



Food and Agriculture Organization
of the United Nations

Food Chain Crisis Early Warning Bulletin



Forecasting threats to the food chain affecting
food security in countries and regions

No. 25
October-December 2017

NOTE TO THE READER

The purpose of the FCC (Food Chain Crisis) Early Warning Bulletin is to inform FAO and other international organizations, countries, scientific experts, and decision makers on the forecast of threats to animal and plant health and food safety having a potential high impact on food and nutrition security for the three months ahead. These threats are transboundary animal and plant pests and diseases including forest pests and aquatic diseases, and food safety threats.

The bulletin contains official and unofficial information from various sources collected and analyzed by FAO experts.

The FCC Early Warning Bulletin is a product of collaboration between the Intelligence and Coordination Unit of the Food Chain Crisis Management Framework (FCC-ICU), the FAO Emergency Prevention System (EMPRES) for transboundary animal and plant pests and diseases and food safety threats, the FAO Global Early Warning System for transboundary animal diseases, including zoonoses (GLEWS), and the Global Information and Early Warning System (GIEWS). FCC-ICU coordinates and produces the bulletin.

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FCC FORECASTING METHODOLOGY

Transboundary animal and plant pests and diseases, including forest pests and aquatic diseases, and food safety threats are raising public awareness due to their potential high impact on food security, human health, livelihoods, and trade. These threats have highlighted the need to predict such threats in a comprehensive and integrated manner, oriented at the whole food chain. Predicting threats will allow timelier implementation of preventive and control measures, and thus will reduce their impact and limit their geographic spread.

FAO Food Chain Crisis-Intelligence and Coordination Unit (FCC-ICU) has developed an integrated forecasting approach to assess the likelihood of occurrence of threats to the food chain (FCC threat) for the upcoming three months. Based on this approach and upon availability of FAO data, a number of forecast events are presented at country level. Data are collected, analyzed, and further presented in this quarterly FCC Early Warning Bulletin (see country section, page 15).

The **Likelihood of occurrence of a FCC threat** in a country is defined according to the result of the assessment of two main epidemiological parameters:

- Parameter 1: **likelihood of introduction** of the threat from another country and its further **spread** within the country (calculated as shown in Table 1), and
- Parameter 2: **likelihood of its re-emergence (amplification)** within the country, in case a threat is already present in the country.

Based on a conservative approach, the likelihood of occurrence of the threat will be considered equal to the higher level of the two parameters.

TABLE 1: Crossing table of likelihood of introduction and likelihood of spread (Parameter 1)

		Level of likelihood of spread			
		0	1	2	3
Level of likelihood of introduction	0	0	0	0	0
	1	1	1	1	2
	2	1	1	2	2
	3	2	2	2	3

The likelihood of occurrence, the likelihood of introduction, the likelihood of spread, and the likelihood of re-emergence of a FCC threat can be rated as Nil, Low, Moderate, or High, as shown in Table 2.

TABLE 2: FCC Likelihood scale

Likelihood	Definition
Nil (0)	Very unlikely
Low (1)	Unlikely
Moderate (2)	Likely
High (3)	Highly likely

HIGHLIGHTS

◆ Fall Armyworm (*Spodoptera frugiperda*)

This pest has continued its spread in Africa since the last forecast period of July-September 2017. New countries have confirmed its presence since July 2017: Angola, Cabo Verde, Central African Republic, Côte d'Ivoire, Gabon, Guinea, Guinea-Bissau, Mali, Republic of the Congo, Senegal and South Sudan. Nearly all Sub-Saharan Africa is infested now with the pest except Djibouti, Lesotho, Liberia, Sierra Leone, Somalia and Island States (although it is suspected in Seychelles).

At the subregional level, during this forecast period (October to December 2017):

Western Africa: FAW development and spread will be slowed down in this subregion where the major maize crop season would have ended and the dry season started (i.e. reduction of the host crop on which the pest would feed on).

Central, Eastern and Southern Africa: the pest is highly likely to continue its spread across new areas. In Central Africa, the new cropping season will start in October 2017; in Eastern Africa, it will be the rainy (growing) season in almost all the region; and in Southern Africa, the main maize planting season is expected to start in November 2017. In these three subregions, FAW is expected to continue its spread across new areas and damage could be considerable on maize unless appropriate pest management measures are carried out.

As FAW is arriving at the borders of North African countries, surveillance and monitoring should be reinforced in this region because the pest spreads quickly and the agricultural conditions would favour its development.

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: OVERVIEW

During the period October to December 2017, Food Chain Crisis (FCC) threats are expected to occur in the regions of Africa, Americas, Asia and Europe where they will be either persisting within a country, or possibly spreading to neighbouring countries, or will be latent and re-emerge/amplify at a certain time.

The dynamic and the likelihood of occurrence of the FCC threats depend on a number of risk factors or drivers. These include agro-ecological factors (e.g. intensive farming systems, deforestation, overgrazing, etc.), climate change (e.g. droughts, flooding, heavy rains, heat waves, the El Niño-Southern Oscillation –ENSO, changes in vegetation cover, water temperature etc.), human behaviour (e.g. cultural practices, conflicts and civil insecurity, trade, etc.) and natural disasters.

Main threats

Twenty-eight plant and forest pests and diseases and animal diseases were forecasted for the period October to December 2017. A total of 207 forecasts were conducted in 103 countries.

According to the forecasts, the following pests and diseases will be representing a high or moderate risk to the food chain for the period October to December 2017: African swine fever, Avian influenza, Foot-and-mouth disease, and Lumpy skin disease for **Animal diseases including zoonosis**; Bark beetles, Blue gum chalcid, Boxwood blight, Bronze bug, Dry cone syndrome, Pine processionary moth and Red gum lerp psyllid for **Forest pests and diseases**; Desert Locust and Red Locust for **Locusts**; Banana bunchy top disease, Banana fusarium wilt disease, Cassava brown streak and mosaic diseases, Fall armyworm and Tomato leaf miner for **Plant pests and diseases**. No forecast was carried out on aquatic diseases for this period.

All pests and diseases forecasted in this bulletin are listed in the table hereafter.

TABLE 3: FCC threats monitored and forecasted

Animal diseases including zoonosis	Forest pests and diseases	Locusts	Plant pests and diseases
<ul style="list-style-type: none"> ➤ African swine fever (ASF) ➤ Avian influenza (AI) ➤ Foot-and-mouth disease (FMD) ➤ Lumpy skin disease (LSD) 	<ul style="list-style-type: none"> ➤ Bark beetles ➤ Blue gum chalcid ➤ Boxwood blight ➤ Boxwood moth ➤ Bronze bug ➤ Charcoal disease ➤ Chestnut gall wasp ➤ Dry cone syndrome ➤ Pine processionary moth ➤ Red gum lerp psyllid ➤ Western conifer seed bug 	<ul style="list-style-type: none"> ➤ Desert Locust ➤ Italian Locust ➤ Migratory Locust ➤ Moroccan Locust ➤ Red Locust ➤ Yellow-Spined Bamboo Locust 	<ul style="list-style-type: none"> ➤ Banana bunchy top disease (BBTD) ➤ Banana fusarium wilt disease ➤ Cassava brown streak disease (CBSD) ➤ Cassava mosaic disease (CMD) ➤ Fall armyworm (FAW) ➤ Tomato leaf miner ➤ Wheat rust

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

AFRICA

In Africa, a total number of 132 FCC events have been forecasted including plant pests and diseases, locusts, animal diseases and forest pests. The likelihood of occurrence varies from Low to High. From these, the following FCC events have significant regional implications:

Plant pests and diseases

➤ **Fall armyworm (FAW)** - *Spodoptera frugiperda*, a pest which can cause significant damage and yield losses on crops if not well managed, continues to be a high concern in Africa, particularly on maize. During the forecast period (October to December 2017), FAW development and spread will be slowed down in Western Africa as it will be the dry season; it will not find its preferred host, maize, and will survive on alternate host. In the other Sub-Saharan African regions (Central, Eastern and Southern), where new cropping season will start, FAW is expected to continue its spread across new areas (possibly infest new countries) and damage will be important (the pest will mainly multiply on maize), unless appropriate control measures are undertaken.

In Western Africa, FAW is currently established in most of the countries of the subregion (except in Liberia and Sierra Leone). However, for the forecast period, October to December 2017, the major maize crop will be over and it will be the dry season (i.e. reduction of the crops on which the pest would be feeding on) in almost all the 15 countries. During this period, further spread of FAW populations is unlikely and the pest will be feeding on alternate hosts.

In Central Africa, all the eight countries in the subregion (Cameroon, Central African Republic -CAR, Chad, Democratic Republic of the Congo -DRC, Equatorial Guinea, Gabon, Republic of the Congo and Sao Tome and Principe) are affected by FAW infestations on maize. Even though reported, its presence in Equatorial Guinea needs to be confirmed. Significant yield losses on maize (>30%) have been reported in parts of DRC. With the upcoming new cropping season starting in October 2017 and the absence of control operations in most of the countries of the subregion, the pest is highly likely to continue its spread across new areas.

In Eastern Africa, FAW presence is confirmed in all Eastern African countries except in Djibouti and Somalia. In Ethiopia, the forecast period (October - December) coincides with the growing of irrigated maize in the Southern region and the maize crop will be at risk. In Burundi, Kenya, Rwanda, Uganda and South Sudan, these months coincide with the rainy (growing) season and the pest will have access to the maize crop, which is a preferred host. Spread and damage will be important because the pest will multiply on maize, unless appropriate control measures are undertaken.

In Southern Africa, FAW presence is confirmed in all Southern African countries except Lesotho and the Island States (although it is suspected in Seychelles). This pest has feeding preference for maize and other cereals such as rice, sorghum and millet. The period from August to October is characterised by small-scale production of irrigated maize in some countries. FAW has been observed in some of these maize crops. The main maize planting season is expected to start around November in Southern Africa. Given the likely carryover of the pest from irrigated crops, the high temperatures that favour pest multiplication, as well as the forecasted normal to below normal rainfall during this period, for the major part of the region, it is predicted that FAW will resurge to affect early maize plantings in the region. There is therefore a large need to strengthen surveillance and monitoring of FAW during the forecast period.

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

AFRICA

- **Tomato leaf miner**, *Tuta absoluta*, has almost the same distribution in Southern Africa as FAW. Four countries in the subregion, Lesotho, Madagascar, Mauritius and Swaziland, have not reported the pest presence yet. The spread of the pest in the subregion is expected to be moderate due to the low tomato production during the forecast period.
- In Central and Eastern Africa, **Banana bunchy top disease** continues to be a problem in some countries and can escalate. **Cassava brown streak and mosaic diseases** continue to affect many countries in Eastern and Central Africa and might amplify where weather conditions will be favourable. In Eastern Africa, as forecasts indicate limited rainfall, Wheat rust epidemics appearance will be limited.

Locusts

- While in Northern Africa, no significant **Desert Locust** developments are expected, in Western and Eastern Africa, small-scale Desert Locust breeding will occur in autumn breeding areas (North West Mauritania) and in winter breeding areas (Sudan, Eritrea), causing locust numbers to increase slightly.
- In Southern Africa, as **Red Locust** swarms are still present and about to breed, their movements and further increase of populations could result in severe damage on sugar cane in particular in the absence of early detection and control operations.

Animal diseases

- In Western, Central and Southern Africa, **H5N1 and H5N8 Highly pathogenic avian influenza (HPAI)** viruses can cause new infection outbreaks as well as new introductions might occur in at risk countries.
 - Since its introduction in Nigeria in December 2014, **H5N1 Highly pathogenic avian influenza (H5N1 HPAI)** spread in Western and Central Africa, striking Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Niger and Togo. Then, the H5N1 HPAI virus re-emerged in June 2017. Further spread in affected countries and introduction in neighbouring Benin are likely to occur.
 - In December 2016, Eastern Africa experienced its first HPAI incursion since 2008. **H5N8 HPAI** virus, which has been spreading globally in recent months, was detected in Cameroon in January 2017. It occurred for the first time in Uganda in wild birds found dead along shores of Lake Victoria in Wakiso District. In May 2017, H5N8 HPAI virus was detected in Zimbabwe for the first time in a big commercial poultry farm in Mashonaland region. At the end of August 2017, the infection has still remained contained to this farm. In June 2017, it was detected for the first time in South Africa, also in a commercial poultry farm in Dipalesang, in Mpumalanga region. Further spread of the H5N8 HPAI virus in Uganda, South Africa and Zimbabwe and new introductions in neighbouring countries (i.e. Botswana, Kenya, Malawi, Mozambique, Rwanda, Zambia and United Republic of Tanzania) are likely to occur.
- **Foot-and-mouth disease (FMD)** serotype A was detected in Algeria and Tunisia for the first time in April 2017. This is of concern for the livestock populations in the affected countries because the susceptible population in the region is not immunized against the serotype A. Regular FMD vaccination programs and vaccine used in the region do not include this serotype.
- **Sheep and goat pox (SGP)** event that was detected in Egypt in February 2017 is over.

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

AFRICA

Aquatic diseases

- **Epizootic ulcerative syndrome (EUS)**, which affects wild and farmed freshwater and estuarine fish, is likely to occur during this forecast period if the water temperatures will range between 18 °C and 25 °C, which is the optimal temperature for the development of the oomycete fungus. Countries that have such temperature range during this forecast period may be at risk.
- **Tilapia Lake virus (TiLV)**, an emerging pathogen, may have a wider distribution and is likely to be a significant threat to the global Tilapia industry. High awareness and vigilance are required in Tilapia producing countries in Northern, Eastern and Southern Africa on the occurrence of this emerging threat. A surveillance plan may be necessary to determine the geographical extent of the infection and undertake mitigation measures to limit its spread. Appropriate diagnostic testing is encouraged, where unexplained mortalities of Tilapia occur, particularly when clinical signs are similar to those reported for TiLV. Public information campaigns are recommended to advise aquaculturists on the threat posed by TiLV and the need to report unexplained large-scale mortalities to biosecurity authorities.

TiLV is likely to occur in countries where water temperatures will range between 22 °C and 32 °C (usually between May and November, depending on the country) for the following susceptible tilapia species: Hybrid tilapia (*Oreochromis niloticus* x *O. aureus* hybrids), Nile tilapia (*O. niloticus*) and Red tilapia (*Oreochromis* sp.), present in almost all Sub-Saharan Africa¹.

Forest pests

- **Blue gum chalcid** insect pest is likely to continue to spread during the forecast period in Malawi, South Africa, Uganda, United Republic of Tanzania, Zambia and Zimbabwe and **Red gum lerp psyllid** insect pest is likely to continue to spread in Malawi, Mozambique, Rwanda, Zambia and Zimbabwe, causing severe damage in Eucalyptus plantations. Applications of biological control agents to reduce these insect pest populations are in progress in some countries. **Bronze bug** spread is likely to occur, damaging Eucalyptus woodlots (Rwanda and Zimbabwe), however, pest management activities are in progress.

¹<http://fishbase.org/Country/CountryList.php?ID=2&GenusName=Oreochromis&SpeciesName=niloticus>

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

AMERICAS

In the Americas, a total number of four FCC events have been forecasted including animal diseases and forest pests. The likelihood of occurrence vary from Moderate to High. From these, the following FCC events have significant regional implications:

Animal diseases

In Northern and Central America, livestock and wildlife have suffered from Hurricanes Irma, Jose and Maria. Hurricanes produced catastrophic damage along much of the Caribbean island chain. In terms of livestock diseases, a significant increase in the incidence of tick diseases is usually observed. Concerning zoonotic diseases, cases of leptospirosis in humans and animals can rise sharply, due to the prolonged contact with contaminated water. The persistence of stagnant water can potentially increase mosquito population and the risk of the vector-borne diseases in the region.

- In June 2017, in Colombia (Cundinamarca region), a **Foot-and-mouth disease** (FMD) serotype O, outbreak occurred in cattle. This represented the first re-occurrence of the disease since 2009 when the country achieved the status of country free from FMD according to OIE. After its first outbreak, seven additional outbreaks were reported in three regions of the country until the 20 July. This FMD episode in Colombia is of concern for the livestock in all the region and neighbouring countries, considering the goal established for FMD eradication from the American region by 2020.

Aquatic diseases

- **Tilapia Lake virus** (TiLV), an emerging pathogen, may have a wider distribution and is likely to be a significant threat to the global Tilapia industry. High awareness and vigilance should continue in Tilapia producing countries in the Americas. A surveillance plan may be necessary to determine the geographical extent of the infection and undertake mitigation measures to limit its spread. Appropriate diagnostic testing is encouraged, where unexplained mortalities of Tilapia occur, particularly when clinical signs are similar to those reported for TiLV. Public information campaigns are recommended to advise aquaculturists on the threat posed by TiLV and the need to report unexplained large-scale mortalities to biosecurity authorities.

TiLV is likely to occur in countries where water temperatures will range between 22 °C and 32 °C (usually between May and November, depending on the country) for the following susceptible tilapia species: Hybrid tilapia (*Oreochromis niloticus* x *O. aureus* hybrids), Nile tilapia (*O. niloticus*) and Red tilapia (*Oreochromis* sp.), present in all American countries except the most northerly and southerly parts of the continent².

Forest pests

- Severe infestations of **Bark beetles**, in particular *Dendroctonus frontalis* species, are being experienced in the dry corridor of Central America and will continue during the forecast period, in pine forests of Guatemala, Honduras and Nicaragua. Pine species *Pinus caribea*, *Pinus oocarpa* and *Pinus patula* within natural forests and plantations have become most vulnerable to the beetles attacks because they are already stressed by prolonged drought triggered by El Niño and weakened due to poor forest management practices. In November 2017, a regional workshop to identify and monitor bark beetles and other invasive forest pests and diseases will be organized by FAO in Honduras for forest managers of affected countries.

² <http://fishbase.org/Country/CountryList.php?ID=2&GenusName=Oreochromis&SpeciesName=niloticus>

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

ASIA

In Asia, a total number of 49 FCC events have been forecasted including plant pests and diseases, locusts, animal diseases and forest pests and diseases. The likelihood of occurrence vary from Nil to Moderate. From these, the following FCC events have significant regional implications:

Plant diseases

- **Banana fusarium wilt disease** Tropical race 4 has been present in Southeast Asia and recently reported in Pakistan and may further spread and cause damage.

Locusts

- In Western Asia, small-scale **Desert Locust** breeding in winter breeding areas (Saudi Arabia and Yemen) will occur, causing locust numbers to increase slightly, while in Southern Asia, no significant Desert Locust developments are expected due to the end of the rainy season. In Central Asia (**Italian, Migratory and Moroccan Locusts**) and South-eastern Asia (**Yellow-Spined Bamboo Locust**), no locust developments are expected during the forecast period as eggs were laid and will hatch during next spring.

Animal diseases

- Four **H5 Highly pathogenic avian influenza (HPAI)** serotypes and several H5 clades are circulating in Southern, Eastern and South-eastern Asia. **H5N1 HPAI** continues to be reported in China and Viet Nam and re-emerged in Myanmar and Lao People's Democratic Republic in July 2017. The recent **H5N6 HPAI** expansion has particularly stricken the poultry sector of the Republic of Korea, Japan and Taiwan Province of China. In July-August 2017, the virus was also detected, for the first time, in Philippines and re-emerged in Myanmar. The **H5N8 HPAI** strain, which emerged in China in May 2016, has already spread to Republic of Korea, India and Nepal, and might affect additional countries. In the Middle East, **H5N8 HPAI** introductions were detected in poultry farms in the Islamic Republic of Iran and in Israel. Further spread of the disease in the already affected countries and introductions in neighbouring countries might still occur.
- It is noteworthy that the current **H7N9 Low and Highly pathogenic avian influenza (LPAI/HPAI)** season has been the most intense since the emergence of the virus in early 2013. In addition, this is the first season that H7N9 avian influenza viruses presented genetic characteristic suggestive of a shift from a low pathogenic into a H7N9 highly pathogenic avian virus in poultry. In February-April 2017, the H7N9 virus spread in new areas of China, never affected before (Chongqing, Gansu and Tibet provinces). Due to seasonal pattern, an increase of virus circulation in poultry and human cases occurrence is expected in next months and new introductions into neighbouring countries such as Nepal and Viet Nam are likely to occur for the forecast period (October-December 2017).
- In Eastern Asia, **African swine fever (ASF)** spread might occur from the Russian Federation where the ASF virus was detected in late March 2017 in a backyard pig farm (40 pigs) in Irkutsk oblast. This big jump eastward (over 3.000 km) marks the first ASF detection in the eastern part of the Russian Federation, increasing the risk of ASF introduction in bordering countries, such as Mongolia and China.

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

ASIA

Aquatic diseases

- **Tilapia Lake virus (TiLV)**, an emerging pathogen, may have a wider distribution and is likely to be a significant threat to the global Tilapia industry. High awareness and vigilance need to be maintained for Tilapia producing countries in Asia. A surveillance plan may be necessary to determine the geographical extent of the infection and undertake mitigation measures to limit its spread. Appropriate diagnostic testing is encouraged, where unexplained mortalities of Tilapia occur, particularly when clinical signs are similar to those reported for TiLV. Public information campaigns are recommended to advise aquaculturists on the threat posed by TiLV and the need to report unexplained large-scale mortalities to biosecurity authorities.

TiLV is likely to occur in countries where water temperatures will range between 22 °C and 32 °C (usually between May and November, depending on the country) for the following susceptible tilapia species: Hybrid tilapia (*Oreochromis niloticus* x *O. aureus* hybrids), Nile tilapia (*O. niloticus*) and Red tilapia (*Oreochromis* sp.), present in south countries of Eastern Asia, in South-eastern Asia and in almost all countries of Southern and Western Asia³.

Forest pests and diseases

- Dieback of boxwood trees (*Buxus hyrcana*), IUCN threatened species, caused by **Boxwood blight** (pathogen *Calonectria pseudonaviculata*) continues to be reported in the Caspian forest of the Islamic Republic of Iran and in Georgia. During the forecast period, it will continue to be present but its spread will be limited due to winter temperatures and lack of rainfall. **Boxwood moth** (*Cydalima perspectalis*) will cause less severe defoliation during forecast period due to lower temperatures. In Lebanon, **Dry cone syndrome** and **Western conifer bug** are causing severe losses in pine nut harvest and the pest damage will continue but the activities of Western conifer seed bug will be limited due to winter temperatures. While in Turkey, **Chestnut gall wasp** is causing damage to chestnut trees and threatening livelihoods of local communities but the pest pressure will decrease thanks to biological control activities.

³ <http://fishbase.org/Country/CountryList.php?ID=2&GenusName=Oreochromis&SpeciesName=niloticus>

FORECAST FOR THE PERIOD OCTOBER-DECEMBER 2017: REGIONAL OVERVIEW

EUROPE

In Europe, a total number of 22 FCC events have been forecasted including locusts, animal diseases and forest pests. The likelihood of occurrence varies from Nil to Moderate. From these, the following FCC events have significant regional implications:

Locusts

- No developments of the **Italian, Migratory and Moroccan Locusts** are expected during the forecast period as eggs were laid and will hatch during next spring.

Animal diseases

- Spread of **H5N8 Highly pathogenic avian influenza (HPAI)** is likely to occur in the already affected countries in Europe due to the upcoming seasonal pattern of influenza viruses. Detected for the first time in May 2016 in wild birds in China and in June in the Russian Federation, H5N8 HPAI has been spreading globally, following wild bird migration routes. Since mid-October 2016, the virus struck Eastern Europe with detection in wild birds found dead in Belgium, Croatia, Hungary and Poland. In the following weeks, HPAI introductions were reported in 30 out of 43 European countries, particularly in Western and Eastern Europe. During summer 2017, the reported number of infections was decreasing, but, with the approach of the cold season, a new increase is likely.
- **African swine fever (ASF)** outbreaks and transmission are likely to continue in the affected countries (Estonia, Latvia, Lithuania, Poland, Republic of Moldova, Russian Federation and Ukraine) where the virus is endemic in wild boar populations and is sporadically transmitted to domestic pigs through feeding and other infected material. Outbreaks and transmission are likely to continue in the recently affected the Czech Republic and Romania as well. Informal and uncontrolled animal movement and poor biosecurity conditions in pig farms are the main risk factors for the introduction of the disease in farms and for wider geographical spread. These factors increase the possibility of introduction of the virus into neighbouring countries (e.g. Belarus and Hungary) via live animals and animal product movement along pig value chains and transmission between seasons through infected carcasses of dead wild boars overwintering.
- Decreasing temperature in the approaching fall-winter season in Europe can mitigate the amplification risk of **Lumpy skin disease (LSD)**, a vector-borne disease, in Southern Europe (i.e. Albania, Bulgaria, FYR of Macedonia, Greece, Montenegro, Russian Federation and Serbia) during the forecast period. The applied vaccination campaigns might reinforce this mitigation and decrease the subsequent risk of introduction in neighbouring countries (e.g. Bosnia and Herzegovina, Croatia, Romania and Ukraine).

More detailed information on FCC threats forecasts at country level is available under the FCC threats forecasting at country level section (see page 15).

SHORT TAKE ON SUSTAINABLE FALL ARMYWORM MANAGEMENT THROUGH FARMER FIELD SCHOOLS IN AFRICA

Why? Fall Armyworm (*Spodoptera frugiperda*), or FAW, an insect native to tropical and subtropical regions of the Americas, was first detected in Central and Western Africa in early 2016, and has been spreading rapidly to all subregions of Africa. This dangerous transboundary pest can cause significant yield losses to crops if not well managed. As it is unlikely that the pest will be eradicated, farmer education and community action are critical elements in the strategy to manage FAW populations sustainably, and cost effectively, in African smallholder systems, using an integrated and ecological pest management approach.

What? Farmer Field School (FFS), a farmer education approach used in over 90 countries, are a key component of the response effort facilitated by FAO and its international partners. Farmer Field Schools use a hands-on, practical group approach for training in the field. Plots are set up by a farmer group in their fields to conduct observations, field studies and practical experiments, based on the evolving field situation and farmers' priorities. Topics of study include identification, life cycle and behaviour of FAW and their natural enemies (insects, arachnids or birds who help provide natural pest regulation); soil health and preventive measures to reduce infestation and help plants withstand damage; early scouting; mechanical controls; use of botanical pesticides and biological control agents; monitoring and surveillance, and more. Beyond promoting specific practices or technologies, the primary purpose is help farmers discover how their agro-ecosystems function so they can take better management decisions.

For example, farmers conduct voluntary defoliation studies mimicking FAW damage at different plant stages, to better understand the capacity of maize to compensate for early foliar damage without significant impact on yield. This helps farmers avoid unnecessary early applications of hazardous pesticides. Farmers also conduct "insect zoos" in jars, bottles or net cages, to study the pest and its natural enemies' behaviour and interactions.

How? Based on the results of an experts' meeting and a curriculum-development workshop gathering of world-renown experts on FAW and Master Trainers, held in Accra in July 2017, FAO has developed a FFS training guide for the Integrated Management of the FAW on maize in Africa. Trainers have been trained through regional trainings of FFS trainers and National Plant Protection Offices; they will roll out FAW topics in FFS already planned in affected African countries.

Who and where? FAO has held trainings of FFS trainers and National Plant Protection Officers in Ghana (July 2017); Nigeria for West African countries (September 2017); Malawi for Southern African countries (September 2017); and Cameroon for Central African countries (October 2017), covering nearly 30 countries. National trainings of FFS trainers are planned in many countries including Burkina Faso, Central African Republic, Malawi, Mali, Mozambique, Niger, Senegal and Zimbabwe. A 1.020 trainers will roll-out training to at least 65.000 farmers in the coming months.





















FCC THREATS FORECASTING AT COUNTRY LEVEL





This section provides, at country level, for the upcoming three months, forecasting of FCC threats having potential high impact on food and nutrition security. It also provides, when available and appropriate, background information on other factors impacting food and nutrition security.

The country section includes countries for which information are available. This section assigns countries and areas to geographic regions on the basis of the current composition of macro geographical (continental) regions of the United Nations Statistics Division (United Nations Statistics Division- Standard Country and Area Codes Classification (M49); <http://unstats.un.org/unsd/methods/m49/m49regin.htm>).

The assessment of the likelihood of occurrence was performed using FAO data and information available at the time of preparation of this bulletin and might be subject to changes later.

Legend

Threats category	Likelihood of occurrence			
	High	Moderate	Low	Nil
Animal and zoonotic diseases				
Aquatic diseases				
Forest pests and diseases				
Locusts				
Plant pests and diseases				

-  **High:** an event is highly likely to occur
-  **Moderate:** an event is likely to occur
-  **Low:** an event is unlikely to occur
-  **Nil:** an event is very unlikely to occur

FCC THREATS FORECASTING AT COUNTRY LEVEL

AFRICA

ALGERIA

Threat category: Locusts**Threat name:** Desert Locust**Likelihood of occurrence:** Low**Forecast for October-December 2017:** In October, small-scale breeding will occur in the south, causing locust numbers to increase slightly but low temperatures from November are expected to delay development.**Context:** Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.**Threat category:** Animal and zoonotic diseases**Threat name:** Foot-and-mouth disease (FMD)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Further spread of Foot-and-mouth disease (FMD), serotype A, will continue to occur.**Context:** FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. On 24 March 2017, a FMD outbreak, serotype A, occurred in Relizane region, representing the first introduction of this strain in the country. A total of four outbreaks were observed since April and some others are suspected. The episode is of concern for Algeria and neighbouring Tunisia because the susceptible animal populations in the region are not immunized against this strain.

ANGOLA

Threat category: Plant pests and diseases**Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF¹ forecast), during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.**Context:** FAW presence was first reported during the 2016/17 season (end of June 2017).**Threat category:** Plant pests and diseases**Threat name:** Tomato leaf miner**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.**Context:** Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.

BENIN

Threat category: Plant pests and diseases**Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Low**Forecast for October-December 2017:** The major season for maize (which is its favoured host) will be over during the forecast period October - December (even if there will be still some maize along the rivers, it won't be enough to feed important FAW populations). FAW is likely to survive on alternate hosts but no spread is expected.**Context:** Benin was among the first countries affected by FAW in April 2016.

¹ Southern African Regional Climate Outlook Forum - This international forum brings together scientists from Member States' national meteorological and hydrological services with those from the SADC Climate Services Centre and the Intergovernmental Authority on Development's Climate Prediction and Application Centre. Through this forum, scientists are able to discuss the climate situation throughout Southern Africa and collaborate on Regional Climate Outlook Bulletins. These bulletins provide valuable information on progress and potential hazards of the climate system in Southern Africa.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N1 and H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries and possible further spread are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. H5 HPAI virus presence has not been reported yet in Benin. H5N1 HPAI virus is circulating in seven countries (Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Niger, Nigeria and Togo) in West and Central Africa since December 2014. Since November 2016, a H5N8 HPAI virus is spreading, globally following bird migratory routes. Infected birds have been reported in the following neighbouring countries: Cameroon, Niger and Nigeria.

BOTSWANA

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast), during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.

Context: FAW presence was first reported during the 2016/17 season (March 2017).

Threat category: Plant pests and diseases



Threat name: Tomato leaf miner

Likelihood of occurrence: Moderate

Forecast for October-December 2017: As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.

Context: Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N8 Highly pathogenic avian influenza (HPAI) is likely to be introduced and then spread in the country as neighbouring countries are infected.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. In January 2017, H5N8 HPAI virus was detected from wild birds found dead along the shores of Lake Victoria in Wakiso District (in Uganda). This is the first AI introduction in the African subregion since 2008. In April-June 2017, the virus was detected for the first time in neighbouring Zimbabwe.

BURKINA FASO

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: Maize harvesting will occur during the forecast period and then, FAW is likely to survive on alternate hosts but no spread is expected.

Context: FAW was suspected since 2016 and its presence is now confirmed. Damages caused by the threat have not been assessed yet.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries and possible further spread of H5N1 HPAI are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. After its introduction in Nigeria in December 2014, H5N1 HPAI was reported in Burkina Faso in February 2015. Last outbreak occurred in July 2016. Recently, a H5N8 HPAI virus (not present in Burkina Faso yet) threat is spreading globally following bird migratory routes. Infected birds have been reported in the following neighbouring countries: Cameroon, Niger and Nigeria.

BURUNDI**Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** FAW is highly likely to spread to other parts of the country. The forecast period (October - December) coinciding with the second growing season, the pest will have access to the susceptible maize crop, which is its preferred host. Without adequate control measures, damage will be considerable.**Context:** FAW presence is confirmed but data on incidence and severity of damage are not available yet.**CABO VERDE****Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Low**Forecast for October-December 2017:** During the forecast period, the major season will be over and spread is unlikely to occur.**Context:** FAW has been recently reported in Cabo Verde and damage are currently being assessed. FAW can seriously affect the food security of the island as maize is the staple food.**CAMEROON****Threat category:** Plant pests and diseases **Threat name:** Banana bunchy top disease (BBTD)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Outbreaks of Banana bunchy top disease (BBTD) are likely to occur.**Context:** Banana bunchy top disease affects the banana fruit and foliage. If any fruit is produced, which is unusual, it will be deformed. The disease is currently present in the southern part of the country and has already impacted banana production in recent years..**Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** FAW will spread to other parts of the country.**Context:** The presence of the pest was confirmed in the West, Centre, Far North, Littoral and South-West Regions of the country in March 2017. Currently, six out of the 10 regions of the country are affected: Centre (Ngoumou and Bokito), South (Mbalmayo), West (Foumbot and Dschang), Littoral (Melong and Manengolé), South-West (Debuncha) and the Extreme North (Guider).**Threat category:** Animal and zoonotic diseases **Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** H5N1 and H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. H5N1 HPAI has been detected in Cameroon in late May 2016 and, up to March 2017, outbreaks in poultry were reported in five regions of the country. In January 2017, an introduction of the H5N8 HPAI virus currently spreading globally, was detected in an Exotic peacock farm in the Extreme-North region.**CENTRAL AFRICAN REPUBLIC****Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** FAW is highly likely to spread to other parts of the country under these conditions.**Context:** In July 2017, FAW presence was confirmed within a 50-km radius of the capital, Bangui. With insecurity reigning in the rest of the country, surveys could not be conducted elsewhere.**CHAD****Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** The pest is highly likely to spread in the country.**Context:** In December 2016, FAW has been reported in the southern part of the country.**Threat category:** Locusts **Threat name:** Desert Locust**Likelihood of occurrence:** Low**Forecast for October-December 2017:** In October, small-scale breeding will occur in the east, causing locust numbers to increase slightly. Thereafter, conditions will become unfavourable for breeding.**Context:** Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

CÔTE D'IVOIRE**Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Low**Forecast for October-December 2017:** FAW presence has been recently confirmed. However, as the major maize season will be over for the forecast period, FAW populations are likely to remain low (survive on alternate hosts) and no spread is expected.**Context:** NPPO delegate to the recent training in Abuja (4-10 September 2017) confirmed the presence of FAW.**Threat category:** Animal and zoonotic diseases **Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries and possible further spread in poultry of H5N1 HPAI are likely to occur.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. After its introduction in Nigeria in December 2014, H5N1 HPAI was reported in Côte d'Ivoire in April 2015. Last outbreak occurred in August 2016. Recently, a H5N8 HPAI virus threat is spreading globally, following bird migratory routes. Infected birds have been reported in the following neighbouring countries: Cameroon, Niger and Nigeria.**DEMOCRATIC REPUBLIC OF THE CONGO****Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** FAW will continue to spread in the country with severe infestations reported. Its spread is highly likely to continue.**Context:** New infestations were reported from the territories of Kambove, Pweto, Kilwa and Kasenga. Maize yield reduction of more than 30% was reported in the Territory of Kambove.**Threat category:** Animal and zoonotic diseases **Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Occurrence and possible further spread of H5N8 Highly pathogenic avian influenza (HPAI) are likely.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Confirmed H5N8 HPAI with high mortalities in chicken were observed in late April 2017 in the area of Ituri, near Lake Albert shore, in Djugu Territory (approximately 250 km from H5N8 HPAI outbreak site near Lake Victoria in Uganda occurred in January 2017). Since then, and up to 30 September 2017, a total of 26 outbreaks were reported in poultry, all in the same Ituri region.**DJIBOUTI****Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** FAW is likely to be introduced into the country from neighbouring Ethiopia. Its introduction is highly likely but its spread will be limited due to arid conditions and limited availability of preferred host (maize).**Context:** Pest has not been reported in Djibouti yet.**Threat category:** Locusts **Threat name:** Desert Locust**Likelihood of occurrence:** Low**Forecast for October-December 2017:** Significant activity is unlikely to occur.**Context:** Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.**EGYPT****Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Low**Forecast for October-December 2017:** FAW is unlikely to be introduced into the country as no neighbouring countries are infested but this pest spreads quickly and conditions may be favourable in Egypt for its development.**Context:** Pest has not been reported in Egypt yet.

Threat category: Locusts



Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N1 and H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect human. H5N1 HPAI is endemic in Egypt. Outbreaks in poultry are reported every month with a marked seasonal winter pattern. Since late November 2016, H5N8 HPAI has spread to 17 out of 27 governorates of the country. Other influenza viruses circulating in poultry in the country are H5 and H9N2 Low pathogenic avian influenza (LPAI).

EQUATORIAL GUINEA

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: FAW presence and spread are highly likely given that the surrounding countries are all affected.

Context: FAW infestations have been reported in the country but no formal confirmation has been done yet.

ERITREA

Threat category: Plant pests and diseases



Threat name: Wheat rust

Likelihood of occurrence: Low

Forecast for October-December 2017: Outbreaks of wheat yellow and stem rust epidemic are unlikely to occur as rainfall forecasts are below the normal (however the risk will increase with precipitations).

Context: These diseases are already present in the country for years. They weaken the plants and reduce number of grains per spike and grain weight. Regular surveys and timely action are essential.

Threat category: Locusts



Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Small-scale breeding will occur on Red Sea coast, causing locust numbers to increase slightly.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

ETHIOPIA

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: Fall armyworm (FAW) is highly likely to spread to other parts of the country considering the current geographical distribution of the pest.

Context: FAW has spread to most parts of the country where maize is an important staple crop. It has now covered 411 out of the 800 districts, i.e. 51% of the territory. The total maize covered area has reached 2,7 million ha since the beginning of November 2016. Out of this, 660.000 ha (25%) have been infested by FAW. Although farmers used handpicking to manage the FAW problem in more than 32.000 ha, about 220.000 ha received pesticides. Despite the concerted efforts of the government the insect has been spreading further and in September it was reported in Afar region where there are commercial farms that grow maize for grain.

Threat category: Plant pests and diseases



Threat name: Wheat rust

Likelihood of occurrence: Low

Forecast for October-December 2017: Outbreaks of wheat yellow and stem rust epidemic are unlikely to occur as rainfall forecasts are below the normal (however the risk will increase with precipitations).

Context: Diseases are already present in the country for years. They weaken the plants and reduce number of grains per spike and grain weight. Regular surveys and timely action are essential.

Threat category: Locusts



Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

GABON

Threat category: Plant pests and diseases



Threat name: Banana bunchy top disease (BBTD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Outbreaks of Banana bunchy top disease (BBTD) are likely to occur.

Context: Banana bunchy top disease affects the banana fruit and foliage. If any fruit is produced, which is unusual, it will be deformed. The disease is currently present in the southern part of the country and has already impacted banana production in recent years.

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: FAW is highly likely to spread to other parts of the country as of October when the rainy season sets in.

Context: In late July 2017, FAW infestations were reported in the Estuaire and Haut Ogooué provinces.

GAMBIA

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: For the forecast period, the FAW populations will be at a low level as the major season for maize will come to an end.

Context: FAW has spread to all regions except one.

GHANA

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: The forecast period corresponds to the dry season in the country, it means reduction of the crops on which the pest would be feeding on. The population of FAW will be low during that period.

Context: FAW was first reported on maize in Eastern region in April 2016. By March 2017, FAW was reported in all 10 regions. An estimate of about 110.000 ha was affected during the major maize season.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries and possible further spread in poultry of H5N1 HPAI are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. After its introduction in Nigeria in December 2014, H5N1 HPAI was reported in Ghana in April 2015. Last outbreak occurred in October 2016. Recently, a H5N8 HPAI virus threat is spreading globally, following bird migratory routes. Infected birds have been reported in the following neighbouring countries: Cameroon, Niger and Nigeria.

GUINEA

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: FAW has been recently detected in the country but its spread will be limited as it will be the dry season (end of major season for maize). FAW is likely to survive on alternate hosts.

Context: FAW has been detected in the country very recently. The confirmation is yet to be officially made.

GUINEA-BISSAU

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: During the forecast period, the dry season will slow down the building up of the population.

Context: FAW was recently detected in the country.

KENYA

Threat category: Plant pests and diseases 

Threat name: Cassava brown streak disease (CBSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava brown streak disease is likely to occur.

Context: The disease is present in the country. It can cause brownish rots in tubers rendering them inedible and resulting in severe loss of economic value. Farmers may be unaware of their infected cassava crops until they are harvested and see the tuber lesions as leaves might appear asymptomatic in some cases.

Threat category: Plant pests and diseases 

Threat name: Cassava mosaic disease (CMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava mosaic disease is likely to occur.

Context: The disease is present in the country. CMD is considered one of the most damaging crop viruses in the world.


Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: FAW is highly likely to spread to other parts of the country. The forecast period (October - December) coinciding with the second growing season, the pest will have access to the susceptible maize crop, which is its preferred host. Without adequate control measures, damage will be important.

Context: FAW has been reported in 40 out of the 47 counties (85%) in the country.

Threat category: Animal and zoonotic diseases 

Threat name: Avian influenza (AI)

Likelihood of occurrence: Low

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring Uganda is likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Last outbreak of H5N8 HPAI virus in neighbouring Uganda occurred at the end of May 2017.

LESOTHO

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: Being the main maize production period, there is a possibility of FAW being introduced from South Africa, though the relatively low prevailing temperatures could limit its occurrence.

Context: FAW has not yet been reported in Lesotho. The country is however completely surrounded by South Africa where the pest is prevalent.

Threat category: Plant pests and diseases 

Threat name: Tomato leaf miner

Likelihood of occurrence: Low

Forecast for October-December 2017: Tomato leaf miner has not yet been detected in Lesotho and the forecast period is characterised by low tomato production, factor that lowers the risks of the disease occurring. It is unlikely to occur.

Context: There is still no reported outbreak of Tomato leaf miner in Lesotho, though the country is surrounded by South Africa where the pest is present.

LIBERIA

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: FAW is unlikely to enter the country during the forecasting period as it will be the dry season.

Context: FAW has not been reported yet.

LIBYA

Threat category: Locusts 

Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries and possible further spread of H5N1 HPAI are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. H5N1 HPAI virus has been circulating in neighbouring Egypt which is endemic for the disease. Since November 2016, a H5N8 HPAI virus is spreading globally, following bird migratory routes. Infected birds have been reported in Western Africa and Egypt.

MADAGASCAR

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: Being the main rice and maize production period, there is a possibility of FAW being introduced from mainland Southern Africa where the pest is already prevalent.

Context: FAW has not yet been reported in Madagascar.

Threat category: Plant pests and diseases



Threat name: Tomato leaf miner

Likelihood of occurrence: Low

Forecast for October-December 2017: Tomato leaf miner has not yet been detected in Madagascar. The forecast period is characterised by low tomato production, factor that lowers the risks of the disease occurring. It is unlikely to occur.

Context: Tomato leaf miner has not been reported in the country. The island is separated from the affected countries, with limited trade.

Threat category: Locusts



Threat name: Migratory Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Adults having survived the dry and cool season will breed (i.e. first generation of breeding of the 2017/18 rainy season).

Context: Madagascar is prone to frequent Migratory Locust crises that affect the livelihoods and food and nutrition security of the population. The last plague occurred from April 2012 to July 2016 and threatened 13 million persons. Since then and according to information received during the 2016/17 locust campaign, the situation was relatively calm and the next campaign should be calm too.

Threat category: Locusts



Threat name: Red Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Adults having survived the dry and cool season will breed (unique annual generation).

Context: This species is the second locust pest present in Madagascar. Increase in its populations can result in local infestations and be mixed with hopper bands and swarms of the Migratory Locust, which can both threaten food security. According to information received during the 2016/17 locust campaign, the next campaign should be calm.

MALAWI

Threat category: Plant pests and diseases



Threat name: Cassava brown streak disease (CBSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava brown streak disease is likely to occur.

Context: The disease is present in the country. It can cause brownish rots in tubers rendering them inedible and resulting in severe loss of economic value. Farmers may be unaware of their infected cassava crops until they are harvested and see the tuber lesions as leaves might appear asymptomatic in some cases.

Threat category: Plant pests and diseases



Threat name: Cassava mosaic disease (CMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava mosaic disease is likely to occur.

Context: The disease is present in the country. CMD is considered one of the most damaging crop viruses in the world.

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast), during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.

Context: FAW presence was first reported during the 2016/17 season (February 2017).

Threat category: Plant pests and diseases



Threat name: Tomato leaf miner

Likelihood of occurrence: Moderate

Forecast for October-December 2017: As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.

Context: Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.

Threat category: Locusts



Threat name: Red Locust

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Persisting and newly arrived swarms will mate and lay eggs that will result in increase in numbers.

Context: Red Locust plagues are a major threat to agriculture in Southern Africa. Failure to control locust outbreaks during the early stages of development can result in highly mobile swarms which invade the agricultural areas and can cause major crop damage.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Low

Forecast for October-December 2017: H5N8 Highly pathogenic avian influenza (HPAI) is unlikely to be introduced as it is present in the region but no bordering countries are infected.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. In January 2017, H5N8 HPAI virus was detected from wild birds found dead along the shores of Lake Victoria in Wakiso District (in Uganda). This is the first AI introduction in the African subregion since 2008. In April-June 2017, the virus was detected for the first time in neighbouring Democratic Republic of the Congo and Zimbabwe.

Threat category: Forest pests and diseases



Threat name: Blue gum chalcid

Likelihood of occurrence: High

Forecast for October-December 2017: Outbreaks of the insect Blue gum chalcid are highly likely to continue to occur in Eucalyptus nurseries and plantations.

Context: Blue gum chalcid continues to cause severe damages in nurseries and young Eucalyptus plantations.

Threat category: Forest pests and diseases



Threat name: Red gum lerp psyllid

Likelihood of occurrence: High

Forecast for October-December 2017: Red gum lerp psyllid is highly likely to spread in Eucalyptus plantations.

Context: The combination of climate change with the general decline of forest conditions and the occurrence of Red gum lerp psyllid continue to damage plantations and small wood lots.

MALI

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: FAW has been recently detected in the country but its spread will be limited as the dry season (end of major season for maize) will start. FAW is likely to survive on alternate hosts.

Context: FAW presence in the country is now confirmed.

Threat category: Locusts



Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: In October, small-scale breeding will occur in the north, causing locust numbers to increase slightly.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

MAURITANIA

Threat category: Locusts




Threat name: Desert Locust

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Small-scale breeding will occur in the Northwest, causing locust numbers to increase slightly. Combined with the vegetation drying out, small groups could form.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

MAURITIUS**Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Low**Forecast for October-December 2017:** Being the main rice production period, there is a possibility of FAW being introduced from mainland Southern Africa where the pest is already prevalent.**Context:** FAW has not yet been reported in Mauritius.**Threat category:** Plant pests and diseases **Threat name:** Tomato leaf miner**Likelihood of occurrence:** Low**Forecast for October-December 2017:** Tomato leaf miner has not yet been detected in Mauritius and the forecast period is characterised by low tomato production, a factor that lowers the risks of the disease occurring. It is unlikely to occur.**Context:** Tomato leaf miner has not been reported in the country. The island is separated from the affected countries, with limited trade.**MOROCCO****Threat category:** Locusts **Threat name:** Desert Locust**Likelihood of occurrence:** Low**Forecast for October-December 2017:** Low numbers of adults may appear in the south and breed on a small scale if it rains.**Context:** Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.**MOZAMBIQUE****Threat category:** Plant pests and diseases **Threat name:** Banana fusarium wilt disease**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Spread of Fusarium wilt disease on banana is likely to occur.**Context:** The disease is already present in two farms in the Nampula province since 2013 and it might further spread. Banana fusarium wilt disease is a soil-borne disease caused by a fungal pathogen that cannot be eradicated once established in a plantation. It attacks banana plants of all ages and spreads mainly through the soil. It causes yellowing of the leaves and then wilting. Prevention of the spread is crucial.**Threat category:** Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast), during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.**Context:** FAW presence was first reported during the 2016/17 season (March 2017).**Threat category:** Locusts **Threat name:** Red Locust**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Persisting swarms will mate and lay eggs that will result in increase in numbers.**Context:** Red Locust plagues are a major threat to agriculture in Southern Africa. Failure to control locust outbreaks during the early stages of development can result in highly mobile swarms which invade the agricultural areas and can cause major crop damage.**Threat category:** Animal and zoonotic diseases **Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** H5N8 Highly pathogenic avian influenza (HPAI) is likely to be introduced and then spread in the country as neighbouring countries are infected.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. In January 2017, H5N8 HPAI virus was detected from wild birds found dead along the shores of Lake Victoria in Wakiso District (in Uganda). This is the first AI introduction in the African subregion since 2008. In April-June 2017, the virus was detected for the first time in neighbouring Zimbabwe.**Threat category:** Forest pests and diseases **Threat name:** Red gum lerp psyllid**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Red gum lerp psyllid outbreaks are likely to continue to occur in Eucalyptus plantations.**Context:** Monitoring of pest spread is in progress.

NAMIBIA

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast) during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.

Context: FAW presence was first reported during the 2016/17 season (February 2017).

Threat category: Plant pests and diseases 

Threat name: Tomato leaf miner

Likelihood of occurrence: Moderate

Forecast for October-December 2017: As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.

Context: Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.

NIGER

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: The forecast period corresponds to the dry season in the country. Therefore, FAW will survive on various hosts and its spread is unlikely to occur.

Context: FAW has been reported in Tahoua (border with Nigeria) and Tillabery (border with Mali) in 2017.


Threat category: Locusts 

Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: In October, small-scale breeding will occur in the north, causing locust numbers to increase slightly.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

Threat category: Animal and zoonotic diseases 

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N1 and H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. After its introduction in Nigeria in December 2014, H5N1 HPAI was detected in the country sporadically, lastly in several poultry farms in January 2017 in Niamey region. The same area experienced the first introduction of H5N8 HPAI virus that is spreading globally, following bird migratory routes.

NIGERIA


Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: During this period, it will be the dry season for a major part of the country and the major maize season will be over. FAW populations will be at their lowest levels and its spread is unlikely to occur.

Context: FAW was reported in 2016. Information indicate a widespread infestation of FAW on maize affecting about 700.000 ha of farmlands. The maize farmlands devastation is already affecting poultry production in the country. Interventions are currently limited to information dissemination and advocacy only.

Threat category: Animal and zoonotic diseases 

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N1 and H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. H5N1 HPAI virus has been circulating in West Africa since December 2014 and Nigeria was the most affected country with over 790 outbreaks reported in poultry in 26 States. Last outbreaks was reported at the end of May 2017. In mid-November 2016, two outbreaks of H5N8 HPAI virus, currently spreading globally, were detected in two poultry farms in Kano state. On August 2017, a third H5N8 HPAI outbreak occurred in a poultry farm in Ogun state.

REPUBLIC OF THE CONGO

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the onset of the next cropping season in October, FAW is highly likely to spread in the country.

Context: In July 2017, FAW has been reported in the country.

RWANDA

Threat category: Plant pests and diseases 

Threat name: Cassava brown streak disease (CBSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava brown streak disease is likely to occur.

Context: The disease is present in the country. It can cause brownish rots in tubers rendering them inedible and resulting in severe loss of economic value. Farmers may be unaware of their infected cassava crops until they are harvested and see the tuber lesions as leaves might appear asymptomatic in some cases.

Threat category: Plant pests and diseases 

Threat name: Cassava mosaic disease (CMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava mosaic disease is likely to occur.

Context: The disease is present in the country. CMD is considered one of the most damaging crop viruses in the world.


Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: FAW is highly likely to spread to other parts of the country. The forecast period (October - December) coinciding with the second growing season, the pest will have access to the susceptible maize crop, which is its preferred host. Without adequate control measures, damage will be important.

Context: In Rwanda, the pest has infested all the 30 districts of the country.

Threat category: Animal and zoonotic diseases 

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries (Democratic Republic of the Congo and Uganda) is likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Last outbreak of H5N8 HPAI virus in neighbouring Uganda occurred at the end of May 2017 but several outbreaks were also observed in April-June in neighbouring Democratic Republic of the Congo.

Threat category: Forest pests and diseases 

Threat name: Bronze bug

Likelihood of occurrence: High

Forecast for October-December 2017: The insect pest Bronze bug is highly likely to spread in Eucalyptus plantations.

Context: The insect pest Bronze bug damages Eucalyptus plantations. An assessment is in progress to quantify the spread of the pest.

Threat category: Forest pests and diseases 

Threat name: Red gum lerp psyllid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Red gum lerp psyllid outbreaks are likely to continue to occur in Eucalyptus plantations.

Context: The insect pest Red gum lerp psyllid continues to damage Eucalyptus plantations since 2015 in Rwanda. A survey to quantify the spread of the pest is being organized and approaches to manage the pest using biological control.

SAO TOME AND PRINCIPE

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the start of a new cropping season, there are fears of FAW infestations resurgence in the country.

Context: Sao Tome and Principe was the first country in Central Africa to report FAW infestations in April 2016. FAO TCP project succeeded in managing the population of the pest and bringing back hope to the maize farmers.

SENEGAL

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: FAW is unlikely to spread in Senegal as it is the dry period.

Context: FAW has recently been detected in the country.


Threat category: Locusts 

Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

Threat category: Animal and zoonotic diseases 

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5 Highly pathogenic avian influenza (HPAI) viruses from neighbouring countries and H9 Low pathogenic avian influenza (LPAI) outbreaks in poultry are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Since December 2014, H5N1 HPAI is circulating in Western Africa and since October-November 2016, H5N8 HPAI virus was reported in Cameroon, Niger and Nigeria. On April 2017, H9 LPAI was detected in chicken in Thies region. This is the first AI introduction detected in Senegal ever. It is known that Senegal imports hatching eggs and day-old chicks from Morocco where the H9N2 Low pathogenic avian influenza (LPAI) virus spread in 2016.

SEYCHELLES

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: Being the main rice production period, there is a possibility of FAW being introduced from mainland Southern Africa where the pest is already prevalent.

Context: FAW has not been reported yet. Seychelles has sent suspected FAW samples for identification but no confirmation has been made yet.

Threat category: Plant pests and diseases 

Threat name: Tomato leaf miner

Likelihood of occurrence: Low

Forecast for October-December 2017: The forecast period is characterised by low production of tomato, a factor that lowers the risks of the disease re-surfing.

Context: Tomato leaf miner was reported on a few farms in the country but its spread was said to have been contained through quarantine.

SIERRA LEONE

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: FAW introduction is unlikely to occur during the forecast period as the major maize season will be over.

Context: FAW has not been reported in the country yet. However, the government has requested FAO support in preparedness.

SOMALIA

Threat category: Plant pests and diseases 

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: FAW is likely to be introduced into the country as neighbouring countries (Ethiopia and Kenya) are infested.

Context: FAW has not been reported in Somalia yet.

Threat category: Locusts 


Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: If rains fall, small-scale breeding may occur on the northwest coast, causing locust numbers to increase slightly.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

SOUTH AFRICA

Threat category: Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast) during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.**Context:** FAW presence was first reported during the 2016/17 season (February 2017).**Threat category:** Plant pests and diseases **Threat name:** Tomato leaf miner**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.**Context:** Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.**Threat category:** Animal and zoonotic diseases **Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. On 19 June 2017, H5N8 HPAI virus was detected for the first time in a commercial farm in Dipalesang in Mpumalanga region. Since then, additional infections continued to be observed, both in wild and domestic birds, in seven different regions of the country.**Threat category:** Forest pests and diseases **Threat name:** Blue gum chalcid**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Blue gum chalcid outbreaks are likely to continue to occur in Eucalyptus nurseries and young plantations.**Context:** The application of biological control agents to reduce the pest population is in progress.

SOUTH SUDAN

Threat category: Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** FAW, from new introductions or already present, is highly likely to spread to other parts of the country. The forecast period (October - December) coincides with the second rainy (planting) season.**Context:** In South Sudan, the pest has been reported in 24 locations in seven out of the 10 States.

SUDAN

Threat category: Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** FAW is likely to be introduced into the country as neighbouring South Sudan is infested.**Context:** Pest has not been reported in Sudan yet.**Threat category:** Locusts **Threat name:** Desert Locust**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** As vegetation dries out in October, small groups may form in the interior. Low numbers of adults will move to the Red Sea coast where small-scale breeding will occur, causing locust numbers to increase slightly.**Context:** Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

SWAZILAND

Threat category: Plant pests and diseases **Threat name:** Fall armyworm (FAW)**Likelihood of occurrence:** High**Forecast for October-December 2017:** With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast) during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.**Context:** FAW presence was first reported during the 2016/17 season (February 2017).

Threat category: Plant pests and diseases

Threat name: Tomato leaf miner

Likelihood of occurrence: Low

Forecast for October-December 2017: Tomato leaf miner has not yet been detected in Swaziland and the forecast period is characterised by low tomato production, a factor that lowers the risks of the disease occurring. It is unlikely to occur.

Context: Tomato leaf miner introduction can be limited by a low tomato production during the forecast period, despite the fact that Swaziland is surrounded by South Africa and Mozambique where the pest prevails.



TOGO

Threat category: Plant pests and diseases

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: Low

Forecast for October-December 2017: The maize season will be over during the forecast period which corresponds to dry season, thus FAW spread is unlikely.

Context: FAW was detected in samples from Togo in 2016 and is currently present in the country.



Threat category: Animal and zoonotic diseases

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries and possible further spread of H5N1 HPAI are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Following the H5N1 HPAI virus introduction in Nigeria in 2014, the virus was detected in Togo in August 2016 in two commercial poultry farms at the border with Ghana. Then, in June 2017, the virus re-emerged in a single outbreak occurred in Maritime region. Recently a H5N8 HPAI virus is spreading, globally following bird migratory routes. Infected birds have been reported in the following neighbouring countries: Cameroon, Niger and Nigeria.



TUNISIA

Threat category: Animal and zoonotic diseases

Threat name: Foot-and-mouth disease (FMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Further spread of Foot-and-mouth disease (FMD), serotype A, will continue to occur.

Context: FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. On 24 April 2017, two FMD outbreaks, serotype A, occurred in Bizerte region, representing the first introduction of this strain in the country. The episode is of concern for Tunisia and neighbouring Algeria because the susceptible animal populations in the region are not immunized against this strain.



UGANDA

Threat category: Plant pests and diseases

Threat name: Cassava brown streak disease (CBSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava brown streak disease is likely to occur.

Context: The disease is present in the country. It can cause brownish rots in tubers rendering them inedible and resulting in severe loss of economic value. Farmers may be unaware of their infected cassava crops until they are harvested and see the tuber lesions as leaves might appear asymptomatic in some cases.



Threat category: Plant pests and diseases

Threat name: Cassava mosaic disease (CMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava mosaic disease is likely to occur.

Context: The disease is present in the country. CMD is considered one of the most damaging crop viruses in the world.



Threat category: Plant pests and diseases

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: FAW is highly likely to spread to other parts of the country. The forecast period (October - December) coinciding with the second rainy (growing) season, the pest will have access to the susceptible maize crop, which is its preferred host. Additional districts are expected to be infested.

Context: In Uganda, the pest is confirmed in 115 districts out of the 144 districts, i.e. 80% of the territory.



Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. In January 2017, H5N8 HPAI virus was detected from wild birds found dead (along the shores of Lake Victoria in Wakiso District). In fact, it started in mid-December and since then, infection was confirmed in wild and domestic birds in Kalangala, Masaka and Wakiso districts. It is the first AI introduction in Uganda, and the first one in the African subregion since 2008. Last outbreak in the country occurred at the end of May 2017 but several outbreaks were also observed in April-June in neighbouring Democratic Republic of the Congo.

Threat category: Forest pests and diseases



Threat name: Blue gum chalcid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Blue gum chalcid is likely to spread in Eucalyptus nurseries and plantations.

Context: The insect Blue gum chalcid currently causes severe damages in Eucalyptus nurseries, woodlots and plantations. Management options of the pest are being provided to farmers.

UNITED REPUBLIC OF TANZANIA

Threat category: Plant pests and diseases



Threat name: Cassava brown streak disease (CBSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava brown streak disease is likely to occur.

Context: The disease is present in the country. It can cause brownish rots in tubers rendering them inedible and resulting in severe loss of economic value. Farmers may be unaware of their infected cassava crops until they are harvested and see the tuber lesions as leaves might appear asymptomatic in some cases.

Threat category: Plant pests and diseases



Threat name: Cassava mosaic disease (CMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Cassava mosaic disease is likely to occur.

Context: The disease is present in the country. CMD is considered one of the most damaging crop viruses in the world.

Threat category: Plant pests and diseases



Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast) during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.

Context: FAW presence was first reported during the 2016/17 season (February 2017).

Threat category: Plant pests and diseases



Threat name: Tomato leaf miner

Likelihood of occurrence: Moderate

Forecast for October-December 2017: As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.

Context: Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.

Threat category: Locusts



Threat name: Red Locust

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Persisting swarms will mate and lay eggs that will result in increase in numbers.

Context: Red Locust plagues are a major threat to agriculture in Southern Africa. Failure to control locust outbreaks during the early stages of development can result in highly mobile swarms which invade the agricultural areas and can cause major crop damage.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Introduction of H5N8 Highly pathogenic avian influenza (HPAI) from neighbouring countries (Democratic Republic of the Congo and Uganda) is likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Last outbreak of H5N8 HPAI virus in Uganda occurred at the end of May 2017 but several outbreaks were also observed in April-June in neighbouring Democratic Republic of the Congo.

Threat category: Forest pests and diseases

Threat name: Blue gum chalcid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Blue gum chalcid is likely to spread in Eucalyptus nurseries and plantations.

Context: Damage continues in Eucalyptus nurseries, woodlots and plantations due to Blue gum chalcid.



Threat category: Animal and zoonotic diseases

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N8 Highly pathogenic avian influenza (HPAI) is likely to be introduced and then spread in the country as neighbouring countries are infected.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. In January 2017, H5N8 HPAI virus was detected from wild birds found dead along the shores of Lake Victoria in Wakiso District (in Uganda). This is the first AI introduction in the African subregion since 2008. In April-June 2017, the virus was detected for the first time in neighbouring Democratic Republic of the Congo and Zimbabwe.



ZAMBIA

Threat category: Plant pests and diseases

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast) during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.

Context: FAW presence was first reported during the 2016/17 season (February 2017).



Threat category: Forest pests and diseases

Threat name: Blue gum chalcid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of the insect pest Blue gum chalcid is likely to continue to occur in Eucalyptus nurseries and plantations.

Context: Zambia has initiated pest management activities based on silvicultural practices, breeding programmes and quarantine measures to reduce the insect populations. Introduction of biological control agents to reduce the Blue gum chalcid population is in progress.



Threat category: Plant pests and diseases

Threat name: Tomato leaf miner

Likelihood of occurrence: Moderate

Forecast for October-December 2017: As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.

Context: Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.



Threat category: Forest pests and diseases

Threat name: Red gum lerp psyllid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Red gum lerp psyllid is likely to continue in Eucalyptus plantations.

Context: Pest management activities based on silvicultural practices are in progress.



Threat category: Locusts

Threat name: Red Locust

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Persisting swarms will mate and lay eggs that will result in increase in numbers.

Context: Red Locust plagues are a major threat to agriculture in Southern Africa. Failure to control locust outbreaks during the early stages of development can result in highly mobile swarms which invade the agricultural areas and can cause major crop damage.



ZIMBABWE

Threat category: Plant pests and diseases

Threat name: Fall armyworm (FAW)

Likelihood of occurrence: High

Forecast for October-December 2017: With the beginning of the main maize planting season, which is characterised by high temperatures and coupled with normal to below normal rains (SARCOF forecast) during October and November, FAW is highly likely to spread throughout the country and cause damage to emerging crops.

Context: FAW presence was first reported during the 2016/17 season (February 2017).



Threat category: Plant pests and diseases



Threat name: Tomato leaf miner

Likelihood of occurrence: Moderate

Forecast for October-December 2017: As temperatures are high during this forecast period, which favour multiplication of Tomato leaf miner, its spread is likely to occur. However, damage will be limited as tomato production during this forecast period is low.

Context: Tomato leaf miner is already present in the country. Tomato production, which may facilitate the pest spreading, is usually reduced due to the high occurrence of tomato foliar diseases especially fungal ones.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N8 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.

Context: *HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans.* On 17 May 2017, H5N8 HPAI virus was detected for the first time in the big commercial Lanark farm in Mashonaland region. At the end of August 2017, the infection remains contained to Lanark farm where a total of 794.792 birds were killed and buried.

Threat category: Forest pests and diseases



Threat name: Blue gum chalcid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Blue gum chalcid is likely to occur in Eucalyptus nurseries, woodlots and plantations.

Context: Pest management activities based on application of biological control agent are in progress to reduce Blue gum chalcid populations.

Threat category: Forest pests and diseases



Threat name: Bronze bug

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Bronze bug spread is likely to continue to occur in Eucalyptus plantations.

Context: Pest management activities are in progress.

Threat category: Forest pests and diseases



Threat name: Red gum lerp psyllid

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Red gum lerp psyllid is likely to occur in Eucalyptus plantations.

Context: Pest management activities based on silvicultural practices are in progress.

AMERICAS

COLOMBIA

Threat category: Animal and zoonotic diseases

Threat name: Foot-and-mouth disease (FMD)



Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Foot-and-mouth disease (FMD) serotype O outbreaks is likely to occur.

Context: FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. On 01 June 2017, a FMD serotype O outbreaks occurred in cattle in Cundinamarca region. This represented the first re-occurrence of the disease after 2009 when the country achieved the status of country free from FMD from OIE. After this first new outbreak, additional seven outbreaks were reported in three regions of the country until 20 July. For the time being, there is no information about the source of this infection.

GUATEMALA

Threat category: Forest pests and diseases

Threat name: Bark beetles



Likelihood of occurrence: Moderate

Forecast for October-December 2017: Bark beetles damages in pine plantations are likely to continue.

Context: Silvicultural practices to reduce the pest populations are in progress. Training of foresters on prevention and management practices is in progress.

HONDURAS

Threat category: Forest pests and diseases

Threat name: Bark beetles



Likelihood of occurrence: Moderate

Forecast for October-December 2017: Bark beetles outbreaks, causing heavy losses in pine plantations, are likely to occur and will continue to be reported.

Context: Bark beetles affect about 500.000 ha of conifer forests. Training of foresters on prevention and management practices is in progress.

NICARAGUA

Threat category: Forest pests and diseases

Threat name: Bark beetles



Likelihood of occurrence: High

Forecast for October-December 2017: It is highly likely that Bark beetles continue to cause damages in pine plantations.

Context: Pest management activities based on silvicultural practices are in progress.

ASIA

AFGHANISTAN

Threat category: Locusts **Threat name:** Moroccan Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Eggs laid in early summer will remain in the ground until next spring.**Context:** Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests in Central Asia. The Italian Locust is also present in the country but was not reported as a pest this year.

ARMENIA

Threat category: Locusts **Threat name:** Italian Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Natural disappearance of remaining adult populations; eggs laid in autumn will remain in the ground until next spring.**Context:** Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. The Italian Locust is one of the two locust pests in Caucasus.


AZERBAIJAN

Threat category: Locusts **Threat name:** Moroccan Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Natural disappearance of remaining adult populations; eggs laid in late summer will remain in the ground until next spring.**Context:** Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. The Moroccan Locust is one of the two locust pests in Caucasus. The Italian Locust is also present in the country but was not reported as a pest this year.

CAMBODIA

Threat category: Plant pests and diseases **Threat name:** Cassava mosaic disease (CMD)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Spread of Cassava mosaic disease is likely to occur.**Context:** The disease is present in the north of country at a limited scale. CMD is considered one of the most damaging crop viruses in the world.

CHINA

Threat category: Animal and zoonotic diseases **Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Several H5 and H7 Highly pathogenic avian influenza (HPAI) and Low pathogenic avian influenza (LPAI) viruses' outbreaks in poultry in the country and sporadic avian influenza human cases due to H5 HPAI and to H7N9 LPAI viruses are likely to occur. In both cases, an increasing number of events is expected as for seasonal pattern.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Several serotypes of HPAI and LPAI AI viruses are circulating and being detected in China. The occurrence of outbreaks in poultry and of human cases usually follows a seasonal pattern, with an increase in the outbreaks observed starting from November and a peak observed between January and February. The current H7N9 LPAI season has been the heaviest since the emergence of the virus in early 2013. In addition, this is the first season that H7N9 AI viruses have genetic suggestive of evolving from a low pathogenic into a highly pathogenic avian virus.

GAZA STRIP

Threat category: Animal and zoonotic diseases



Threat name: Foot-and-mouth disease (FMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Further spread of FMD serotype O and possible introduction of serotype A from neighbouring Israel are likely to occur.

Context: FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. On February 2017, a FMD serotype O introduction was reported in two farms at the border with Israel and Egypt. Vaccination was implemented. A total of five outbreaks were observed. On 1st May in Israel (Aramsha, Northern district), a FMD outbreak serotype A was detected in a cattle farm. The episode is of concern for Gaza strip and neighbouring countries because only poor vaccine matching is available so far.

GEORGIA

Threat category: Locusts



Threat name: Italian Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the two locust pests in Caucasus.

Threat category: Locusts



Threat name: Moroccan Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in early summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the two locust pests in Caucasus.

Threat category: Animal and zoonotic diseases



Threat name: Lumpy skin disease (LSD)

Likelihood of occurrence: Low

Forecast for October-December 2017: Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period.

Context: LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. In the beginning of November 2016, LSD was reported in Georgia for the first time, in the villages of Gioia and Ghebi (placed 17 km apart), in Oni district, Racha-Lechkhum Kvemo Svaneti Region, at the border with the Russian Federation.

Threat category: Forest pests and diseases



Threat name: Boxwood blight

Likelihood of occurrence: Low

Forecast for October-December 2017: Boxwood blight (caused by pathogen *Calonectria pseudonaviculata*) will continue to be present but its spread will be limited due to winter temperatures and lack of rain.

Context: Monitoring of the disease spread is in progress.

Threat category: Forest pests and diseases



Threat name: Boxwood moth

Likelihood of occurrence: Low

Forecast for October-December 2017: Boxwood moth (*Cydalima perspectalis*) will have limited spread due to winter temperatures.

Context: As part of Integrated Pest management programme, the use of bio-pesticide Btk and pheromone trapping are in progress to protect the native boxwood species.

INDIA

Threat category: Locusts



Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

IRAN (ISLAMIC REPUBLIC OF)

Threat category: Locusts



Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

Threat category: Animal and zoonotic diseases



Threat name: Avian influenza (AI)

Likelihood of occurrence: Low

Forecast for October-December 2017: Both H5N1 and H5N8 Highly pathogenic avian influenza (HPAI) outbreaks are present in the country but their spread is unlikely.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. A new H5N1 HPAI outbreak was detected in January 2017 in Mazdaran region, after the previous one in June 2016 in the country. The H5N8 HPAI that is currently spreading globally, following wild birds migratory routes, has been detected in November 2016 in Tehran governorate, affecting several large poultry farms. Since then the virus has been detected in wild and domestic birds in eight governorates. Last detection occurred in February 2017.

Threat category: Forest pests and diseases



Threat name: Boxwood blight

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Boxwood blight will continue to be present but its spread will be limited due to winter temperatures and lack of rain.

Context: Boxwood blight was reported for the first time in the country in 2012. Currently approximately 50.000 ha of boxwood forest is affected by the disease. Pest management activities in selected areas are in progress.

Threat category: Forest pests and diseases



Threat name: Boxwood moth

Likelihood of occurrence: Low

Forecast for October-December 2017: Boxwood moth will have limited activities during the forecast period due to low temperatures.

Context: The first introduction B boxwood moth was reported in August 2016. The native boxwood forests are under new threat of Boxwood moth which is highly destructive. Early actions such as pheromone trapping for monitoring and treatments using bio-pesticide Btk is required to reduce further spread. FAO organized a visit from Georgia to Iran to share the experiences on Btk application and pheromone trappings.

Threat category: Forest pests and diseases



Threat name: Charcoal disease

Likelihood of occurrence: Low

Forecast for October-December 2017: Oak charcoal disease (pathogen *Biscogniauxia mediterranea*) will have limited activities during the forecast period.

Context: The decline of oak charcoal disease has been reported since 2012 in the Zagros region of the country. It has a negative impact on the livelihood of nomad people and watershed management. Operations to minimize the impact of the charcoal disease and abiotic stresses are in progress.

ISRAEL

Threat category: Animal and zoonotic diseases



Threat name: Foot-and-mouth disease (FMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Further spread of Foot-and-mouth disease (FMD) outbreaks, serotype O, will be limited thanks to the ongoing vaccination campaign but it is likely to occur for FMD serotype A.

Context: FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. On 1st May in Aramsha, Northern district, a FMD outbreak serotype A was detected in a cattle farm. The episode is of concern for Israel and neighbouring countries because only poor vaccine matching is available so far. Previously, in February, a FMD serotype O outbreak occurred in Southern district, as it used to occur sporadically in the country.

JORDAN

Threat category: Animal and zoonotic diseases

Threat name: Foot-and-mouth disease (FMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Further spread of FMD serotype O and possible introduction of serotype A from neighbouring Israel are likely to occur.

Context: *FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade.* In February-March 2017, four FMD outbreaks, serotype O, were detected in cattle in three different regions of the country. On 1st May in Israel (Aramsha, Northern district), a FMD outbreak serotype A was detected in a cattle farm. The episode is of concern for Jordan and neighbouring countries because only poor vaccine matching is available so far.



KAZAKHSTAN

Threat category: Locusts

Threat name: Italian Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in late summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.



Threat category: Locusts

Threat name: Migratory Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in late summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.



Threat category: Locusts

Threat name: Moroccan Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.



Threat category: Animal and zoonotic diseases

Threat name: Lumpy skin disease (LSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period.

Context: *LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses.* In July 2016, LSD was for the first and unique time reported in Kazakhstan, in a village of West Kazakhstan region. Rumours of additional outbreaks were reported in August 2017, but they were all denied, so far. The disease continues to be reported in neighbouring Russian Federation. LSD mitigation measures (i.e. vaccination) can be undertaken.



KYRGYZSTAN

Threat category: Locusts

Threat name: Italian Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in late summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia.



Threat category: Locusts

Threat name: Moroccan Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia.



LAO PEOPLE'S DEMOCRATIC REPUBLIC

Threat category: Locusts**Threat name:** Yellow-Spined Bamboo Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Eggs laid in autumn will remain in the ground until next spring.**Context:** The Yellow-Spined Bamboo Locust is a serious pest in China, Lao PDR and Viet Nam whose outbreaks result in crop losses and threat on food security and livelihood of rural populations as the species can feed on more than 25 plants. In Lao PDR, the first serious outbreak occurred in 2014 and crop losses were reported.**Threat category:** Animal and zoonotic diseases**Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Further spread of H5N1 Highly pathogenic avian influenza (HPAI) outbreaks and re-emergence of H5N6 Highly pathogenic avian influenza (HPAI) due to movement of poultry or poultry products from neighbouring affecting countries (i.e. China and Viet Nam) are likely to occur.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. H5N1 HPAI re-emerged with five outbreaks in poultry in July 2017, after the first detection of this virus was reported on October 2016. HPAI virus was reported last time in October 2015.

LEBANON

Threat category: Forest pests and diseases**Threat name:** Dry cone syndrome**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** It is likely that Dry cone syndrome will continue to cause damages to pine plantations (*Pinus pinea*).**Context:** Heavy yield losses continue to impact rural livelihoods. The yield reduction of pine nuts is reported throughout the country. Silvicultural practises to strengthen the trees are in progress.**Threat category:** Forest pests and diseases**Threat name:** Western conifer seed bug**Likelihood of occurrence:** Low**Forecast for October-December 2017:** It is likely that Western conifer seed bug will have limited activities due to lower temperatures.**Context:** Monitoring of pest population using traps is in progress.

MYANMAR

Threat category: Animal and zoonotic diseases**Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Further spread of H5 Highly pathogenic avian influenza (HPAI) outbreaks is likely to occur.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Both H5N1 HPAI and H5N6 HPAI re-emerged in Myanmar in poultry in July 2017, after the last detections of these virus were reported in the country on March-April 2016.

NEPAL

Threat category: Animal and zoonotic diseases**Threat name:** Avian influenza (AI)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** H5 Highly pathogenic avian influenza (H5N1 and H5N8) HPAI outbreaks and introduction of H7N9 Low pathogenic avian influenza (LPAI) from China are likely to occur.**Context:** HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. In February-March 2017, Nepal reported the introduction of two HPAI viruses: H5N1 detected in two poultry farms in Western region, first reported introduction since February 2014 and H5N8 detected in captive birds in a zoo in Eastern region. In February 2017, H7N9 LPAI was reported for the first time ever in neighbouring Tibet, province of China.

OMAN

Threat category: Locusts**Threat name:** Desert Locust**Likelihood of occurrence:** Low**Forecast for October-December 2017:** Significant activity is unlikely to occur.**Context:** Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

PAKISTAN

Threat category: Plant pests and diseases 

Threat name: Banana fusarium wilt disease

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Spread of Fusarium wilt disease on banana is likely to occur.

Context: The disease is reported from a farm in 2016. Banana fusarium wilt disease is a soil-borne disease caused by a fungal pathogen that cannot be eradicated once established in a plantation. It attacks banana plants of all ages and spreads mainly through the soil. It causes yellowing of the leaves and then wilting. Prevention of the spread is crucial.

Threat category: Locusts 


Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Significant activity is unlikely to occur.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

PHILIPPINES

Threat category: Animal and zoonotic diseases 


Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5N6 Highly pathogenic avian influenza (HPAI) outbreaks in poultry due to further spread of the virus within the country are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. H5N6 HPAI outbreaks (n=3) were reported in quails and poultry in August 2017 in Luzon region. This first introduction of the virus in the country gives a moderate likelihood of spread the country.

REPUBLIC OF KOREA


Threat category: Animal and zoonotic diseases 

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Further spread of H5N6 and H5N8 Highly pathogenic avian influenza (HPAI) outbreaks within the country are likely to occur due to the favourable weather conditions for the vectors during the forecast period.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Since October 2016 when the same strain of H5N8 HPAI virus circulating in Asia and Europe was first detected in the country, more than 400 events were reported, affecting wild and domestic birds. Last outbreaks were reported in poultry in July 2017. H5N6 HPAI virus was first detected in the country in October 2016, while last reported outbreaks were in April 2017. The upcoming favourable weather conditions can cause the re-emergence of both virus, as observed due to flu seasonal pattern.

Threat category: Animal and zoonotic diseases 

Threat name: Foot-and-mouth disease (FMD)

Likelihood of occurrence: Low

Forecast for October-December 2017: Further spread of FMD (serotypes A and O) are unlikely to occur in the country.

Context: FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. In February 2017, the country experienced a new Foot-and-mouth disease introduction. Serotypes involved are the A and the O. Infections have affected cattle farms in three regions. Last outbreak occurred on 13 February. Since 2014, FMD introduction occurred every year, with heavy consequences in particular for the swine sectors.

SAUDI ARABIA

Threat category: Locusts 

Threat name: Desert Locust

Likelihood of occurrence: Low

Forecast for October-December 2017: Small-scale breeding will occur on Red Sea coast, causing locust numbers to increase slightly.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.

TAJIKISTAN

Threat category: Locusts 

Threat name: Italian Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia.

Threat category: Locusts 

Threat name: Moroccan Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia.

TURKEY

Threat category: Forest pests and diseases 

Threat name: Chestnut gall wasp

Likelihood of occurrence: Low

Forecast for October-December 2017: Chestnut gall wasp population will have less activities in Chestnut trees thanks to pest control activity.

Context: Pest management activities based on application of biological control agent are in progress to reduce the populations of the insect pest.

TURKMENISTAN

Threat category: Locusts 

Threat name: Moroccan Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in early summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests in Central Asia. The Italian Locust is also present in the country but was not reported as a pest this year.

UZBEKISTAN

Threat category: Locusts 

Threat name: Italian Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.

Threat category: Locusts 

Threat name: Migratory Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Natural disappearance of remaining adult populations; eggs laid in summer and autumn will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.

Threat category: Locusts 

Threat name: Moroccan Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in early summer will remain in the ground until next spring.

Context: Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.

VIET NAM

Threat category: Locusts 

Threat name: Yellow-Spined Bamboo Locust

Likelihood of occurrence: Nil

Forecast for October-December 2017: Eggs laid in autumn will remain in the ground until next spring.

Context: The Yellow-Spined Bamboo Locust is a serious pest in China, Lao PDR and Viet Nam whose outbreaks result in crop losses and threat on food security and livelihood of rural populations as the species can feed on more than 25 plants. There were several outbreaks since 2005.

Threat category: Animal and zoonotic diseases

Threat name: Avian influenza (AI)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: H5 Highly pathogenic avian influenza (H5N1 and H5N6) HPAI outbreaks and introduction of H7N9 Low pathogenic avian influenza (LPAI) from China are likely to occur.

Context: HPAI is a highly contagious disease causing high mortality in poultry resulting in severe production losses with impact on food security and trade. Avian influenza viruses can affect humans. Both H5N1 and H5N6 HPAI outbreaks were reported in the country in 2016 and 2017. Historically, AI outbreaks in poultry occur throughout the year and increase by the end of the year. H7N9 LPAI can be introduced from neighbouring China.



YEMEN

Threat category: Locusts

Threat name: Desert Locust

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Small-scale breeding will occur on Red Sea and Gulf of Aden coasts, causing locust numbers to increase slightly.

Context: Dense Desert Locust (*Schistocerca gregaria*) populations are a threat to agricultural production in Africa, the Middle East and Asia, and have a negative impact on food security. The livelihoods of at least one tenth of the world's population can be affected by this voracious insect. Desert locusts are potentially the most dangerous locust pests due to swarms' ability to fly quickly over long distances.



WEST BANK

Threat category: Animal and zoonotic diseases

Threat name: Foot-and-mouth disease (FMD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Further spread of FMD serotype O and possible introduction of serotype A from neighbouring Israel are likely to occur.

Context: FMD is a highly contagious disease among cattle, buffalo, sheep and pigs and can cause a sharp drop in milk and meat production and mortality in young animals. It is the most restrictive animal disease for livestock trade. On 1st and 09 May, two FMD outbreaks were observed in Ramallah and Hebron district. Serotype identification is still pending, but serotype A can spread from Israel where it was detected on 1st May. The episode is of concern for West Bank and neighbouring countries, because only poor vaccine matching is available so far.



EUROPE

ALBANIA

Threat category: Animal and zoonotic diseases



Threat name: Lumpy skin disease (LSD)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period and thanks to mitigation measures (i.e. vaccination) undertaken.

Context: LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. Detected for the first time in June 2016, LSD caused almost 850 outbreaks affecting 32 counties. An emergency vaccination campaign has started to be implemented. During all summer of 2017, outbreaks continued to be reported.

Threat category: Forest pests and diseases



Threat name: Pine processionary moth

Likelihood of occurrence: Moderate

Forecast for October-December 2017: It is likely that larval stage will be active throughout the colder periods causing defoliation of needles.

Context: Mechanical removal of nests are in progress to manage the pest populations.

BELARUS

Threat category: Animal and zoonotic diseases



Threat name: African swine fever (ASF)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: African swine fever (ASF) outbreaks are likely to occur due to possible introduction of the virus from neighbouring countries followed by its spread.

Context: ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. ASF virus presence has not been reported yet in Belarus. Informal and uncontrolled animal movement and poor biosecurity conditions in pig farms at borders are risk factors for ASF introduction in unaffected areas.

BULGARIA

Threat category: Animal and zoonotic diseases



Threat name: Lumpy skin disease (LSD)

Likelihood of occurrence: Low

Forecast for October-December 2017: Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period and thanks to mitigation measures (i.e. vaccination) undertaken.

Context: LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. First detected in Haskovo province in April 2016, LSD has spread throughout the country, causing more than 200 outbreaks in 19 provinces. Last detection occurred in July 2016. A massive emergency vaccination campaign has been implemented.

CZECH REPUBLIC

Threat category: Animal and zoonotic diseases



Threat name: African swine fever (ASF)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: ASF further spread within the country is likely to occur.

Context: ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. On 05 July 2017, in Zlin region, a dead wild boar was found positive for ASF by the National Veterinary Research Institute within the framework of the national ASF surveillance programme. This represented the first introduction of the disease in the country. Since then, a total of 84 wild boars were found infected, all in the same region of the country.

ESTONIA

Threat category: Animal and zoonotic diseases



Threat name: African swine fever (ASF)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: ASF further spread within the country is likely to occur.

Context: ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. Since the ASF introduction in the country in September 2014, the presence of the virus continues to be reported in wild boars mainly. A huge outbreak occurred in domestic pigs in July 2017, in a farm with 3.200 animals in the territory of the Orissaare rural municipality, in Saaremaa county.

GREECE**Threat category:** Animal and zoonotic diseases**Threat name:** Lumpy skin disease (LSD)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period and thanks to mitigation measures (i.e. vaccination) undertaken.**Context:** LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. Last observed outbreak of LSD in Greece related to a second wave of infection occurred in late November 2016, then two new outbreaks occurred in regions never affected by the disease before: in February 2017, in Kerkyra, an Ionian island, and in August, in Thessalia region.**HUNGARY****Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** ASF outbreaks are likely to occur due to possible introduction from neighbouring countries.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. Since its introduction in Europe in early 2014, ASF has become endemic in some countries bordering Hungary, like Ukraine and, on July 2017, Romania. Informal and uncontrolled animal movement and poor biosecurity conditions in pig farms at borders is crucial for disease introduction.**LATVIA****Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** ASF further spread within the country is likely to occur.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. The presence of the virus continues to be reported both in wild boars and domestic pigs, and, among July-September 2017, a total of 11 outbreaks were observed.**LITHUANIA****Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** ASF further spread within the country is likely to occur.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. Since the ASF introduction in the country in early 2014, the presence of the virus continues to be reported in wild boars mainly, even though, in July 2017, huge outbreaks occurred in domestic pigs in Central Lithuania.**MONTENEGRO****Threat category:** Animal and zoonotic diseases**Threat name:** Lumpy skin disease (LSD)**Likelihood of occurrence:** Low**Forecast for October-December 2017:** Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period and thanks to mitigation measures (i.e. vaccination) undertaken.**Context:** LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. First detected in Negotino municipality in April 2016, LSD spread in the country causing at least 60 outbreaks in seven municipalities. Last observed outbreak occurred in August 2016. An emergency vaccination campaign has been implemented.**POLAND****Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** ASF further spread within the country is likely to occur.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. Since the ASF introduction in the country in early 2014, the presence of the virus continues to be reported both in wild and domestic pigs.

REPUBLIC OF MOLDOVA**Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Further African swine fever (ASF) outbreaks and possible introduction from neighbouring countries are likely to occur.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. Moldova (Rep. of) reported its first ASF introduction in late September 2016 in Donduseni district, at the northern border with Ukraine. Since its introduction in Europe in early 2014, the presence of the virus continues to be reported in Ukrainian backyard farms, close to the border with Moldova (Rep. of).**ROMANIA****Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Further African swine fever (ASF) outbreaks and possible introduction from neighbouring countries are likely to occur.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. On 27 July 2017, first introduction of ASF was detected in two domestic pig farms in Satu Mare region close to the border with Hungary.**RUSSIAN FEDERATION****Threat category:** Locusts**Threat name:** Italian Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Natural disappearance of remaining adult populations; eggs laid in late summer will remain in the ground until next spring.**Context:** Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.**Threat category:** Locusts**Threat name:** Migratory Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Natural disappearance of remaining adult populations; eggs laid in late summer will remain in the ground until next spring.**Context:** Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.**Threat category:** Locusts**Threat name:** Moroccan Locust**Likelihood of occurrence:** Nil**Forecast for October-December 2017:** Eggs laid in summer will remain in the ground until next spring.**Context:** Locust pests attack a wide range of cultivated plants in Caucasus and Central Asia and can cause severe damage, thus jeopardizing food security and livelihood of the rural populations. This species is one of the three locust pests present in Central Asia and in the country.**Threat category:** Animal and zoonotic diseases**Threat name:** African swine fever (ASF)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** ASF further spread within the country is likely to occur.**Context:** ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. The presence of the virus continues to be reported both in wild boars and domestic pigs, and, during the summer 2017, a total of 107 outbreaks were observed.**Threat category:** Animal and zoonotic diseases**Threat name:** Lumpy skin disease (LSD)**Likelihood of occurrence:** Moderate**Forecast for October-December 2017:** Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period.**Context:** LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. After its re-emergence in May 2016 in Dagestan, Lumpy skin disease has spread north, east, and westwards, affecting 20 administrative subjects and causing almost 300 outbreaks. From June to September 2017, additional 31 outbreaks were reported in the country.

SERBIA

Threat category: Animal and zoonotic diseases



Threat name: Lumpy skin disease (LSD)

Likelihood of occurrence: Low

Forecast for October-December 2017: Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period and thanks to mitigation measures (i.e. vaccination) undertaken.

Context: LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. On 04 June 2016, LSD was first observed in a backyard farm in Pcinja district. Since then, 223 outbreaks were officially reported in 12 districts. Last observed outbreak occurred in October 2016. An emergency vaccination campaign has been implemented.

THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

Threat category: Animal and zoonotic diseases



Threat name: Lumpy skin disease (LSD)

Likelihood of occurrence: Low

Forecast for October-December 2017: Re-emergence and further spread of Lumpy skin disease (LSD) will be limited by the unfavourable weather conditions for the vectors during the forecast period and thanks to mitigation measures (i.e. vaccination) undertaken.

Context: LSD is a severe disease transmitted by vectors which affects mainly cattle, causing important meat and milk production losses. Detected for the first time in July 2016, LSD caused almost 170 outbreaks, affecting 21 municipalities. After the outbreak in September 2016, two outbreaks were observed in northern municipalities of the country in February and April 2017.

UKRAINE

Threat category: Animal and zoonotic diseases



Threat name: African swine fever (ASF)

Likelihood of occurrence: Moderate

Forecast for October-December 2017: ASF further spread within the country is likely to occur.

Context: ASF is a highly contagious viral disease of swine, both domestic and wild, which can cause high mortality. So far no vaccines are available. Since the ASF introduction in the country in early 2014, the presence of the virus continues to be reported in domestic pigs, with new areas being affected in early months of 2017.

GLOSSARY

FCC threat	Food chain crisis (FCC) threats are transboundary animal and plant pests and diseases, including forest pests and aquatic diseases, and food safety threats, that can affect any step of the food chain with a potential high impact on food and nutrition security. FCC threats may reach epidemic proportions by spreading within a country and to a number of countries necessitating control/management cooperation between several countries
Forecasting	Ability to predict future condition or occurrence of an FCC threat for the upcoming three months.
Likelihood of introduction	Chances of introduction of a FCC threat into a country, across border or to a specific area for the upcoming three months.
Likelihood of occurrence	Chances of a FCC threat to happen for the upcoming three months.
Likelihood of spread	Chances of geographical spread of a FCC threat within a country beyond its original introduction for the upcoming three months.
Likelihood of re-emergence/ amplification	Chances of re-emergence/amplification (e.g. increase, breeding, etc.) of a threat already existing within a country for the upcoming three months.
Biosecurity	All the cumulative measures that can or should be taken to keep disease (viruses, bacteria, fungi, protozoa, parasites) from a farm and to prevent the transmission of disease (by humans, insects, rodents and wild birds/animals) within an infected farm to neighbouring farm (FAOTERM).
Incursion	An isolated population of a pest recently detected in an area, not known to be established, but expected to survive for the immediate future (FAOTERM).
Outbreak	A recently detected pest population, including an incursion, or a sudden significant increase of an established pest population in an area (FAOTERM).
Zoonosis	Any disease or infection which is naturally transmissible from animals to humans (FAOTERM).

INFORMATION SOURCES

Transboundary Animal Diseases

- Early Mortality Syndrome/Acute hepatopancreatic necrosis disease (EMS/AHPND)FAO. 2013. Report of the FAO/MARD Technical Workshop on Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (AHPNS) of Cultured Shrimp (available at <http://www.fao.org/docrep/018/i3422e/i3422e00.htm>)
- ECDC - Communicable disease threats report (CDTR) available at <https://ecdc.europa.eu/en/threats-and-outbreaks/reports-and-data/weekly-threats>
- FMD Situation Reports available at <http://www.fao.org/ag/againfo/commissions/eufmd/commissions/eufmd-home/fmd-surveillance/situation-reports/en/>
- Global Animal Disease Information System (EMPRES-i) (<http://empres-i.fao.org/eipws3g/>)
- Global Early Warning System (GLEWS) at FAO
- OIE World Animal Health Information Database (WAHID) Interface http://www.oie.int/wahis_2/public/wahid.php/Wahidhome/Home

Desert Locust

- FAO Desert Locust Information Service (DLIS) www.fao.org/ag/locusts

Locusts (three species) in Caucasus and Central Asia

- Regional monthly bulletins on locust situations in CCA
- Reports of the annual Technical Workshop on Locusts in CCA available at <http://www.fao.org/ag/locusts-CCA/en/index.html>

Wheat rust disease

- Global wheat rust monitoring system

Threats to Food Security

- FAO Crop Prospects and Food Situation, No. 2, June 2017 available at <http://www.fao.org/3/a-i7402e.pdf>

Glossary

- **FAO Term portal:** <http://www.fao.org/faoterm/en/>
- **IPPC Glossary:** <https://www.ippc.int/en/publications/glossary-phytosanitary-terms/>
- **FAO Food Safety and Quality website – A-z index:** <http://www.fao.org/food/food-safety-quality/a-z-index/biosecurity/en/>

ACAPS: <https://www.acaps.org/>

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