambia (11.5%) further reduce coping capacity. There is however no information available that indicate direct and immediate impacts of the current drought on the health status. Updated malnutrition rates are lacking. In 2015 it was estimated that 40% of the Zambian 6-59-month-old children is chronically malnourished (WFP 05/2019; African Health Observatory, accessed 11/07/2019; GoZ 07/2018; WHO, accessed 11/07/2019).

Vulnerable groups affected

The drought and its anticipated further impact is mostly affecting farmers dependent on subsistence agriculture. Small- and medium-scale farmers and pastoralists heavily impacted by previous droughts are at especially heightened risk and drought will have severe effects on their families' nutrition status beyond 2020. In previous drought-like events their maize production was mostly affected (Government of Zambia (GoZ) 07/2018).

The urban poor population is further severely affected by rising food prices (WFP 05/2019). As women are forming the main agricultural labour force as well as responsible for providing fresh drinking water for the household in rural Zambian communities, they are particularly likely to be affected by this crisis (Water Journal Africa 02/2018). Long distances to water points or markets increase the risk of SGBV.

47.4% of Zambians are children under 14 years. They face heightened protection concerns in events of droughts as they might be exposed to labour exploitation, forced to leave school and early marriages, as seen in previous drought events in Zambia and southern Africa (Libanda, Zhen, Ngonga 04/2019).

There is no further information on specific needs of older people, chronically ill people and people with disabilities related to the ongoing drought. Yet, due to their heightened vulnerabilities, elevated needs and severity levels are very likely (WHO accessed 11/07/2019; UKAID 2017).

Humanitarian and operational constraints

There are no severe administrative and bureaucratic humanitarian access constraints reported in Southern province or countrywide. Some remote areas are most likely only reachable via 4x4 vehicles due to limited road infrastructure.

The low precipitation rates in the region are further impacting electricity generation and supply. Low rainfall and water levels in Kariba catchment area have diminished the capacity of Kariba hydropower station, one of Zambia's biggest electricity sources. Its capacity was reduced from 2,337 megawatts to 1,080 megawatts to ensure continuous power supply until 2020. However, no reports indicate an influence of limited electricity supply on humanitarian operations (Bloomberg 21/03/2019).

Aggravating factors

Seasonal Outlook

It is predicted that the climate conditions will remain very dry in Southern and Western Zambia following the end of the harvest season (April to June), resulting in a strong to very strong impact of the current weak El-Niño (WFP 11/07/2019).

Previous droughts

Zambia has suffered from numerous droughts and prolonged dry spells in recent years, impacting agricultural production. The 2017/2018 rainfall season had prolonged dry spells, affecting mainly the southern half of the country. In combination with flooding, a large proportion of the southern province cereal crops like maize, sorghum and wheat, and oil crops were lost. Maize, one of Zambia's most important staple foods, has decreased in production by 33.6% in 2017/2018 against production rates of 2016/2017, marking a 20% below the five-year average (GoZ 07/2018; FAO 15/04/2019; Bloomberg 08/05/2019).

The strong drought in 2015/2016, due to a strong El-Niño, affecting most countries in Southern Africa, already weakened the coping capacity and lowered many farmers' resilience towards ongoing dry spells. Any additional climate shocks, including flooding, that result in poor harvests, increased risks of diseases, and/or unfavourable economic

conditions such as price rises, can push many people below the poverty line (GoZ 07/2018; SADC 06/07/2018; WFP 11/07/2019, GEOGLAM 07/2019).

Fall armyworm outbreaks

In addition to climate events, pest outbreaks, including Fall Armyworm and stalk borer outbreaks are common in Zambia (GoZ 07/2018). In 2017, the Zambia Disaster Management and Mitigation Unit (DMMU) reports that almost 130,000 ha of planted maize were affected by a severe Fall Armyworm outbreak (SADC 13/01/2017; FAO 03/01/2017; Zambia Watchdog 13/12/2018). The pest has been destroying maize across subregions in southern Africa in the last two seasons (FAO 21/11/2018).

Fall Armyworms, *Spodoptera frugiperda*, breed in water bodies. Firstly, dry conditions are hindering the development of fall armyworm. However, with a persisting drought, leading to dry and compacted soils, the risks of flash flooding, creating backwater in the next rainy season (November to March) is increased. This results in a heightened risk of breeding. Given that Fall Armyworms can affect almost all types of crops, especially maize and cereal, the loss of agricultural production, which is the main source of income and food for households, is a high risk, increasing the vulnerability of (previous) drought-affected population (ACAPS 25/04/2017).

Chronic high malnutrition rates

Zambia faces high malnutrition rates that have been associated with poor food and nutrition practices, as well as acute and chronic food insecurity levels. Zambia records high prevalence of stunting among 6-59-month-old children, exceeding 40% countrywide (WFP 05/2019). According to the 2018 vulnerability and needs assessment report by the Government of Zambia (GoZ), 29.4% of all children are chronically and 2.5% of all children acutely malnourished in the Southern province (GoZ 07/2018).

Less availability of and access to food has increased levels of vulnerability and access to diverse diets which will further exacerbate the prevalence of malnutrition levels. Even moderate events of droughts and other emergency situations will worsen the nutrition status of many Zambians, especially children and women who are impacted the most (GoZ 07/2018).

Other provinces affected

With more than 1,172,000 people projected to face IPC 3 and higher, the response capacity in Southern Province will be strained. IPC projection for October 2018 to March 2019 showed that especially Western province was hit by drought, with more than 260,000 people (22% of the total population of the province) facing IPC 3 and above. Kaoma, Limulunga, Lukulu, Mitete, Mulobezi, Nalolo, Senanga, and Sesheke districts were

worst affected. In Limulunga, home to 55,000 people, 40% were projected to be in Crisis (IPC Phase 3), 10% in Emergency (IPC Phase 4) (IPC Info 05/2018).

Response capacity

Local and national response capacity

The Disaster Management and Mitigation Unit (DMMU), created in 1994, is the main government arm to respond to the drought-affected population. There are reports that the DMMU distributed food to Southern province, reaching at least 10% of the population (400,000 people). Evidence is however lacking. Further, It remains unclear which communities were supported, whether the amount of aid provided was sufficient or not, and if relief efforts are still ongoing (Caritas Zambia 19/06/2019, DMMU 06/2019).

Furthermore, the DMMU announced to drill more boreholes in cooperation with the Zambia Cooperatives Federation (ZCF) and Solar Hammer Mills to drill industrial boreholes to provide clean water. More detailed information on concrete implementation plans are not available (Zambia Reports 04/03/2019)

However, the ministry said that despite a sharp decline in crop production – 17% overall, 33% in maize production – in the 2018/2019 season, the country remains food secure (Bloomberg 08/05/2019). This may indicate that major action to assist the 246,000 people facing IPC 3 and higher could be delayed.

International response capacity

Caritas Zambia reports that in cooperation with Catholic Relief Services (CRS), Norwegian Church Aid (NCA) and CAFOD, relief efforts to alleviate hunger in the affected regions are ongoing (Caritas Zambia 19/06/2019). Many UN agencies are present in Zambia, including FAO and WFP. WFP conducted market assessments and impact analysis on the ongoing drought (WFP 05/2019). The results of the assessments were expected at the end of June 2019, but cannot be found yet.

Population coping mechanisms

The affected population has reportedly diverted to negative coping strategies, including eating one meal a day and turning to less safe drinking water sources.

Information gaps and needs

- Numbers of people in need of humanitarian assistance are based on predictions from October 2018 to March 2019. Most likely the caseload of people in need has increased but no more recent information is available.

- The impact of the drought on the 2018/2019 harvest is not explicitly assessed and analyzed yet or announced assessments are not publicly available.
- The longer-term impact of the drought on livelihoods in the area and the resilience of the vulnerable population is based on estimations and previous drought events.
- There is no further information on specific needs of older people, chronically ill and people with disabilities, yet due to their heightened vulnerabilities, different needs and severity levels are very likely.
- The estimated number of people facing access challenges to WASH services is not known.
- Information about the sectoral impacts such as education, protection, and health is lacking.
- Ongoing relief efforts remain vague.

Lessons learned

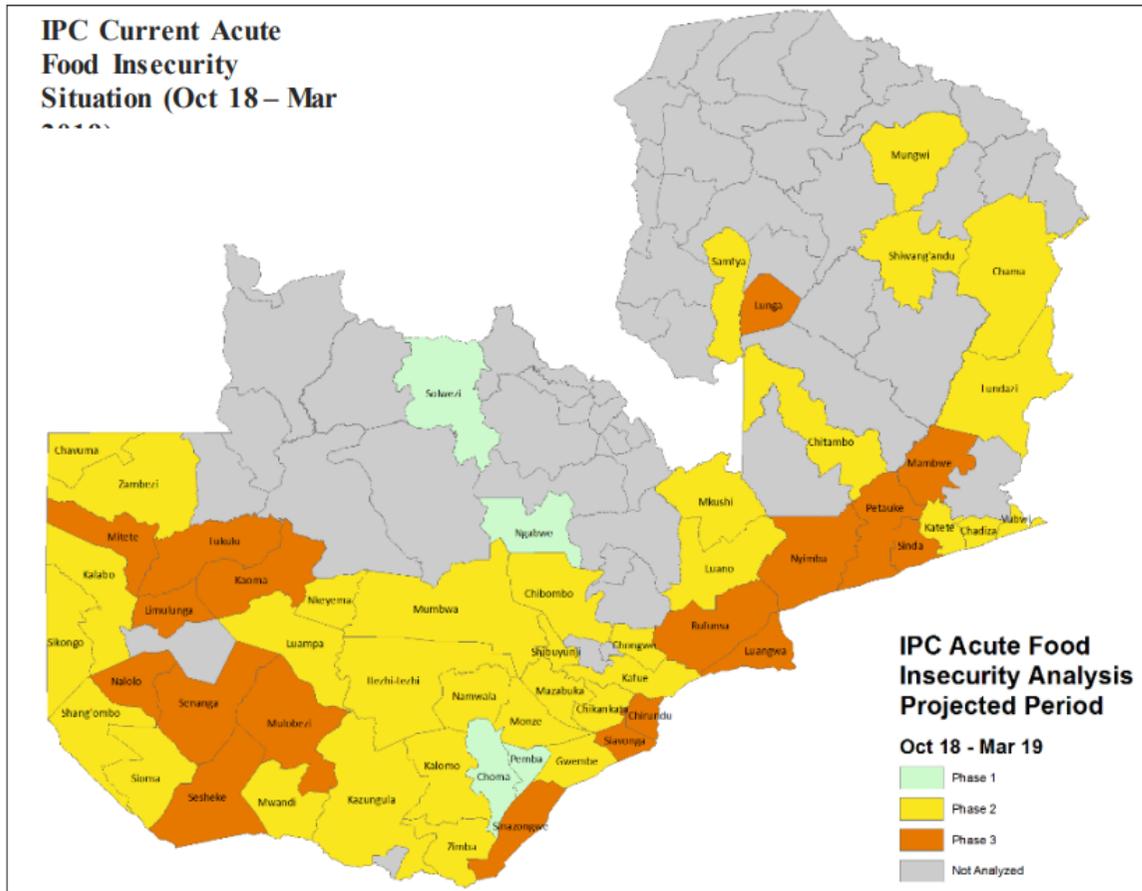
- Early mitigation actions that target enhanced surveillance, control of plant and animal pest and diseases, as well as knowledge sharing and access to geographically targeted information on climate-smart and sustainable agricultural practices, are key to prevent severe impacts on reoccurring drought events and dry spells in Zambia. FAO's El Niño Response Plan for Southern Africa targets and enhances these measures that were aimed to be implemented by the end of February 2019 (FAO 2019). However, reporting about successful implementation is lacking. By linking early action to medium- and long-term programs the resilience of agriculture-based livelihoods towards future climate shocks can be enhanced (Zambia Watchdog 13/12/2018).
- Policies must support and encourage climate-smart practices, such as agroforestry adoption and off-farm diversification in order to build effective drought resilience among all Zambians (FAO 2019).
- Improved water supplies and access to safe drinking water must be ensured in order to prevent seasonal migration, impacting people's livelihoods and children's schooling negatively (Water Journal Africa 02/2018). This could be partly achieved by investing in improved rainwater storage systems (FAO 2019).

Key characteristics

- **Total population:** 16,445,000 with living 43.5% urban areas. The rate of urbanization stands at 4.23% annually. The total fertility rate is estimated to be at 5.58 children born/women (CIA Factbook 2018).
- **Demographic profile:**
 - 0-14 years: 45.95%
 - 15-24 years: 20%
 - 25-54 years: 28.79%
 - 55-64 years: 2.95%
 - 65 years and over: 2.31%
- **Food security figures:** Across Zambia, more than 1,172,000 people, 17% of the total population, is projected to face IPC Phase 3 and higher (October 2018 to March 2019) 12% of the population is facing IPC 3 and above.
- **Nutrition levels:** Zambia records a high prevalence of stunting among 6-59-month-old children, exceeding 40% countrywide (WFP 05/2019).
- **Health:** The maternal mortality rate was 224 deaths per 100,000 live births, estimated in 2015. The infant mortality rate stands at 59.2 deaths/1,000 live births (DHS 2015; CIA Factbook 2018).

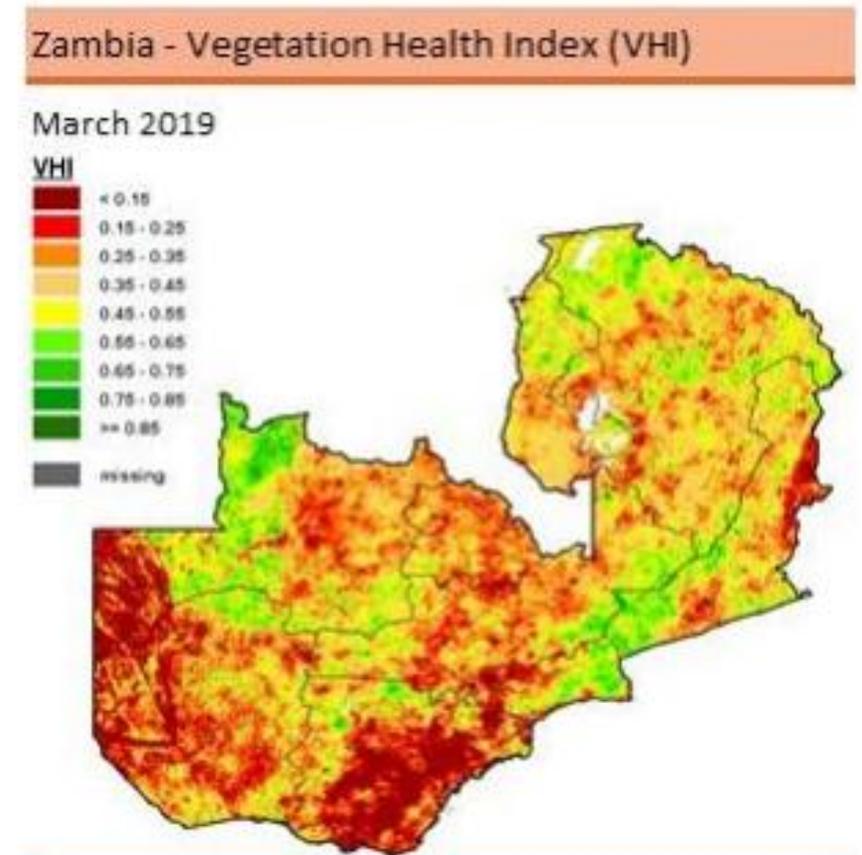
Zambia has one of the highest HIV rates, with an estimated 11.5% of the total population being affected. Access to affordable and adequate treatment remains challenging, especially in rural areas (GoZ 07/2018; CIA Factbook 2018; African Health Observatory, accessed 11/07/2019).
- **WASH:** In Zambia, only 65.5 % of the total population has access to clean water and more than 55% lacks access to proper sanitation facilities, leading to 15% of the population practicing open defecation. Not having access to clean and safe water leads to diseases like diarrhea and cholera (GoZ 07/2018; WHO accessed 11/07/2019; UNICEF 2015).
- **Poverty:** Poverty is predominately a rural phenomenon with poverty levels of more than 76%. In rural Zimbabwe, 52% of the population rely on subsistence agricultural, facing limited access to markets and alternative livelihood strategies (GoZ 07/2018).

Map 1: Food Insecurity Levels Oct. 2018 - Mar. 2019



IPC Info 05/2018

Map 2: Vegetation Health Index - Zambia



Source: FAO/GIEWS Earth Observation System.

FAO 14/04/2019