THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF AGRICULTURE LIVESTOCK AND FISHERIES
Kilimo House I, Temeke, P.O. Box 9192, DAR ES SALAAM. Telephone: +255 –022-2862064, Fax: +255 – 022-2862077, E-mail: psk@kilimo.go.tz

NATIONAL FOOD SECURITY BULLETIN

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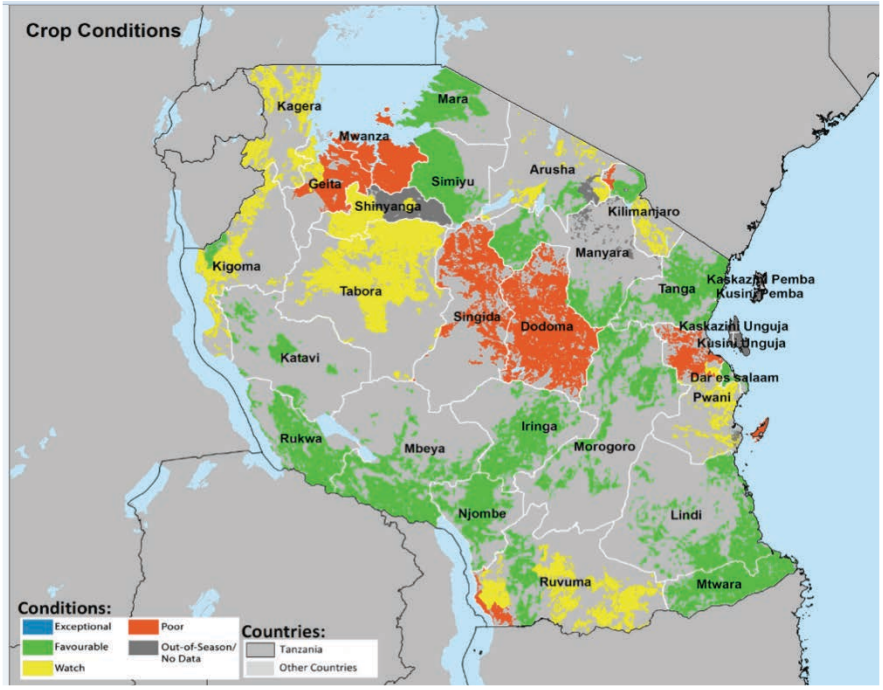

Fig.1 This crop condition map synthesizes information for all crops as of 31st December 2016. Crop conditions over the main growing areas are based on a combination of national and regional crop analyst inputs along with remote sensing data and rainfall data provided by the Tanzania Meteorological Agency.

NATIONAL HIGHLIGHTS

- In Unimodal areas, farmers are busy with land preparation ready for 2016/17 cropping season. In bimodal, late onset of vuli rains led to late start of vuli planting for 2016/17 cropping season. Farmers are continuing with land preparation ready for planting whenever rains get stable.
- Late onset of Vuli and msimu rains continue to be experienced in both bimodal and unimodal areas.
- Postharvest losses at any level still remain a major drain on food production and food close to 70% of fruit and vegetables produced is lost along the supply chain.
- The major three Food Crops prices (Maize, Beans and Rice) in majority of the market centers were below average.
- The price of rice was observed to be high in Lindi, Njombe, Ilala and Songea, while it was lower in Geita, Mpanda and Shinyanga markets.
- Lindi, Morogoro, Ilala and Kinondoni had maize price above average while Mbeya, Songea and Njombe markets were observed to have prices below average.
- Lindi, Temeke and Morogoro had beans price above average while Mbeya, Geita and Njombe were observed to have prices below average.

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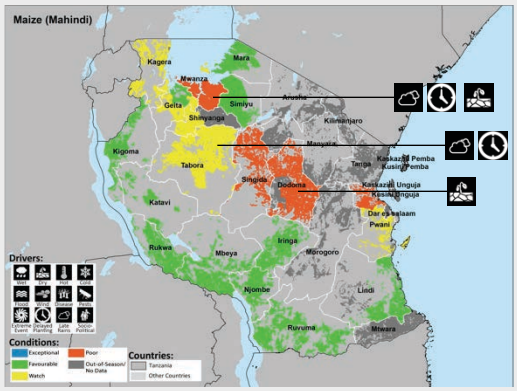
Crop Condition Highlights for Major Food Crops

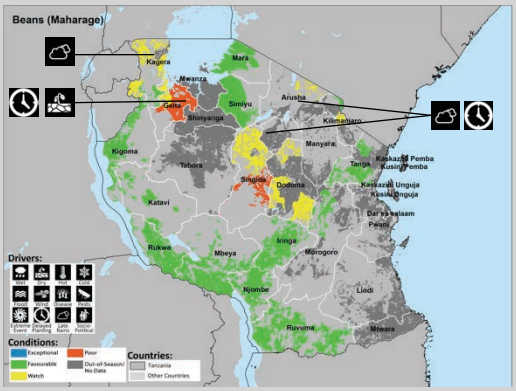
Maize conditions

Following late onset of vuli rains, many parts of bimodal areas experienced late planting of maize. The planted maize in many parts of bimodal areas e.g Mwanza, Kagera, Pwani and Geita experienced poor and watch conditions due to insufficient rains. In unimodal areas, farmers continue with land preparation activities ready for 2016/2017 cropping season while waiting for the stability of rains. Some few parts of unimodal areas which have managed to plant the maize crops (e.g Rukwa, Mbeya, Njombe and Ruvuma) experienced favorable conditions.



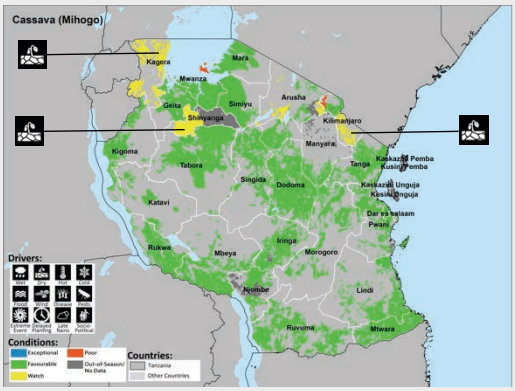
Beans conditions

Following late onset of vuli rains, many parts of bimodal areas experienced late planting of bean crop. The planted beans in e.g Kagera, Kilimanjaro, Arusha and Geita experienced poor and watch conditions due to insufficient rains. Favorable conditions have been experienced in some parts of unimodal areas which have managed to plant (e.g Rukwa, Mbeya, Njombe, Iringa and Kigoma) while watch conditions were experienced in Ruvuma, Singida and Dodoma. Other parts of unimodal areas farmers continue with land preparation activities ready for 2016/2017 cropping season while waiting for the stability of rains.



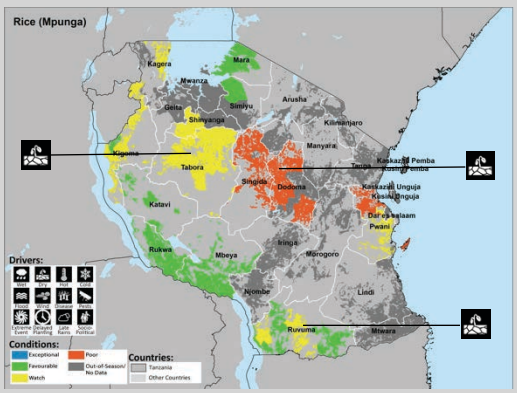
Cassava conditions

Cassava was at different stages of growth in majority of the regions experiencing favorable conditions. However Kagera, Shinyanga, Kilimanjaro and some parts of Ruvuma and Pwani experienced watch conditions due to insufficient rains.



Rice Condition

Generally, in large part of the country farmers continue with land preparation activities ready for 2016/2017 cropping season while waiting for the stability of rains. Some parts of Kigoma, Kagera, Singida, Tabora, Dodoma, Ruvuma and Pwani managed to plant but due to insufficient rains, the crop experienced watch and poor conditions. However, some few parts of Katavi, Rukwa, Mbeya, Mara, Ruvuma and Simiyu; rice experience favorable conditions.



Satellite-based crop/vegetation Conditions

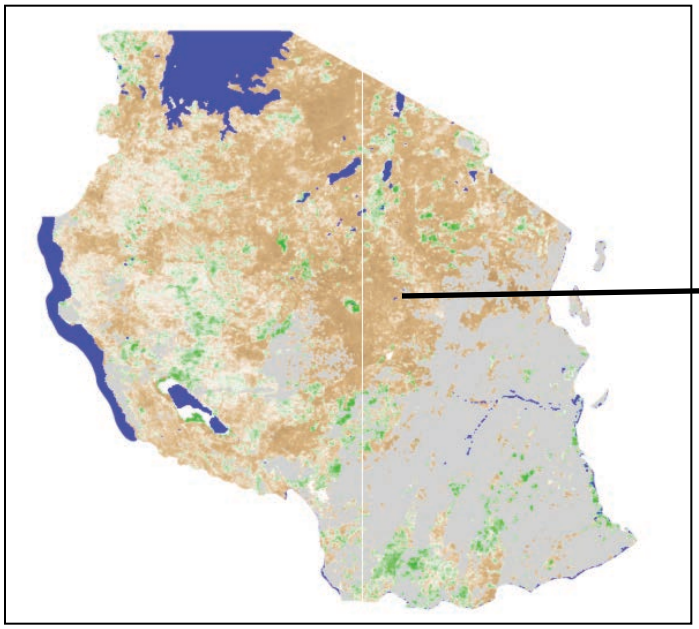


Fig.5 MODIS Normalized Difference Vegetation Index (NDVI) anomaly for 18th December to 3rd January 2017.

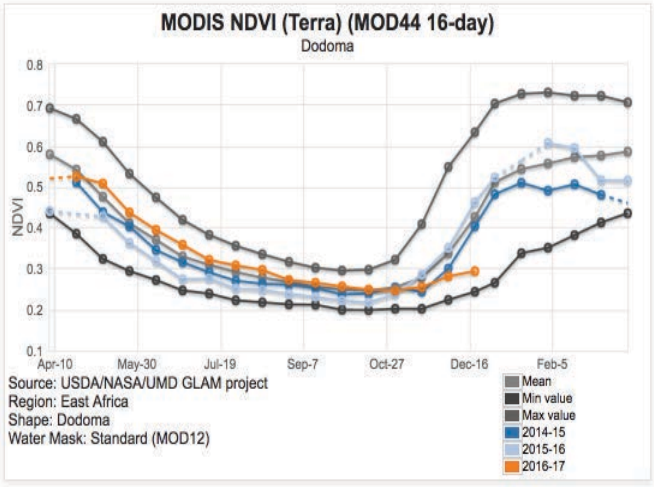


Fig.6 MODIS 16 day NDVI for 18th December to 3rd January 2017 as it compares to 2014 and 2015 and the longterm mean. Data show NDVI values boarding historical low for Dodoma region.

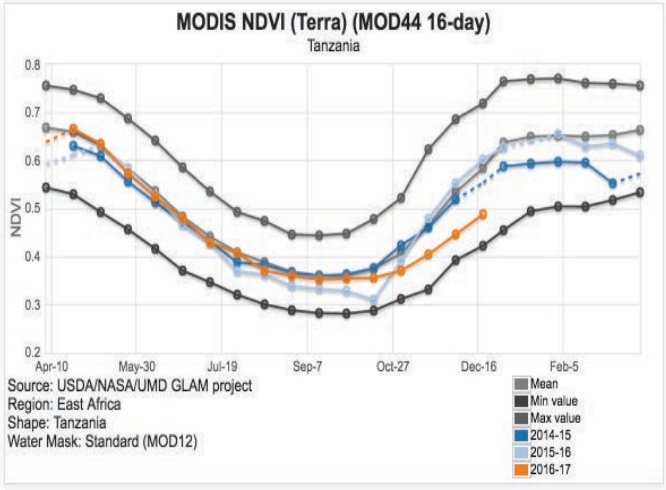


Fig.7 MODIS 16 day NDVI for 18th December to 3rd January 2017, as it compares to 2014 and 2015 and the longterm mean. Data show NDVI values bordering average for the whole country.

Compared to the long term mean NDVI and the NDVI anomaly for 2014, and 2015; December 2016 NDVI is below long term average as well as 2014 and 2015 averages for most of the country. Minor improvements have been seen in some parts of Southern Highlands, Lake zones, Western part and the Northern part of the country while the Central zone, Coastal areas and the Southern part of the country still experience declining conditions (Fig. 5 and Fig. 7).

Vegetation condition was below average in many parts of the country (South western, Central parts, Western, Eastern part, Southern and parts of Coastal strip) while few areas in the Southern Highlands (some parts of Katavi, Rukwa, Mbeya, Njombe and Iringa) experienced above average vegetation condition. However, in regions like Tanga, Dodoma and Singida, drier conditions were experienced as compared to long term mean NDVI and the NDVI anomaly for 2014, and 2015.

Many parts of bimodal areas experienced late onset as well as inadequate Vuli rains which led to delayed planting and poor performance of the planted crops. due to delayed onset of Vuli rains. Other bimodal areas failed to plant completely due to lack of rainfall. Land preparation activities are still on going in most of unimodal areas while planting activities have started in some few parts.

Rainfall Performance during December 2016

The country continued to experience below normal rainfall in most areas except some places over Kigoma, Tabora, Rukwa, Katavi, Tanga, Unguja, Lindi and Mtwara regions that experienced normal to above normal rainfall which received normal to above normal rainfall as illustrated in Figure 8. Generally, below normal rainfall was experienced over both the bimodal and unimodal areas. Otherwise, areas include regions around Lake Victoria basin, north-eastern highlands, central areas, south-western highlands, southern region and some places over northern coast and southern coast experienced below normal rainfall performance.

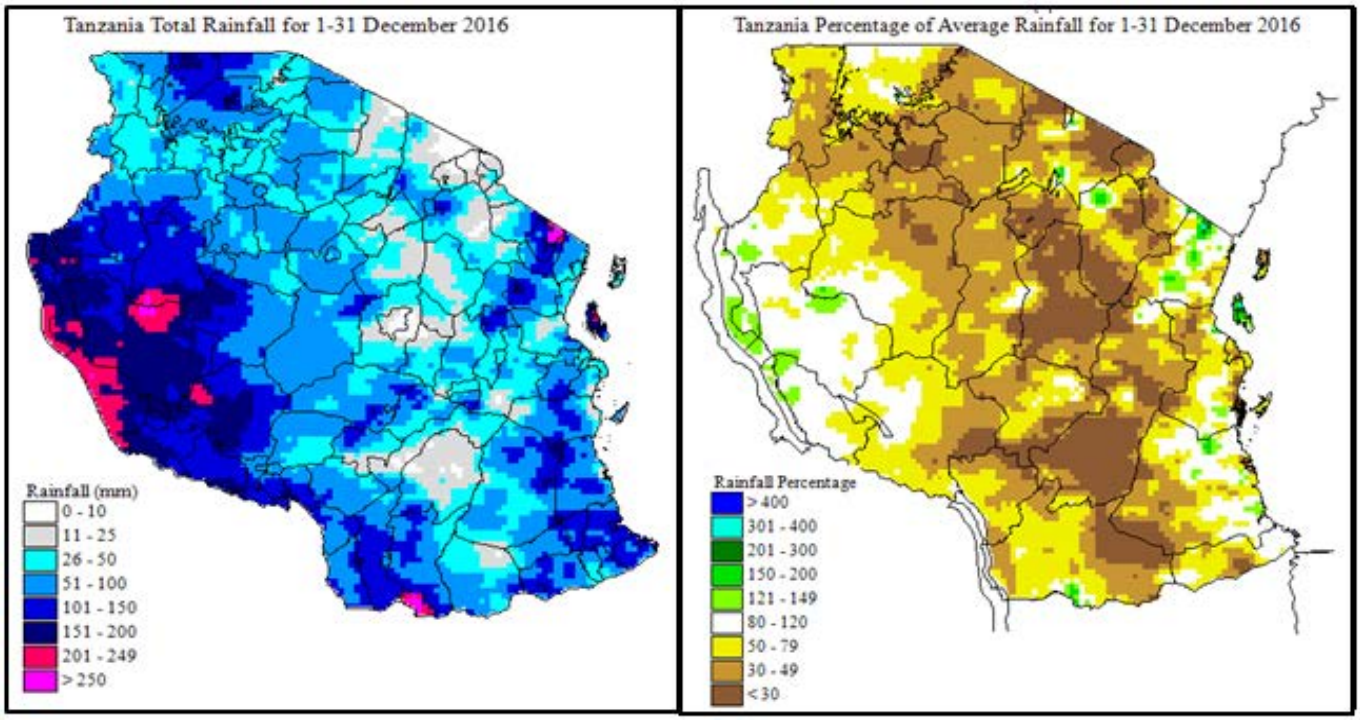


Figure 8: Rainfal distribution during December, 2016 **Rainfall Performance during December**

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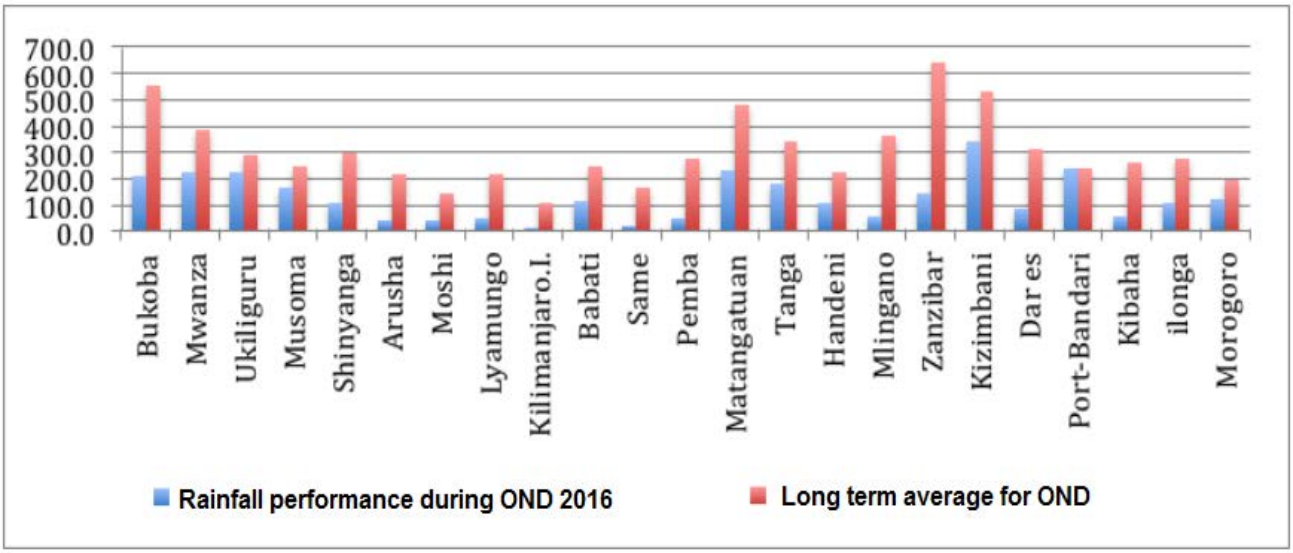
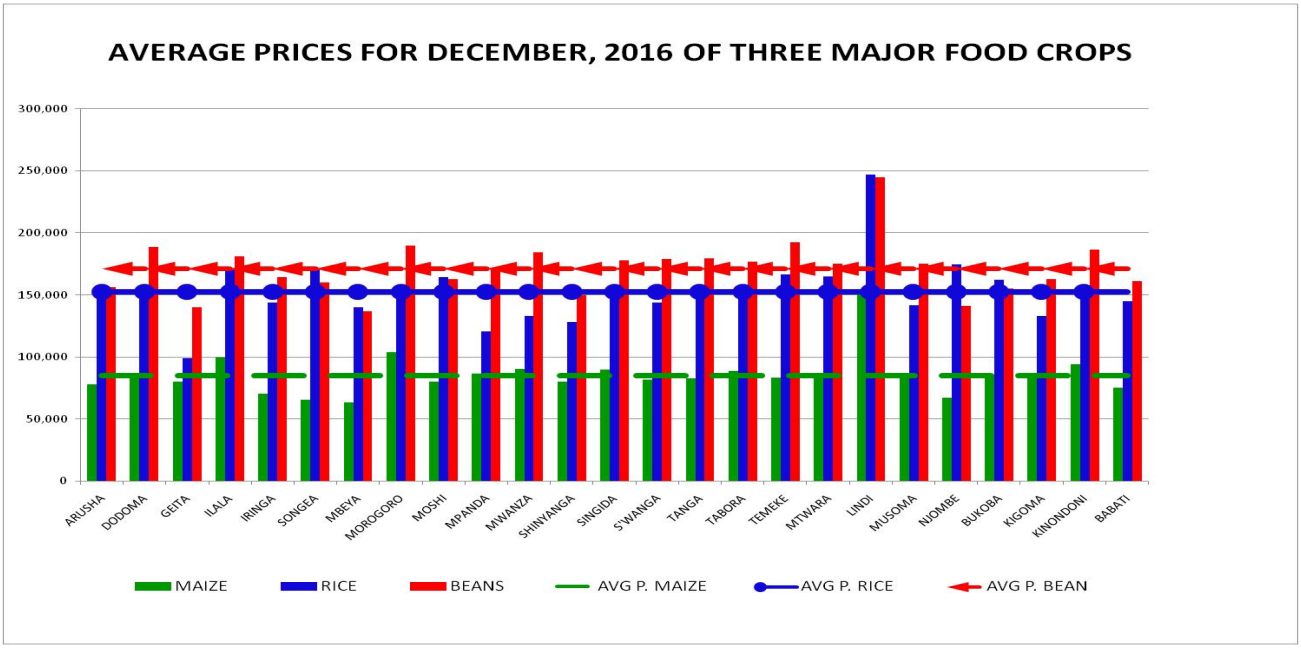
Agro-meteorological Impacts during December

Persistent low moisture conditions due to prolonged below normal rainfall performance impeded growth and development of vuli crops over much of the bimodal area, leading to wilting of maize crop in some places including Kagera, Mwanza, Mara, Arusha, Kilimanjaro, Tanga and Pwani regions. The crops reported were at growing stage having nine leaves, except for early planted maize crop over Mwanza region particularly at Sengerema, which was reported to be at waxy ripeness stage and were in good condition. Some places over the unimodal areas, farmers were finalizing land preparation and few farmers practicing dry seeding as reported in Kilolo District Iringa. In the western regions crops were reported to be at vegetative stage with few cases of armyworms attack reported in Kigoma. Pasture condition and water availability for livestock and wildlife remained poor in many places especially in Dodoma, Arusha, Manyara, Simiyu and Shinyanga regions

Figure 9. Vuli rainfall intensity for 2016 as compared with long term mean



Major Food Prices at Selected Markets:



The chart above shows average market prices for major food crops in combination with average price data for the selected markets for December, 2016. Lindi, Njombe,Ilala and Songea had the highest prices for rice ranging from(1,700/= to 2471.43 per Kg) while Geita, Mpanda and Shinyanga had lowest market prices ranging from (990/= to 1278.57/= per kg). Lindi, Morogoro and Ilala had above average maize price while Mbeya, Songea and Njombe were all below average maize prices. However the lowest maize price were observed in Mbeya market (633.33/= per kg), Songea market (656/= per kg) and Njombe market (671/= per kg). Lindi, Temeke and Morogoro had the highest prices for beans ranging from (1900/= to 24450/ = per kg) while Mbeya, Geita and Njombe had the lowest prices of beans ranging from (1367.50/= to 1410.50/= per kg).

National Food Availability

The table below shows 2015/16 Food Crop Production versus Requirement for the year 2016/17

2015/16 Food Crop Production Vs Requirement for the year 2016/17			
Total	**Cereals**	**Non-Cereals**	**Total**
Production	9,457,108.00	6,715,733.00	16,172,841.00
Requirement	8,355,767.00	4,803,560.00	13,159,326.00
Deficit (-) / Surplus (+)	1,101,341.00	1,912,174.00	3,013,515.00

Source: *MALF, Preliminary Food Crop Production Forecast 2015/16*

Vulnerability:

Vulnerability in terms of delayed and prolonged drought in bimodal and unimodal areas continues to be a major threat of food crop production. Up to the end of December, most of the regions continued to report on poor rainfall performance and distribution, or total rainfall delay from normal. In some regions crops such as maize and beans have experienced wilting due lack of enough soil moisture.

Maize and Beans condition up to December, 2016 in Geita, Mbogwe and Bukombe districts in Geita Region

Intervention:

- The government has continued to monitor weather condition towards crop condition, as well as monitoring of food situation in all 26 regions for more effective intervention.
- The government has continued to insist as well as to sensitize on the use of draught tolerant varieties and early maturing varieties.
- The exercise of conducting a comprehensive food security and nutrition vulnerability assessment is under way and report will be released by January, 2017 whereby the extent of food and nutrition insecurity population and more short term proposed interventions will be documented.

Medium to Long-Term Strategies:

- Provide training sessions on improved crop production, crop diversification as well as marketing in order to increase household income.
- Improve market linkages and accessibility through construction of roads, market infrastructures introduction of regulations for the transport of commodities, etc.
- Construction and rehabilitation of drainage systems and irrigation schemes as well as improved agricultural land management to avoid water logging.
- Promote a fully-fledged watershed management in order to reduce the associated risks of flooding of the agricultural land through - tree planting, land use management plans, riverbank maintenance, construction of dams, etc.

Post Harvest Information

Maize and groundnuts are the major staple food for Tanzanian population and accounts for 41% and 3 % of dietary energy requirements, respectively. These crops are highly susceptible to fungal infestation and aflatoxin contamination which affects the health of consumers and reduce country's export earning potential. Among the risks associated with consumption of contaminated maize and groundnuts include immune suppression, malnutrition, liver cancer and death with acute exposure.

A country situational assessment on the aflatoxin problem conducted with the support from Partnership for Aflatoxin Control in Africa (PACA) confirmed low level of awareness on aflatoxin issues, limited access to guidelines for good agricultural practices and poor storage were behind the prevalence of aflatoxin in maize and groundnuts grown and consumed in Tanzania. Currently, the MALF in collaboration with TFDA, TPRI and respective LGAs conducted a survey in NFRA warehouses (Rukwa, Makambako, Northern and Central zone) to know the status of quality and safety of the stored grains before distribution to the needy. The exercise was scheduled to be done in a regular basis. The focus is to protect the health of consumers intended. The sample also was subjected to Laboratory analysis of which the results will act as a benchmark for setting several important interventions towards aflatoxin mitigation including creating awareness to the public and provision of education on proper Pre- and postharvest handling technology and management; capacity building and institutional strengthening. In this regard, Private sector participation will be highly encouraged.

Maize affected by mycotoxin producing fungi

Groundnuts affected by mycotoxin producing fungi

IN SEASON FRUITS

The country postharvest losses in fruits and vegetables are estimated to be 40-80 percent depending on the type of the product.

The country postharvest losses in fruits and vegetables are estimated to be 40-80 percent depending on the type of the product. Due to perish ability of tomatoes, farmers are forced to sell tomatoes to traders on a credit basis. Currently (in 2016), during bumper harvest/season (Aug-Nov) tomato were sold either at a through away price, feed to the animals or left in the farm/at the collection/selling point until rotting/go to waste. During off season tomatoes are totally disappear and / or available at the market at a very high price which are unaffordable to most farmers and final consumers in general. Tomatoes have a potential to contribute significantly to the government's efforts to reduction of abject poverty and in attaining the first millennium development goal. Creating awareness on GAP and post-harvest handling of tomato in Tanzania is very critical for reducing losses, increasing farmers' income and ensuring food security. Therefore, efforts should be done to ensure utilization of improved post-harvest practices in the tomato supply chain.

PUBLIC AWARENESS

How To Make Cash From Rabbit Farming

There is a new wave of rabbit keeping in Tanzania particularly in Dar Es Salaam. Rabbits are small-bodied animals that need little space and input. Also, they are very prolific and efficient converters of feed into meat. The meat is nutritious, high in protein, low in fat and cholesterol. They can also be raised for non-food purposes. This revealed how rabbitry is an important enterprise in areas where there is shortage of agricultural land and for the unemployed youths who lack the critical production resources (land and capital). Rabbitry provides an excellent option to people who are conscious about dieting and are avoiding high fat / high cholesterol foods as much as possible.

Rabbit farming is real and quick farming that empowers youth, generate foreign exchange, economic stability and growth, food security and employment opportunities. On the other hand rabbit farmer at Kijitonyama area said rabbit farming is the best, quick and available job that farmers especially youth in Tanzania should consider embarking on to build their future.

Challenges

- Rabbits are more susceptible to coccidiosis that many times proves lethal to the young rabbits.
- Lack of knowledge about the modern farming practices
- Lack of capital to buy inputs.
- Rabbit is not a customary item in the Tanzanian diet. Many people are reluctant to try rabbit meat.
- Technical personnel trained in rabbit production are lacking.

Terms and Definitions		
MALF	Ministry of Agriculture Livestock and Fisheries	
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 Spectroradiometer	
BIMODAL	Areas receiving rains twice a year. This means that the majority of precipitation falls in two distinct 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
	Favorable	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 likely to be 10% or more below
	Average	This is only used when conditions are not likely to be able to recover, and 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 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 rainy season
Trends	**Improving**	Crop conditions are improving
	Stable	Crop conditions are stable
	Worsening	Crop conditions are worsening

Sources and Disclaimers:

The Tanzania National Food Security Bulleting is compiled by the National Food Security Division (NFSD) in the Ministry of Agriculture Livestock and Fisheries (MALF) with inputs from the Tanzania Meteorological Agency (TMA. The findings and conclusions in this joint ministerial and departmental report are consensual statements from the NFSD team, and do not necessarily reflect those of the individual agencies represented by these experts.