UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE
NATIONAL FOOD SECURITY BULLETIN TANZANIA APRIL, 2020

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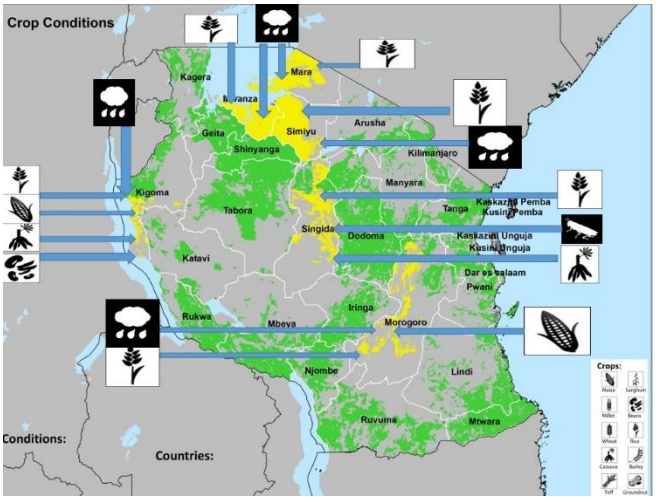


Figure 1: **This Crop condition map syntheses information for all crops as of 30th April, 2020**. Crop conditions over the main growing areas based on combination of national, regional and district crop analyst inputs along with remote sensing data and rainfall data provided by Tanzania Meteorological Agency. Crop with conditions other than favorable are marked indicated on the map.

NATIONAL HIGHLIGHTS

- Most parts of uni modal and bimodal regions experienced favorable conditions for most crops. However, water logging and flooding caused watched conditions for maize and paddy in some parts of uni modal regions i.e Morogoro, Kigoma and Kilimanjaro whilst in some parts of bimodal regions of Mwanza, Mara and Simiyu, paddy experienced the same condition for the same reasons**.**
- In Singida, paddy faced watch conditions due to pests' invasion. In bimodal areas, crops were in favorable condition in most part of the country except for paddy where watch conditions were observed in some parts of Mwanza, Mara and Simiyu regions due to flooding and water logging.
- Cassava continued to experience favorable conditions in most parts of the country and it is in different growth stages. Watch conditions were experienced in some parts of Kigoma due to Flooding while in some parts of Singida watch condition were observed due to presence of pest.
- Lindi, Mbeya and Mtwara had above average maize price while Musoma, Mpanda and Kibaigwa were all below average maize prices. However the lowest maize price were observed in the Musoma, Mpanda and Kibaigwa markets. Lindi, Ilala and Temeke had the highest prices for rice while Musoma, Shinyanga and Mpanda had lowest market prices.
- Temeke, Kinondoni and Lindi markets had the highest prices for beans while Sumbawanga, Musoma, Babati and Bukoba were all below average ranging from.

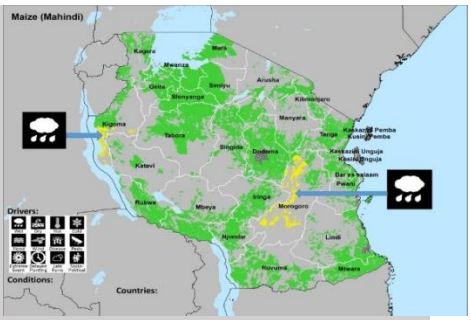
TABLE OF CONTENTS

UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE
NATIONAL FOOD SECURITY BULLETIN TANZANIA APRIL, 2020

Crop Conditions for Major Food Crops

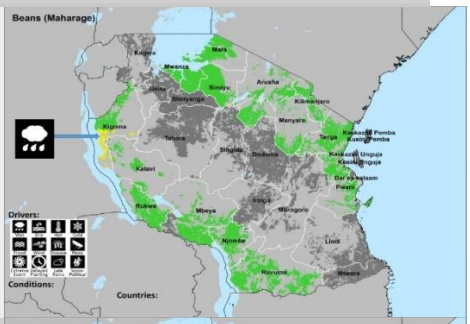
Maize

Most parts of Unimodal regions Maize is at maturity stage and in favorable condition, early harvesting activities have started in some parts. However, watch conditions were observed in some part of Kigoma and Morogoro regions due to flooding and water logging. In bimodal regions maize is favorable condition in most parts and is in vegetative stages.



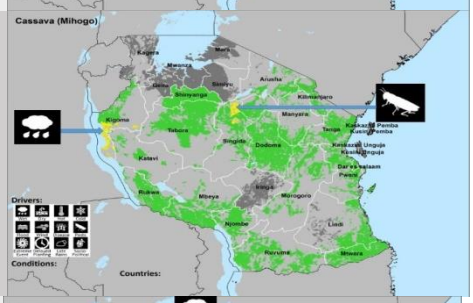
Beans

In bimodal areas, beans are in favorable conditions and are in different growth stages. In most parts of Unimodal areas, harvesting activities have been completed.



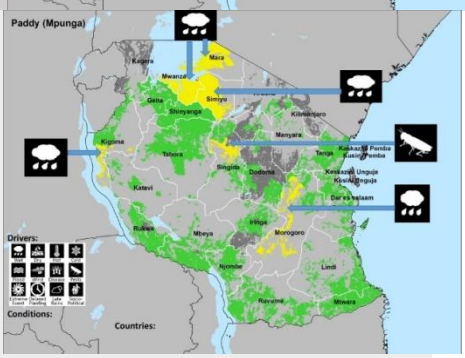
Cassava

Cassava continued to experience favorable conditions in most parts of the country and it is in different growth stages. Watch conditions were experienced in some parts of Kigoma due to Flooding while in some parts of Singida watch condition were observed due to presence of pest.



Paddy

The crop is in favorable condition in most parts of Unimodal area and is at maturity stage. Watch conditions were observed in some part of Kigoma and Morogoro due to Flooding and water logging. Also watch condition were observed in some part of Singida region due to the presence of pest. The crop is in favourable conditions in most parts of bimodal regions except in some part of Mwanza, Mara and Simiyu due to Flooding and water logging.



NOTE: Other important crops grown in a wide range and contribute ` in the food basket include banana, sorghum, millets, potatoes, wheat and other pulses.

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Satellite-based crop Conditions

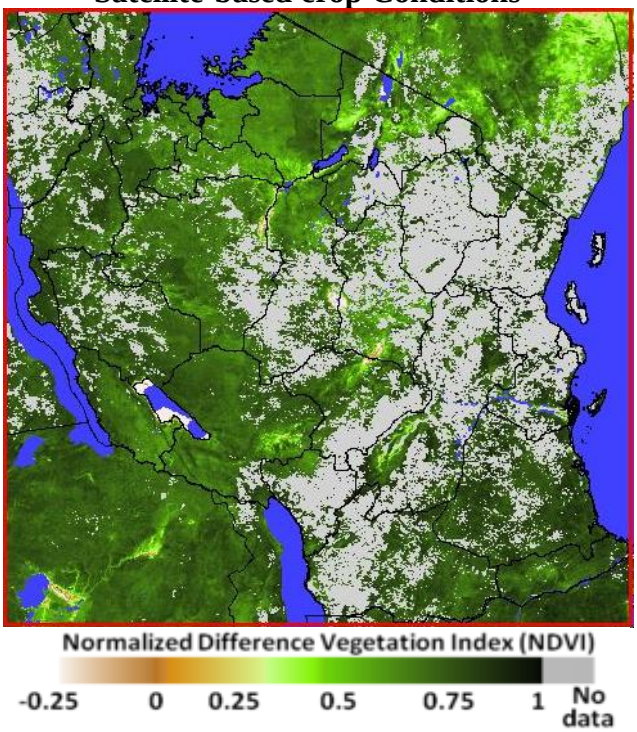

Figure .6: *Normalized Difference Vegetation Index (NDVI) anomaly for 06th-21st April, 2020*

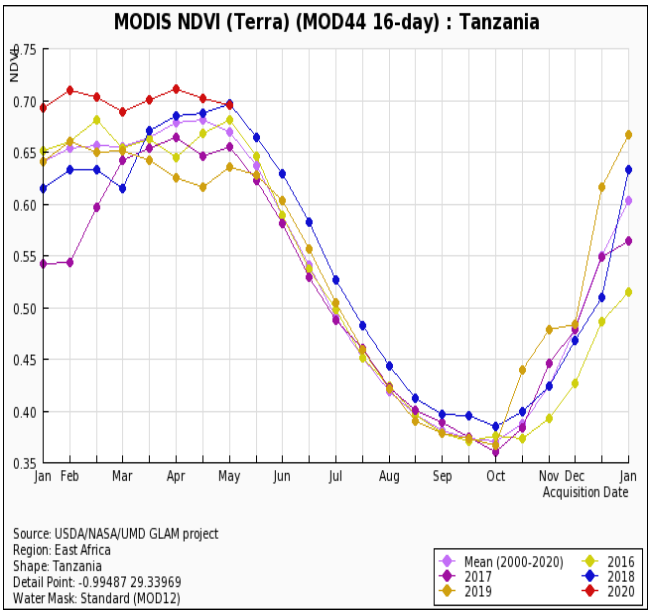

Figure 7: 16 days for April, 2020 as it compares to 2016, 2017, 2018, 2019 and the long-term mean. Data shows NDVI values bordering average for the whole country.

Compared to the long term mean NDVI and the NDVI anomaly for 2016, 2017, 2018 and 2019, the NDVI for April 2020 was higher than 2016, 2017, 2018, 2019 and the long-term mean **(Fig. 7).**This indicate that, the conditions in terms of rainfall performance and vegetation/crop performance were also better in April 2020 than in other mentioned years.

During the month of April 2020, the country was generally moist with greenish vegetation all over the county **(Fig. 6).**Water and pasture for livestock were also in favorable condition in most parts of the country. This was due to ongoing masika rainfall in bimodal regions and msimu rainfall in Unimoral regions.

Satellite-based crop Conditions

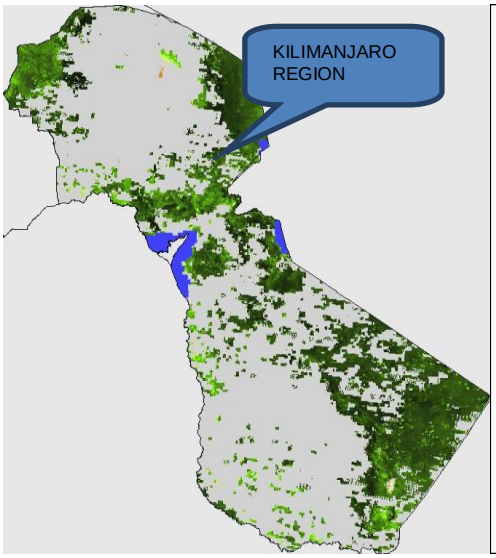

Figure 8: ***Normalized Difference Vegetation Index (NDVI) for Kilimanjaro anomaly for 06th-21st April, 2020.***

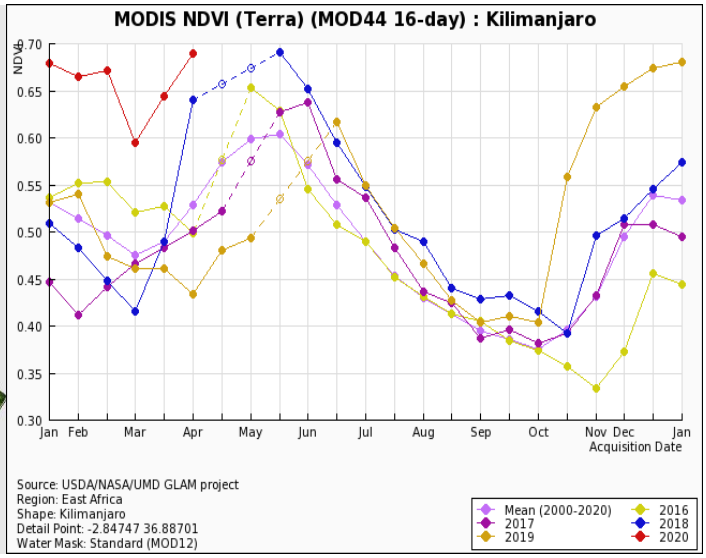

Figure 9:16 days NDVI for April, 2020 as it compares to 2016, 2017, 2018, 2019 and the long-term mean for Kilimanjaro region.

Compared to the long term mean NDVI and the NDVI anomaly, the NDVI for Kilimanjaro in April 2020 was higher than 2016, 2017, 2018, 2019 and the long-term mean **(Fig.9)**. This indicates that, the conditions in terms of rainfall performance and vegetation/crop performance in the region were also better in April 2020 than in other mentioned years. Water and pasture for livestock were also in favorable condition in most parts of the region. This is also evidenced in Figure 8 which shows deep green vegetation indicating favorable availability of rainfall.

However, flooding was also observed in some part of the region due to excessive rainfall in April 2020. Floods and landslides occurred in Moshi District Council in Kilimanjaro region. The heavy rains in the district led to overflow of the river Rau as a result the bridge collapsed and destroyed crops where about 423 acres of maize, rice, and beans were covered with mud. In addition to that, death of 4 people and loss of livestock like goats and cows were also reported.

UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE
NATIONAL FOOD SECURITY BULLETIN TANZANIA APRIL, 2020

Flooding in some part of Lind Region due to excessive rainfall in April 2020

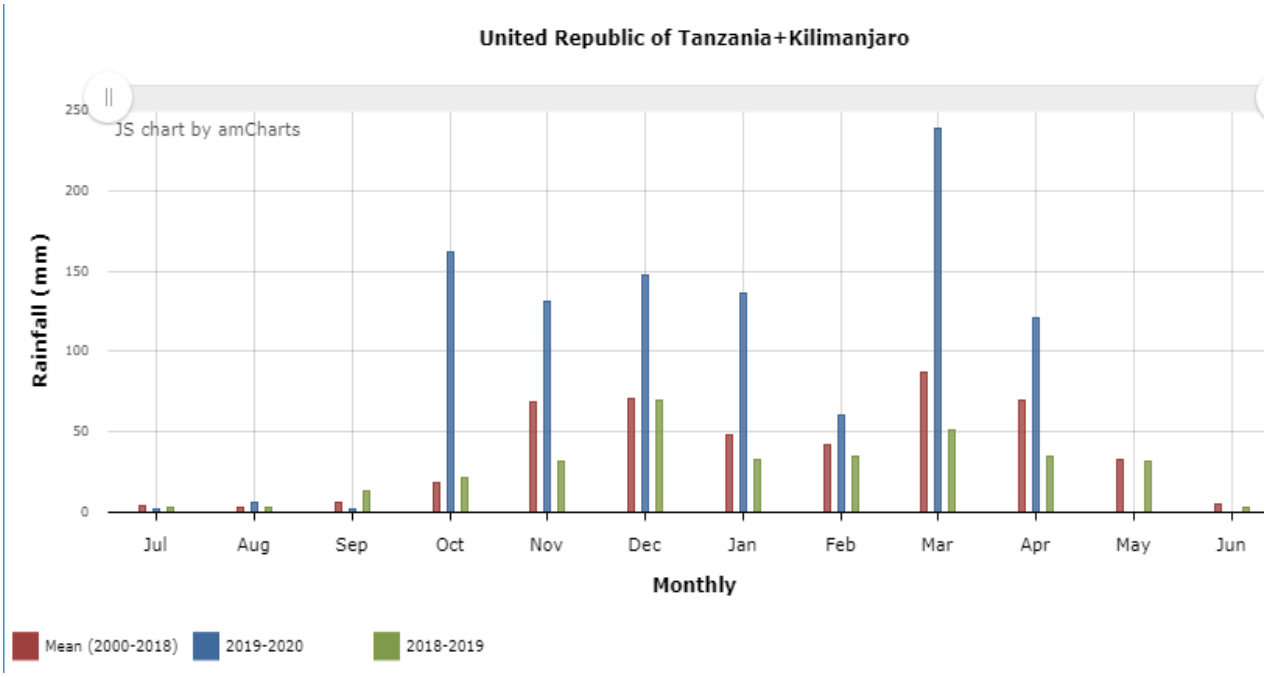

Fig 10 a Climatology of Kilimanjaro region

The above figure indicates how rainfall performs in 2019/2020 season as compared to 2018/2019 season for Kilimanjaro Region.

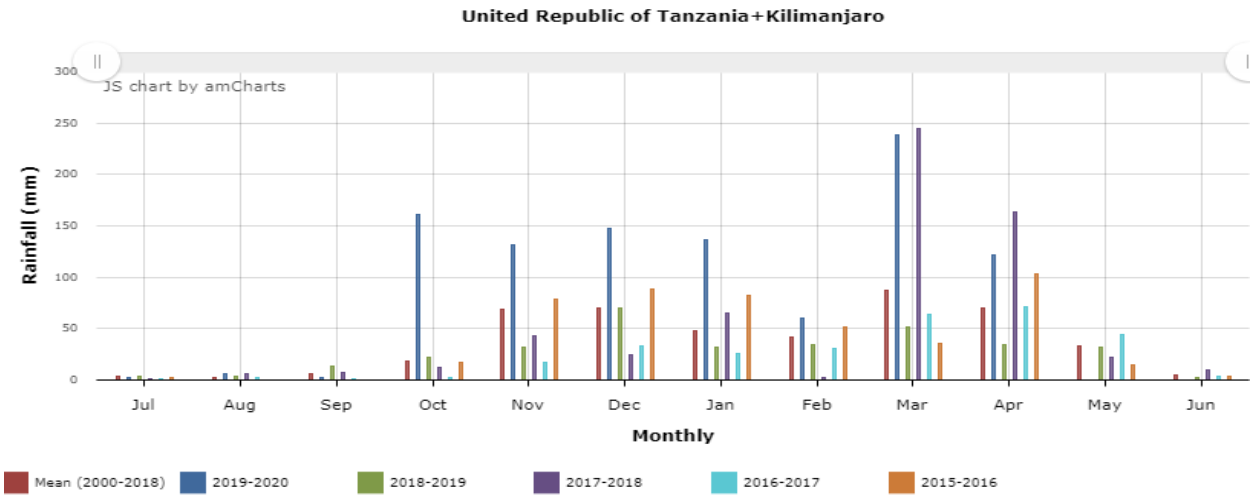

Figure 10b Climatology of Kilimanjaro Region for Five years comparison

The above figure indicates how rainfall performed in Kilimanjaro for five consecutive years as well as the start and the progressing of 2019/2020 season.

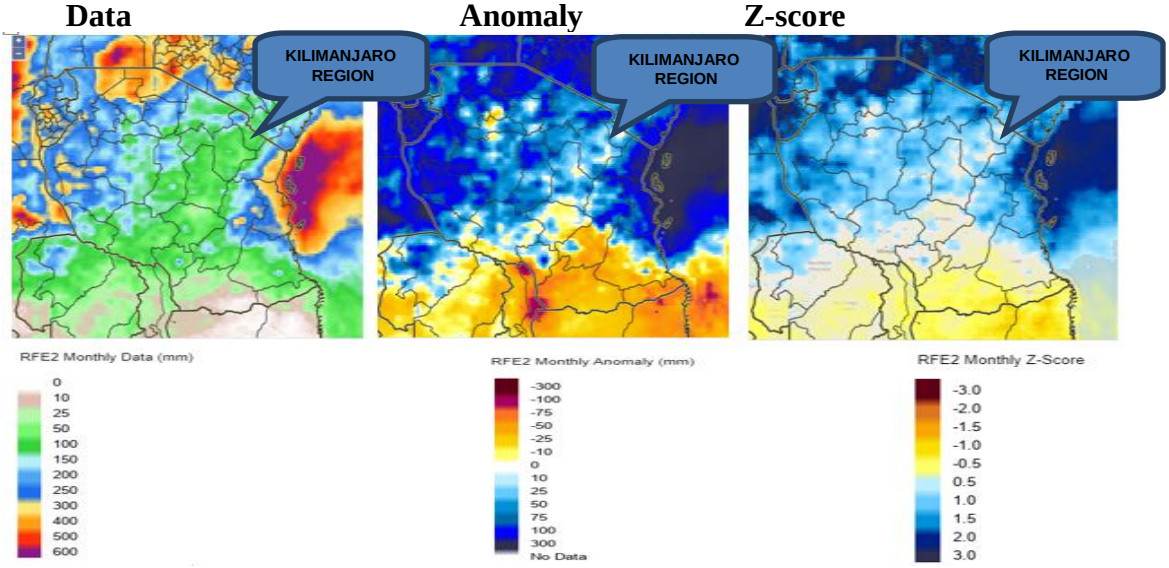

Figure 11 Significant increase of rainfall during April over Kilimanjaro region as compared to Climatology of an area. A clear increase was observed during April 2020.

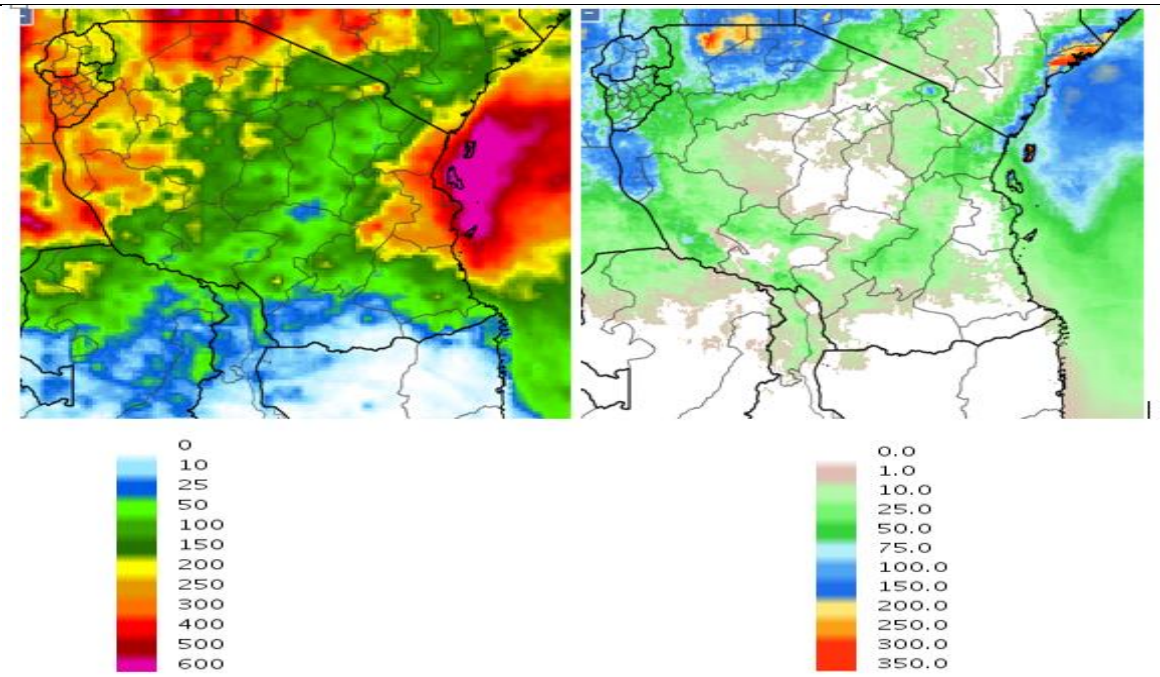

Fig 12: **The above figure shows the rainfall data (*Rainfall data in mm)* for April 2020 (Left) and Ten days forecast for May2020 (Right).**

Rainfall Performance and Agro meteorological Impacts during April, 2020

1 Bimodal area:

During the month of April most areas of the bimodal regime continued to receive well distributed *Masika* rainfall with periods of heavy rains at times. Moreover, occasional episodes of heavy rains have been experienced over the Lake Victoria basin, northeastern highlands and northern coastal areas. The amount of up 300 mm, 400 mm and 600 mm was obtained over the coastal belt of Dar es Salaam, Pwani and Tanga regions, Mara, Kagera and Mwanza regions, and Pemba and Unguja Isles respectively. This was 100mm – 300mm above normal rains over those areas. (Figure 13). The highest amount of daily rainfall was 202.6 mm recorded on 18th April, 2020, over the Zanzibar station, followed by Dar Port station in Dar es Salaam region (on 30th April) and Lyamungo (on 21st April) with amount 156.6 mm and 134.8 mm of rainfall respectively.

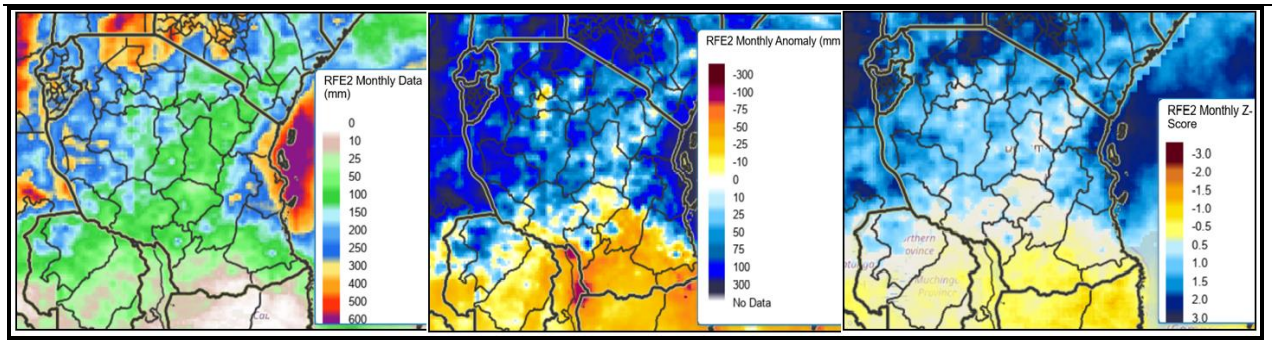

Figure 13: Rainfall distribution as Total (Left), Anomaly (centre) and z-score (right) from 1st – 30th April, 2020.

2 Unimodal areas:

Msimu rains over most of unimodal areas progressed well with good temporal and spatial distribution towards the end of season. Significant rainfall amounted between 250 and 300 mm was experienced over western areas, and occasional episodes of heavy rains have been prevailed over the central, southwestern highlands as well as the southern coast. Significant reduction of rainfall activities was noticed over southern region. It rained 50 mm less than normal (Figure 13).

3 Comparison between April, 2020 Rainfall and March, 2020:

The amount of rainfall received during April, 2020 is significantly low in amount as compared to the rains experienced on previous month (i.e during March, 2020) over the entire country except in few parts within Lake Victoria Basin (Kagera, Mwanza and Mara regions) where it rained higher by 100 mm. (Figure 14).

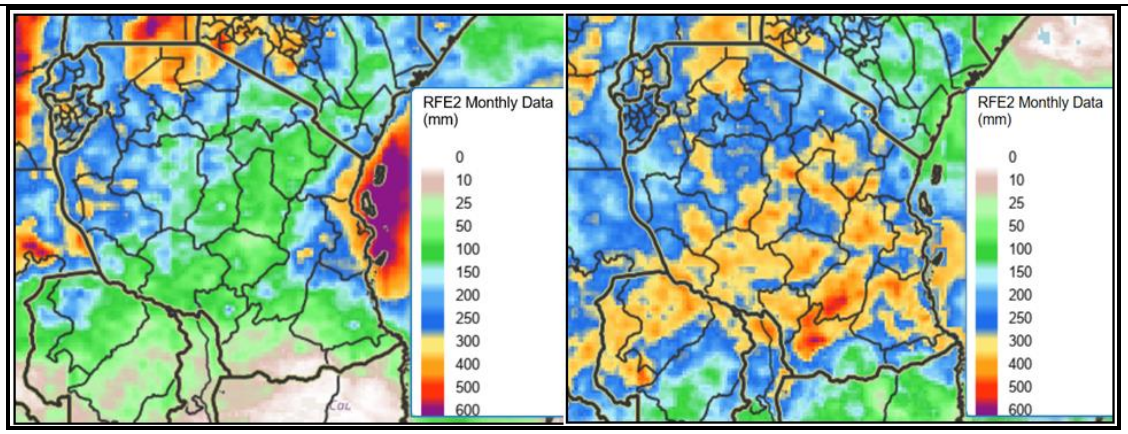

Figure 14: Total rainfall distribution for April, 2020 (left) and March, 2020 (right).

4 Comparison between April, 2020 Rainfall and April, 2019

The rainfall amount and pattern received during April, 2020 is more or less the same of April, 2019 over most parts of the country except Northern Coast, Lake Victoria Basin, and western areas where it accumulated higher in April, 2020 over those areas than in April, 2019, and received less rainfall over Ruvuma region. The higher rainfall received over some parts of the country continued to show remarkable trends for the 2019/2020 rains, which have been observed to be outstandingly high. It has been ranked fourth by recording the highest amount of rainfall since 1970.

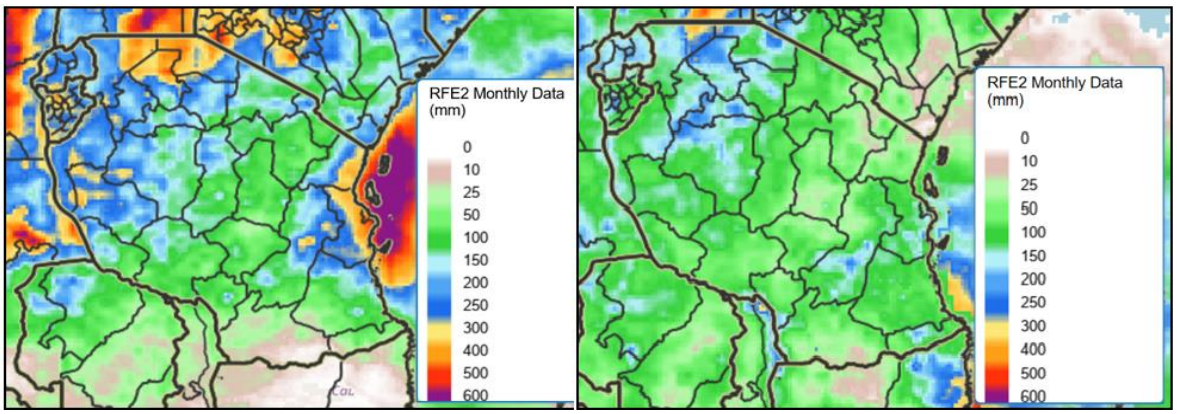

Figure 15: Total rainfall distribution for April, 2020 (left) and April, 2019 (right).

5 Agrometeorological Impacts during April, 2020

During the period under review, crops continued to progress well in most areas of the country due to ongoing seasonal rains. In most areas of unimodal rainfall regime, maize crop was at full maturity stage and harvesting was going on. Farmers in Mtwara, Lindi, Ruvuma, Iringa, Njombe, Mbeya, Rukwa, Dodoma, Singida, Tabora and Kigoma regions were continuing with harvesting of maize and beans, although excessive soil moisture was reported to affect crops.

On the other hand, in bimodal areas specifically Mwanza, Simiyu, Mara, Kagera, Morogoro and Arusha regions maize crop was at full maturity stage and farmers were mostly engaged in harvesting activities and pesticide application for late grown crops. Few cases of fall army worms were reported in Mara, Mtwara and Tanga regions. Rotting and leaf yellowing in beans was observed in Kagera due to prolonged rains that caused water logging and flooding. Flooding was also reported in Kilimanjaro, Tanga, Morogoro and Pwani regions, and Unguja Isle which led to crop damage and destruction of farm infrastructures. Despite water logging conditions, paddy was reported to be at wax ripeness stage over some areas of northern coast particularly Morogoro, Tanga and isles of Pemba and Unguja. Pasture conditions were observed to be in a good condition across the country.

6 Weather Outlook During May, 2020

The *Masika* rains are expected to continue during the month of May 2020 where by some areas of the bimodal are expected to receive rains especially during the first and second week of May, followed by reduction of rainfall during the last two weeks of May as the season rains are heading towards cessation. On the other hand, the *Msimu* rains over most areas of the uni modal is marking to an end with exception of few areas of Southwestern highlands which are expected to continue to receive slight to moderate rains during the month of May.

7 Expected Agrometeorological impacts and Advisory during April, 2020

Soil moisture is expected to continue improving over much of bimodal areas favouring crop growth and development. However, excessive soil moisture due to on-going rains specifically in Kagera, Morogoro, Islands of Zanzibar and Kilimanjaro is likely to affect crops. In some areas of the country water logging might furthered cause fungal infections on crops; therefore farmers are advised to use fungicide in controlling the disease. Few areas where cases of fall army worms were reported, farmers are advised to

continue with pesticide application based on extension officers' advisory. Pasture conditions are expected to continue improving significantly across the country. Furthermore; farmers, fishers, and livestock keepers, are advised to seek more advice from extension officers at their locality for crop management, and use of meteorological information and updates issued by TMA which is also available at http://www.meteo.go.tz/

8 Further Outlook for June, 2020:

During the month of June, 2020 mainly dry conditions are expected over most areas with slight off seasonal rainfall activities. However, Cool condition is expected over most areas of the country.

9 Average Prices For March, 2020

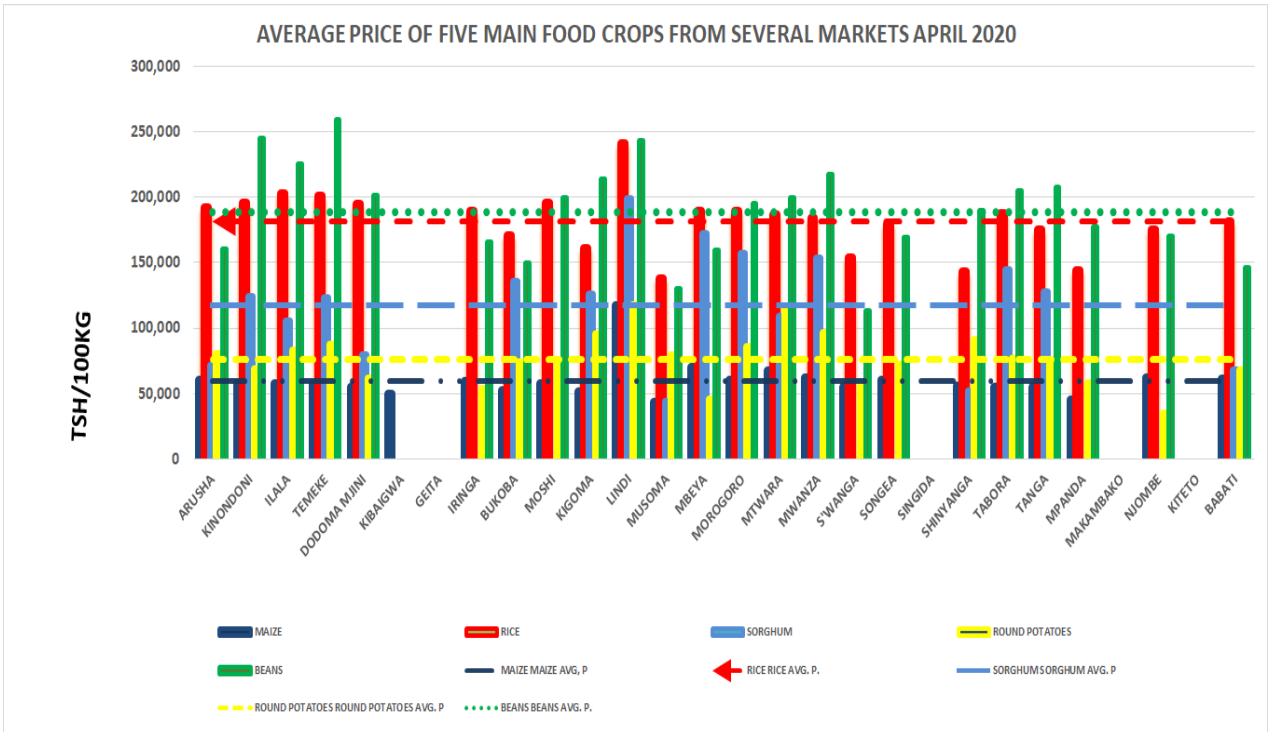

Figure 15: Major Food Prices at Selected Markets

The chart above depicts April, 2020 average market prices of major food crops in combination with Nation average price data for the selected markets. Lindi, Ilala and Temeke had the highest prices for rice ranging from(2,015/- to 2,414/- per Kg) while Musoma, Shinyanga and Mpanda had lowest market prices ranging from (1,380/- to 1,445/- per kg). Lindi, Mbeya and Mtwara had above average maize price while Musoma, Mpanda and Kibaigwa were all below average maize prices.

However, the lowest maize price were observed in the Musoma market (440/- per Kg), Mpanda market (454/- per Kg) and Kibaigwa market (498/- per Kg). Temeke, Kinondoni and Lindi markets had the highest prices for beans, ranging from (2,435/- to 2,590/- per Kg) while Sumbawanga, Musoma, Babati and Bukoba were all below average ranging from (1,137/- to 1,495/- per kg).

Lindi, Mbeya, Morogoro and Mwanza had the highest prices of Sorghum, ranging from (1,535/- to 1,991/- per kg) while Musoma, Shinyanga, and Babati markets had the lowest prices of sorghum ranging from (440/- to 680/- per kg). The prices of round potatoes also vary from one market to the other, Lindi, Mtwara, Mwanza and Kigoma had the highest prices of Round potatoes, ranging from (960/- to 1,175/- per kg) while Njombe, Mbeya and Iringa markets had the lowest prices of Round potatoes ranging from (350/- to 536/- per kg).

9 Food Crop Production Data at National Level

From the analysis at a national level, food crop production has reached **16,293,637** metric tons (Grain Equivalent) of which **8,896,830** metric tons are cereals and **7,396,807** metric tons are non-cereals. On the other hand, requirement for 2019/2020 is **13,819,863** metric tons of which **8,730,677** metric tons are cereals and **5,089,186** metric tons are non-cereals. Comparing these production figures with the requirement figures of **13,819,863** metric tons for 2019/2020 consumption year, it is evident that the country produced a surplus amounting **2,473,774** metric tons of total food crop production where **166,152** metric tons comprise cereals and **2,307,621** metric tons is non-cereals *(Table 1).*

UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE
NATIONAL FOOD SECURITY BULLETIN TANZANIA APRIL, 2020

Table I: The 2018/2019 Final Food Crop Production for 2019/2020 Food Security

Cereals	**Maize**	**Sorghum & Millets**	**Rice**	**Wheat**	**Cereals**
Production	5,652,005	1,117,839	2,063,598	63,388	8,896,830
Requirement	5,486,326	1,974,778	1,003,244	266,329	8,730,677
Gap (-) / Surplus (+)	165,679	-856,939	1,060,353	-202,942	166,152
SSR	**103**	**57**	**206**	**24**	**102**
Non-cereals	**Pulses**	**Banana**	**Cassava**	**Potatoes**	**Non-cereals**
Production	1,888,132	1,135,645	2,728,031	1,644,999	7,396,807
Requirement	817,428	936,359	2,337,839	997,559	5,089,186
Gap (-) / Surplus (+)	1,070,703	199,286	390,192	647,440	2,307,621
SSR	**231**	**121**	**117**	**165**	**145**
TOTAL	**Cereals**		**Non-cereals**		**TOTAL**
Production	8,896,830		7,396807		16,293637
Requirement	8,730,677		5,089,186		13,819,863
Gap (-) / Surplus (+)	166,152		2,307,621		2,473,774
SSR	**102**		**145**		**118**

Source: Tanzania Preliminary Food Crop Production Forecast for 2018/2019

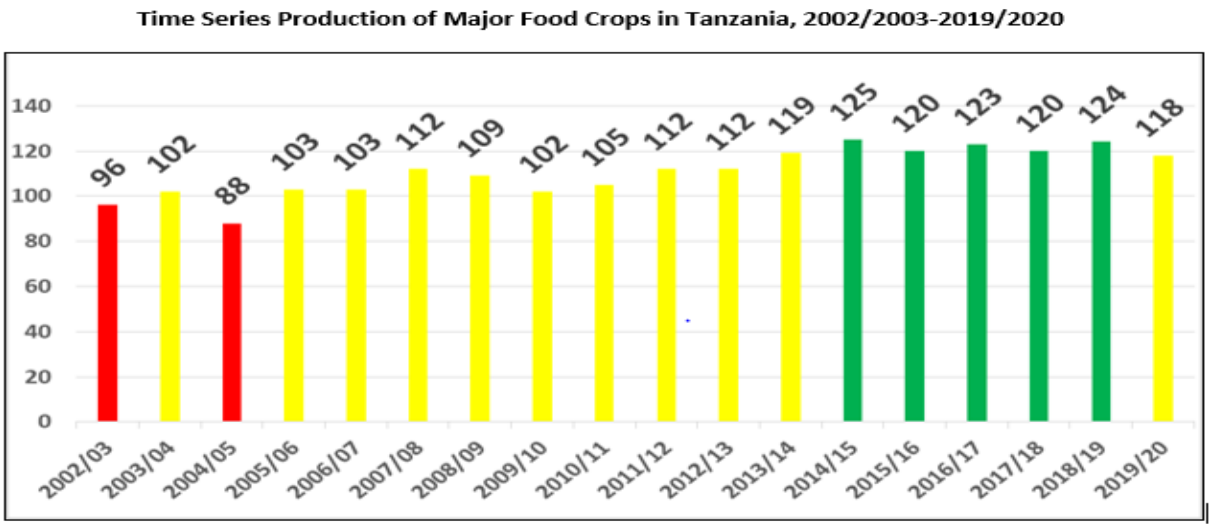

Figure 16: The Red, Yellow and Green colours indicate years where the country had production levels at Deficit, sufficient and surplus respectively.
Source***: Food Crop Production Reports***

Contribution of Different Crops for Food Security 2019/2020 Consumption Year

The proportional contribution crop-wise for 2019/2020 consumption year is as indicated in the **figure.**

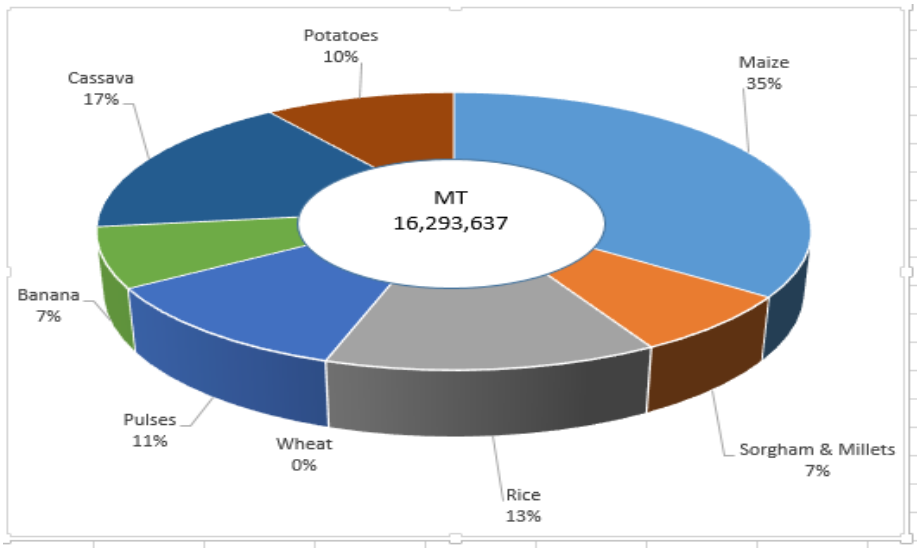

Figure 17. Crop wise proportional contribution, Source*: *Food Crop Production Reports

10 Public Awareness

10.1 Occurrence and control of crop Pests.

The survey conducted by Plants Health Services Section in various regions in the country revealed the presence of crop pests such as **fall army warm** in all districts councils of Manyara region and. Various efforts have been taken by the Government to overcome the situation. Presence of quelea quelea inversion was also observed in Morogoro, Shinyanga, Mwanza, Dodoma, Mbeya and Coast regions. The ministry took various measures to control the pests, including use of aircraft to spray pesticides in quelea affected areas and other pesticides were used to control fall army worms. On other hand, the survey identified the presence of rodents in Kilosa, Morogoro rural, Meru and Siha District councils where the control is still going on.

10.2 Impact of COVID-19 on food supply, demand and access

COVID-19's impacts on food supply and demand will directly and indirectly affect all four pillars of food security and nutrition (FSN): availability, access, utilization and stability. It is also expected that there will be immediate effects resulting from the containment measures adopted in several countries, and these measures will also have longer-term impacts affecting the full global economy. Impact on food supply as caseloads of COVID-19 increase in countries around the world, there are likely to be disruptions to agri-food supply chains if the spreading continues. Although there may have been plenty of food within the supply chains at the start of the crisis, disruptions to food supplies have tracked outbreaks due to a rise in panic buying by people concerned about food supplies during potential lockdowns in some countries across the region. If outbreaks around the world are severe or continue over long periods of time, there are likely to be more serious disruptions that may reduce food availability in the markets over the medium and longer terms. These disruptions may occur as a result of producers themselves becoming ill or because of disruptions to markets due to policies to contain the virus, and the resulting weakened capacity to produce, transform and transport food.

One specific issue is the access to inputs in time for the agricultural planting season, as delays due to transport and market disruptions may affect yields and income. Restriction to workers' movements will cause workforce shortages especially relevant for labour-intensive crops, such as fruits and vegetables. Disruptions in food chains and social distancing policies may also affect social assistance, including children relying on school meals when schools close down. Declining demand due to a decline in purchasing power will in turn affect the ability and willingness of farmers and producers to invest and adopt adequate technology and will further shrink food production and availability.

Impact on food demand Social distancing policies and illnesses cause a drop in the overall demand and in the demand for food-related services (e.g. restaurants, hotels) with repercussions on loss of jobs, incomes and livelihoods.

Starting with the containment and social distancing policies, the pandemic creates first a spike in demand, due to panic buying and hoarding of food by consumers, which will increase food demand in the short-term, primarily among those who have the means to over-buy food for storage in their homes. However, it is expected that this short-term spike in purchases will be followed by a declining trend in demand, both in terms of physical ability to purchase food due to movement restrictions and closure of restaurants or other catering facilities, and in terms of loss of income and purchasing power linked to the loss of jobs and the freezing of economic sectors. Changes in short term preferences towards packaged food due to perceptions of food safety or convenience can become long-term changes, with repercussions on food systems, livelihoods of food producers and dietary diversity.

Impact on food access Supply disruptions as well as the loss of jobs, incomes and employment outlined above will fall especially hard on low wage and casual workers with more limited savings and access to public healthcare in some contexts. In the absence of responsive social safety nets and robust income assistance, the working poor will see their ability to access nutritious food decline in many situations. Many households will downshift to so-called "inferior goods" as a cost-saving measure, as well as more shelf-stable goods, which could be more processed and less nutritious foods in industrialized countries, or less processed and arguably more nutritious foods in less industrialized countries. In brief the supply, demand and access effects of COVID-19 are interconnected with one another and affect food systems in complex ways. Supply chain disruptions affect patterns of both supply and demand, while economic hardship affects access which influences overall food demand as well as supply chain decisions. All of these effects ultimately affect FSN outcomes.

UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE
NATIONAL FOOD SECURITY BULLETIN TANZANIA APRIL, 2020

Terms and Definitions		
MOA	Ministry of Agriculture	
NFSD	National Food Security Division	
TMA	Tanzania Metrological Agency	
RAS	Regional Administrative Secretary	
NDVI	Normalized Difference Vegetative Index. The NDVI is used to measure and monitor plant growth, vegetative cover, and biomass production.	
MODIS	Moderate resolution Imaging Spectro-radiometer	
BIMODAL	Areasreceivingrainstwiceayear.Thismeansthatthemajorityofprecipitationfallsintwodistinct seasons a year i.e short rains Vuli-September to December, Long rains Masika-March to June.	
UNIMODAL	Areas receiving rains once a year Msimu rains i.e. from November to April	
Conditions	Exceptional	Conditions are much better than average at time of reporting
	Favourable	Conditions range from slightly below to slightly above average at reporting time
	Watch	Conditions are not far from average but there is a potential risk to production
	Poor	Crop conditions are well below average. Crop yields are to be 10% or more below
	Average	This is only used when conditions are not likely to be able to recover, and the impact on production is likely
Drivers	Wet: Flooding	Wetter than Average due to flooding
	Wet: Water Logging	Wetter than Average due to water logging
	Dry	Dryer than Average
	Hot	Hotter than Average
	Cold	Cooler than average or risk of frost damage
	Extreme Event	This is a catch-all for all other climate risks (i.e.hurricane, typhoon, frost, hail, winterkill, wind damage, etc.)
	Delayed Planting	Postponement to the start of the season
	Pests	Destructive insects or animals
	Disease	Impairment of the crop that causes abnormal functioning
	Wind Damage	Damage caused by high winds
	Flood	An excessive amount of water located beyond its normal boundaries
	Socio-political	Social or political factors that impact crop conditions (i.e. policy changes, agricultural subsidies, government intervention, etc.)
	Late Rains	Delayed onset of the rainy season
Trends	Improving	Crop conditions are improving
	Stable	Crop conditions are stable
	Worsening	Crop conditions are worsening

UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE
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The figure below shows vulnerable areas in red colour