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## Quarterly Early Warning Bulletin for Food and Agriculture



Alerts on threats to the food chain and food security  
in countries and regions

*The Quarterly Early Warning Bulletin for Food and Agriculture integrates information on threats to the food chain and food security for the three months ahead. It is a product of collaboration between the **Emergency Prevention System (EMPRES)** for transboundary animal (including aquatic) and plant (including forest) pests and diseases and food safety threats, the **Global Information and Early Warning System (GIEWS)**, and the Intelligence and Coordination Unit of the **Food Chain Crisis Management Framework (FCC)**.*

## Highlights

- In West Africa, Ebola virus disease (EVD) epidemic continues; the human death toll is rising rapidly and had exceeded 10,325 deaths and 24,901 cases as of 25 March 2015<sup>1</sup>. The disease is primarily transmitted through human-to-human contact, but there is a undefined risk of transmission from wildlife reservoirs in the region. There is a high risk of spread of another viral form of Ebola in the Congo region, though not related to the ongoing outbreaks in western Africa region.
- In China, Southeast Asia, northern and western Africa (Nigeria), Europe and North America, continued spread of Highly Pathogenic and Low Pathogenic Avian Influenza types (H5N1, H7N9, H5N2, H5N3, H5N6, H5N8) outbreaks has been experienced, with potential for further spread within endemic areas, or to disease-free regions and countries.
- Wheat rust diseases continue threatening wheat crops from East and North Africa to South Asia due to newly emerging yellow and stem rust strains. Continuous surveillance and vigilance recommended.
- Conflicts in some countries of the Near East continue to severely affect food security and disrupt agricultural activities, curbing production prospects.
- Persisting conflicts in several countries of Africa have led to increasing food insecurity, in addition to lowering production prospects in the affected areas.

<sup>1</sup> WHO Data 3/25/15

## Regional issues

### Africa

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- Persisting conflicts in several countries have led to increasing food insecurity, in addition to lowering production prospects in the affected areas.
- In West Africa, Ebola virus disease (EVD) epidemic continues; the human death toll is rising rapidly and had exceeded 10,325 deaths and 24,901 cases as of 25 March 2015. The disease is primarily transmitted through human-to-human contact, but there is a poorly defined risk of transmission from wildlife reservoirs in the region. There is a high risk of spread of another viral form of Ebola in the Congo region, though not related to the ongoing outbreaks in western Africa region.
- There is an increased risk of the spread of Trans-boundary Animal Diseases (TADs) including Foot-and-mouth disease (FMD) and Lumpy skin disease (LSD) due to conflict escalation in some countries in the region causing populations and animals to re-locate, with TADs putting at risk livestock populations, livelihoods and food security.
- In Nigeria, HPAI H5N1 is spreading in poultry.
- Tomato borer (*Tuta absoluta*) attacks are likely to spread radially from eastern to southern and central Africa.
- Maturation of red locust swarms at breeding sites is very likely to spread attacks throughout the southern Africa region<sup>2</sup>.
- New stem rust strains identified in Ethiopia and Kenya are of concern especially in eastern Africa.
- In the Democratic Republic of the Congo, Epizootic ulcerative syndrome (EUS) on shrimps is currently suspected (since January 2015).
- In Mozambique Channel, there is a high risk of introduction of Acute hepatopancreatic necrosis disease (AHPND) also known as Early Mortality Syndrome (EMS), to shrimps *Penaeus monodon*.
- In Mozambique and South Africa, eucalyptus forests are at high risk of red gum lerp psyllid insect outbreaks.

### Near East & North Africa

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- Conflicts in some countries of the Near East continue to severely affect food security and disrupt agricultural activities, curbing production prospects.
- Middle East Respiratory Syndrome Coronavirus (MERS- CoV) cases in humans continued in Saudi Arabia. Human to human transmission has, up to date, accounted for mounting case numbers in humans. Control of transmission mainly depends upon high-quality health care, and thus the infectious potential of the human disease is unpredictable in less developed countries. Viral infection and viral excretion have been confirmed in dromedary camels, but the species is not proven as the principal

<sup>2</sup> International Red Locust Control Organization in Central and Southern Africa (IRLCO-CSA).

source, or the only source of this virus for human infection. Lumpy skin disease (LSD) continues to be a risk for continued spread, impacting livelihoods and food security.

- In Egypt, HPAI H5N1 is spreading in poultry and humans. There is risk of further spread of HPAI H5N1 from Egypt to Libya.
- In Algeria, new outbreaks of Foot-and-mouth disease (FMD) type O have been reported. The sociopolitical situation in Libya increases the risk of spread between countries due to uncontrolled animal movement and products by communities leaving the country.
- For shrimp species *Penaeus monodon* and *Penaeus vannamei* there is high risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS).
- Risk of further spread of Yellow rust disease on wheat in the region.

### Asia & the Pacific

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- In China and Southeast Asia, there is a high risk of Avian Influenza (H5N1, H7N9, H5N2, H5N3, H5N6, H5N8) outbreaks, with potential spread within endemic countries and to disease-free areas.
- High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps (*Penaeus monodon* and *Penaeus vannamei*).

### Europe & Central Asia

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- Hatching of Moroccan, Italian and Asian Migratory locusts will occur and hopper bands and swarms will form in most of the Caucasus and Central Asia (CCA) countries.<sup>3</sup>
- Risk of further spread of Foot-and-mouth disease (FMD), African swine fever (ASF), Lumpy skin disease (LSD), Brucellosis and Anthrax.

### Latin America & Caribbean

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- There have been recent cases of Classical swine fever (CSF) and there is a risk of further spread of Porcine epidemic diarrhea virus (PEDV) and Bovine paralytic rabies (BPR) in countries of Central America.
- High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as early mortality syndrome (EMS), to shrimps (*Penaeus vannamei*).

<sup>3</sup> Monthly regional bulletins on locust situations in CCA, <http://www.fao.org/ag/locusts-CCA/en/1010/1080/index.html>; FAO. 2014. Technical Workshop on Locusts in Caucasus and Central Asia (CCA) (available at [http://www.fao.org/ag/locusts-CCA/common/ecg/1182/en/Report\\_Locust\\_Workshop\\_CCA\\_2014\\_FINAL\\_EN.pdf](http://www.fao.org/ag/locusts-CCA/common/ecg/1182/en/Report_Locust_Workshop_CCA_2014_FINAL_EN.pdf))

- High risk of further spread of *Enterocytozoon hepatopenaei* (EHP) to shrimps *Penaeus vannamei* through live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
- There is risk of introduction of Highly Pathogenic Avian Influenza type H5N2 from North America into the Caribbean region by uncontrolled trade of contaminated poultry products or wild birds. Import bans applied by Caribbean countries could have serious food security implications for many Caribbean countries bearing in mind that the region has one of the highest per person consumption of poultry in the world.

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Angola	<i>Dangerous zoonosis</i>	High	Increased incidence of rabies in dogs with human cases associated. Since early January 2015, 18 humans (mostly children) have died of rabies in Luanda and over 7000 dog bites have been registered.
Benin	<i>Threats to the food chain/ zoonosis</i>	High	Risk of incursion of HPAI H5N1 from Nigeria.
Botswana	<i>Threats to the food chain/economic</i>	Moderate	Risk of further spread of Foot-and-mouth disease (FMD) outbreak to free areas.
Burundi	<i>Threats to the food chain/economic</i>	High	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
		Moderate- High	Risk of Banana Bacterial Wilt and Bunchy Top.
			Risk of Cassava virus diseases affecting cassava plantings.
Moderate	Further spread of Foot-and-mouth disease (FMD) outbreaks in cattle.		
Cameroon	<i>Severe localized food insecurity</i>		Influx of refugees exacerbating food insecurity of the host communities already affected by recurrent droughts and floods. The number of refugees from the Central African Republic (CAR), which mainly entered East, Adamaoua and North regions, was estimated at 244 000 in mid-February 2015. About 40 000 refugees entered the Far North region since May 2013 (mainly from Nigeria). Insecurity along the borders with Nigeria has led to the internal displacement of 40 000 individuals.
Central African Republic	<i>Exceptional shortfall in aggregate food production/supply</i>		Conflict, displacements and below-average crop production. The IDP caseload, as of mid-February, was estimated at about 440 000 people. In October 2014, about 1.5 million people, out of a total population of 4.6 million, were estimated to be in need of food assistance. Food crop production in 2014 was estimated to be 58 percent below average, despite an 11 percent increase from the sharply-reduced 2013 production.
	<i>Unfavourable prospects for current crops/economic/supply</i>		The widespread conflict, involving major displacements, the loss and depletion of the households' productive assets and input shortages, is expected to severely affect this year's harvests.

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
<b>Chad</b>	<i>Widespread lack of access</i>		Major influx of refugees puts additional pressures on local food supplies. Over 461 000 people from the Sudan’s Darfur region, the Central African Republic and northern Nigeria, as well as the return of an estimated 340 000 Chadians, have severely pressured local food supplies and food security. Over 653 000 people are estimated to be in need of food assistance according to the last “Cadre Harmonisé” analysis.
<b>the Congo</b>	<i>Dangerous zoonosis</i>	Moderate	Endemic rabies in dogs. Risk of further spread amongst canines and to humans.
	<i>Severe localized food insecurity</i>		The influx of refugees is straining the already limited resources of the host communities. As of mid-February 2015, about 24 000 refugees from CAR are sheltering in the Congo.
<b>Côte d'Ivoire</b>	<i>Severe localized food insecurity</i>		Conflict-related damage to agriculture sector in recent years including lack of support services, mainly in northern regions.
<b>the Democratic Republic of the Congo</b>	<i>Threats to the food chain/economic</i>	High	Epizootic ulcerative syndrome (EUS) is currently suspected (since January 2015). High risk of spread to other African water bodies from one lake or river system to another endangering susceptible fish species. Factors include heavy rainfall and flooding poor biosecurity, including movement of infected fish, as well as natural spread by fish and birds.
	<i>Severe localized food insecurity</i>		Conflict and displacements in eastern provinces. As of December 2014, the total number of IDPs was estimated at more than 2.7 million. An estimated 6.5 million people are in need of urgent humanitarian assistance (December 2014). Floods and landslides in southern provinces. At least 30 000 individuals in eastern parts were affected in January 2015, raising serious food security and health concerns. Influx of refugees placing strain on already limited resources of host communities. As of mid-February, refugees from the CAR, mainly hosted in the northern Equateur province, were estimated at about 68 000.
<b>Djibouti</b>	<i>Widespread lack of access/supply</i>		Inadequate pasture availability and reduced access to humanitarian assistance. About 160 000 people are severely food insecure, mainly in pastoral south-eastern areas and in the Obock region.

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Eritrea	<i>Threats to the food chain/economic</i>	High	Desert Locust. Small swarms may move from the coast into the Highlands.
		Moderate	Armyworm outbreaks are likely to occur.
			Risk of wheat rust diseases, especially stem and yellow rusts.
Ethiopia	<i>Threats to the food chain/economic</i>	Moderate	Armyworm outbreaks are likely to occur.
			Risk of wheat rust diseases, especially stem and yellow rusts.
	<i>Severe localized food insecurity/supply</i>		Reduced localized crop production. About 3.2 million people are in need of humanitarian assistance, mainly in pastoral areas.
the Gambia	<i>Threats to the food chain/economic</i>	High	Tomato borer ( <i>Tuta absoluta</i> ) is likely to invade from Senegal.
	<i>Exceptional shortfall in aggregate food production/supply</i>		Below-average crop production. Cereal production is estimated to have decreased by 54 percent in 2014 compared to the average. Over 331 000 people are estimated to be in Phase 3: "Crisis" and above according to the last "Cadre Harmonisé" analysis. An additional 640 000 people are estimated to be at risk of food insecurity (Phase 2: "Stressed").
Ghana	<i>Threats to the food chain/economic/zoonosis</i>	High	Risk of spread of HPAI H5N1 from Nigeria.
Guinea	<i>Threats to the food chain/economic</i>	Moderate	Tomato borer ( <i>Tuta absoluta</i> ) is likely to invade from Senegal.
	<i>Widespread lack of access/disruption/supply</i>		Impact of the Ebola virus disease (EVD) outbreak. Disruption to markets, farming activities and livelihoods, seriously affecting the food security situation of large numbers of people. About 970 000 people are estimated to be severely food insecure of which the EVD impact accounts for 230 000 people.
Guinea-Bissau	<i>Threats to the food chain/economic</i>	Moderate	Tomato borer ( <i>Tuta absoluta</i> ) is likely to invade from Senegal.
	<i>Exceptional shortfall in aggregate food production/ supply</i>		Below-average crop production. Cereal production was estimated to have decreased by 34 percent in 2014 compared to the average. Over 55 000 people are estimated to be in Phase 3: "Crisis" and above according to the last "Cadre Harmonisé" analysis. An



AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
			additional 272 000 people are estimated to be at risk of food insecurity (Phase 2: "Stressed").
Kenya	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat rust diseases, especially stem rust.
			Risk of Maize Lethal Necrosis Disease.
			Risk of Cassava virus diseases on cassava plantings.
			Risk of Armyworm outbreak.
			Continued spread of Foot-and-mouth disease (FMD), serotype SAT2, impacting livelihoods and food security.
	<i>Severe localized food insecurity/supply</i>		Reduced second season crop production and worsening pasture conditions. About 1.5 million people are severely food insecure, mainly located in central and north-eastern counties.
Lesotho	<i>Severe localized food insecurity/supply</i>		Reduced localized crop production. Food security is stressed with an estimated 447 760 people requiring assistance.
Liberia	<i>Widespread lack of access/disruption/supply</i>		Impact of the Ebola virus disease (EVD) outbreak. Disruption to markets, farming activities and livelihoods, seriously affecting the food security situation of large numbers of people. About 630 000 people are estimated to be severely food insecure of which the EVD impact accounts for 170 000 people.
Madagascar	<i>Threats to the food chain/economic/supply</i>	Moderate-High	Migratory Locust plague. The plague is declining with locust populations controlled on almost 1.5 million hectares. The second control campaign (September 2014-August 2015) of the three-year Programme (2013-2016) is in progress. More efforts are needed to avoid a new plague.
		High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
		Low	Pest damage from Cypress Aphid and Eucalyptus psyllid is reported.
		<i>Severe localized food insecurity/ economic/ supply</i>	

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
			Food insecurity remains severe in southern regions, due to limited cereal availability, while dry weather has lowered production expectations for the 2015 crop.
Malawi	<i>Threats to the food chain/economic</i>	Moderate	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
		Low-Moderate	Risk of Red Locust outbreak.
	<i>Severe localized food insecurity/economic/supply</i>		Flooding and reduced localized crop production. Flooding, mainly in the Southern Region, caused the displacement of 230 000 people, severely aggravating food security conditions. An estimated 640 000 people require assistance (a sharp decline compared to the 1.5 million estimated in 2013).
Mali	<i>Public health/Threats to the food chain</i>	High	Ebola outbreak (8 cases and 6 deaths confirmed as of 25 March 2015) imported from a country with Ebola transmission. Risk of continuous introduction of new cases and further human-to-human transmission.
	<i>Widespread lack of access/supply</i>		Droughts, floods, population displacements and insecurity in northern areas. Over 270 000 people are estimated to be in Phase 3: "Crisis" and above according to the last "Cadre Harmonisé" analysis. An additional 1.8 million people are estimated to be at risk of food insecurity (Phase 2: "Stressed").
Mozambique	<i>Threats to the food chain/economic</i>	Moderate-High	Formation of Red Locust swarms which could migrate from the outbreak areas.
		Moderate	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
			Risk of Banana Fusarium Wilt disease (race TR4) spread.
		High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
	Moderate	Risk of spread of red gum lerp psyllid insect in eucalyptus forest plantations.	
	<i>Severe localized food insecurity/economic/supply</i>		Flooding in central provinces and reduced localized crop production. An estimated 50, 000 people were displaced by the flooding, with crop and stock losses reported, food availability is expected to be constrained. In addition, an estimated 150 000 people require assistance, mainly due to a reduced cereal availability. This figure is approximately 60 000 below the level estimated last year.

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Namibia	<i>Unfavourable prospects for current crop/economic/supply</i>		Poor rainfall since January has lowered production prospects for the 2015 crop.
Niger	<i>Widespread lack of access/supply</i>		Recurrent severe food crisis. About 682 000 people are estimated to be in Phase 3: "Crisis" and above according to the last "Cadre Harmonisé" analysis. Over 37 000 Malian refugees and 100 000 Nigerian refugees are estimated to be living in the country as of January 2015. Severe depletion of household assets and high levels of indebtedness.
Nigeria	<i>Threats to the food chain/economic</i>		Spreading of HPAI H5N1 in poultry in the country. Nigeria has reported HPAI H5N1 in poultry for the first time since 2008. Between December 2014 and March 2015 over 400 outbreaks of HPAI H5N1 were reported in 18 out of 36 states. HPAI H5N1 was first detected in December 2014 in live bird market in Lagos.
			Further spread of Foot-and-mouth disease (FMD) outbreak.
Rwanda	<i>Threats to the food chain/economic</i>	Moderate	Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
Senegal	<i>Public health/ Threats to the food chain</i>	High	Ebola case (one case confirmed as of 25 March 2015) imported from a country with Ebola transmission. Risk of continuous introduction of new cases and further human-to-human transmission.
		Moderate	Risk of Contagious bovine pleuropneumonia (CBPP) outbreaks.
	<i>Exceptional shortfall in aggregate food production/economic/supply</i>		Below-average crop production. Cereal production in 2014 was estimated at 38 percent below the average. Over 927 000 people are estimated to be in Phase 3: "Crisis" and higher according to the last "Cadre Harmonisé" analysis. An additional 2.8 million people are estimated to be at risk of food insecurity (Phase 2: "Stressed").
Sierra Leone	<i>Widespread lack of access/disruption</i>		Impact of the Ebola virus disease (EVD) outbreak. Disruption to markets, farming activities and livelihoods, seriously affecting the food security situation of large numbers of people. About 450 000 people are estimated to be severely food insecure of which the Ebola virus disease (EVD) impact accounts for 120 000 people.

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
<b>Somalia</b>	<i>Severe localized food insecurity/supply</i>		Conflict, civil insecurity and reduced localized crop production. Floods affected coarse grains in Middle Shabelle, Middle Juba and Lower Juba regions. About 730 000 people are estimated to be in need of emergency assistance, mainly IDPs and poor households in southern and central regions.
<b>South Africa</b>	<i>Threats to the food chain/economic</i>		Epizootic ulcerative syndrome (EUS) is currently suspected (since January 2015).
		Moderate	Risk of spread of Red gum lerp psyllid insect in eucalyptus forest plantations.
	<i>Unfavourable prospects for current crops/economic/supply</i>		Cessation of rains in February 2015, a critical month for the maize crop (to be harvested from April), resulted in a sharp decline in the 2015 production forecast from last year's bumper output.
<b>South Sudan</b>	<i>Threats to the food chain/economic</i>	High	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
			Foot-and-mouth disease (FMD) outbreaks in cattle close to the border with Uganda – possible further spread to further north.
	<i>Severe localized food insecurity/disruption/supply</i>		Conflict, civil insecurity and reduced crop production in conflict-affected areas. Over 1.5 million people have been internally displaced since the conflict erupted at the end of 2013. About 2.5 million people severely food insecure, mainly in Jonglei, Unity and Upper Nile states, due to early depleted food stocks and difficult access for aid delivery.
<b>Tanzania</b>	<i>Threats to the food chain/economic</i>	Moderate- High	Red Locust. Formation of swarms which could migrate from the outbreak areas.
		High	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
		Moderate	Risk of Armyworm outbreak.
		Moderate - High	Risk of Maize Lethal Necrosis Disease. Risk of wheat rust disease, especially stem rust.
<b>Togo</b>	<i>Threats to the food chain/economic</i>	High	Risk of incursion of HPAI H5N1 from Nigeria.
<b>Uganda</b>	<i>Threats to the food chain/economic</i>	High	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
		Moderate- High	Risk of wheat rust diseases, especially stem rust.
			Risk of Maize Lethal Necrosis Disease.

AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
		Moderate	Foot-and-mouth disease (FMD) spread within the Karamoja Region with devastating socioeconomic impact and risk of spread to neighboring countries through common grazing areas at borders used by livestock pastoralists.
	<i>Severe localized food insecurity/economic/supply</i>		Below-average crop production harvested at the end of 2014 in Karamoja region where about 180 000 people are estimated to be severely food insecure as food stocks were depleted in February, one month earlier than usual.
Zambia	<i>Threats to the food chain/economic</i>	High	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
		Moderate-High	Red Locust. Formation of swarms which could migrate from the outbreak areas.
		High	Continuous outbreak of Epizootic ulcerative syndrome (EUS). High risk of spread to other African water bodies from one lake or river system to another endangering susceptible fish species. Factors include heavy rainfall and flooding poor biosecurity, including movement of infected fish, as well as natural spread by fish and birds.
Zimbabwe	<i>Threats to the food chain/economic</i>	High	Risk of Tomato borer ( <i>Tuta absoluta</i> ) outbreaks.
		Low-Moderate	Risk of Red Locust outbreak.
		High	Outbreaks of three major insect pests (Bronze bug, Red gum lerp psyllid and Blue gum chalcid) reported in eucalyptus forest plantations. Pest management efforts using biological control are in progress. The insects are likely to spread into neighboring countries.
	<i>Widespread lack of access/supply</i>		Reduced localized crop production in southern and western regions. An estimated 331, 000 people require food assistance. However, the overall food security situation is stable, with a 78 percent decrease in the number of food insecure persons compared to 2013/14, mainly attributed to improved maize supplies.

NEAR EAST & NORTH AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Algeria	<i>Threats to the food chain/economic</i>	Low	Desert Locust. Small-scale breeding may occur south of the Atlas Mountains.
		Moderate	Risk of wheat rust diseases, especially yellow rust.
		High	Outbreaks of Foot-and-mouth disease (FMD) serotype O have been reported and are still occurring; vaccination is being conducted in cattle around infected farms; however, small ruminants are not being vaccinated. This implies an ongoing risk of FMD transmission from non-vaccinated populations (including non-vaccinated small ruminants).
Egypt	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat rust diseases, especially yellow rust.
		High	Continuous outbreaks of Highly Pathogenic Avian Influenza (HPAI) H5N1 in poultry and humans. Substantial increase of human cases. Since December 2014, Egypt has reported an increased number of outbreaks and detections of HPAI H5N1 viruses in poultry as compared to previous months or to the same period in previous years. Between 1 January 2015 and 28 February 2015, 352 outbreaks in poultry have been observed in Egypt, while between 1 December 2013 and 28 February 2014 there were only 44. Between 1 January and 23 February 2015, 79 human cases, including 19 deaths, were reported in the country. During the same period a year ago, i.e. December 2013 to February 2014, no human cases had been reported. The number of human cases in Egypt started rising at the end of 2014 with 22 human cases, including six deaths, during the month of December alone.
			Risk of spreading of Low Pathogenic Avian Influenza H9N2 in humans. A case of LPAI H9N2 in human in Egypt recently occurred.
			Further spread of Lumpy skin disease (LSD) in cattle.
Iran	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat yellow rust.
		Low	Desert Locust. Small-scale breeding may occur in the southeast.
		High	Risk of spread of Lumpy skin disease (LSD) impacting livelihoods and food security.

NEAR EAST & NORTH AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
			High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> ) from infected brood-stock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
			Buxus dieback and decline of oak forests is continuing due to the prolonged drought in the Zagros region of Iran. The oak dieback has a negative impact on the livelihood of nomad people and water shed management. Operations to minimise the drought effect are in progress. An outbreak of Boxwood Blight is continuing in north Iran affecting nearly 70 000 ha of endemic species of Buxus hyrcana which is on the International Union for Conservation of Nature (IUCN) list.
Iraq	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat rust diseases, especially yellow rust.
	<i>Exceptional shortfall in aggregate food production/disruption/supply</i>		Escalation of the conflict and large internal displacement. Over 2 million people have been displaced since January 2014. 1.8 million beneficiaries (IDPs, non-displaced food insecure in conflict areas and food insecure host families) are receiving food assistance. Internal trade restrictions and reduced access to stocks held in the areas under ISIL control.
Israel	<i>Threats to the food chain/economic</i>	Moderate	HPAI H5N1 further spread in commercial poultry from January 2015.
Kuwait	<i>Threats to the food chain/economic</i>	High	Recent outbreaks of Lumpy skin disease (LSD) impacting livelihoods and food security. Previous occurrence in the country in 1991.
Jordan	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat rust diseases, especially yellow rust.
		High	Risk of spread of Lumpy skin disease (LSD) impacting livelihoods and food security.
Lebanon	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat rust diseases, especially yellow rust.
		High	Risk of spread of Lumpy skin disease (LSD) impacting livelihoods and food security.
			Continuous loss of pine nut production due to abiotic and biotic reasons.

NEAR EAST & NORTH AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Libya	<i>Threats to the food chain/economic</i>	Low	Desert Locust. Small-scale breeding may occur in the southwest.
		High	Further spread of HPAI H5N1 in poultry in the country, some cases were already detected; more incursions from Egypt are expected.
			High risk of further spread of Foot-and-mouth disease (FMD) type O.
Mauritania	<i>Widespread lack of access/supply</i>		Influx of refugees put additional pressure on local food supplies and high food prices constrain access. More than 54 700 Malian refugees remain in southeastern Mauritania as of December 2014. Over 424 000 people are estimated to be in Phase 3: “Crisis” and higher above according to the last “Cadre Harmonisé” analysis.
Morocco	<i>Threats to the food chain/economic</i>	Low	Desert Locust. Small-scale breeding may occur south of the Atlas Mountains.
		Moderate-High	Risk of wheat rust diseases, especially yellow rust.
		High	Risk of incursion of Foot-and-mouth disease (FMD) serotype O from a neighboring country is continuing. A vaccination campaign in high risk areas is starting.
Saudi Arabia	<i>Threats to the food chain/economic</i>	Moderate	Desert Locust. Small adult groups may form on the coast and move into the interior and breed.
			High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected brood-stock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
			Risk of wheat rust diseases, especially yellow rust.
	<i>Zoonotic threat from MERS-CoV</i>	Moderate	Reoccurrence of new Middle East Respiratory Syndrome Coronavirus (MERS-CoV) cases in humans (confirmed cases are 967 with 419 deaths as of 27 March 2015). Continued unexplained potential introduction from an animal source. Camels are highly suspected but the mode of transmission to humans remains unknown. There is known human-to-human spread of this virus.
	<i>Threats to the food chain/economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> , <i>Penaeus</i>



NEAR EAST & NORTH AFRICA			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
			<i>vannamei</i> and <i>Penaeus chinensis</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
the Sudan	<i>Threats to the food chain/economic</i>	High	Desert Locust. Small swarms may arrive in cultivations in the Nile Valley (Northern and River Nile States).
	<i>Severe localized food insecurity/supply</i>		Conflict and civil insecurity. Despite the bumper crop harvested at the end of 2014, the number of people estimated to be in need of humanitarian assistance, mainly IDPs in conflict affected areas, is set at 3.5 million.
the Syrian Arab Republic	<i>Threats to the food chain/economic</i>	High	Further spread of HPAI H5N1 in poultry from neighboring countries. Further spread of Lumpy skin disease (LSD) impacting livelihoods and food security.
	<i>Exceptional shortfall in aggregate food production/disruption/supply</i>		Worsening civil conflict and below-average harvest. Wheat harvest significantly affected by conflict and drought. An estimated 6.8 million people are facing severe food insecurity. Although some international food assistance is being provided, Syrian refugees are also putting strain on other host communities in neighboring countries. 2.1 million people receiving food assistance in neighboring countries and 4.5 million within the country.
Tunisia	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat rust diseases, especially yellow rust.
		High	Outbreaks of Foot-and-mouth disease (FMD) serotype O have been reported and vaccination is being conducted in cattle around infected farms; however, small ruminants are not being vaccinated. This implies an ongoing risk of FMD transmission from non-vaccinated populations (including non-vaccinated small ruminants).
the West Bank	<i>Threats to the food chain/economic</i>	High	HPAI H5N1 is spreading in commercial poultry from January 2015.
Yemen	<i>Threats to the food chain/economic</i>	Low	Desert Locust. Low numbers of adults may persist on the Red Sea coast.
		Moderate	Risk of wheat rust disease, especially yellow rust, and in some locations stem rust.
	<i>Widespread lack of access/disruption</i>		Conflict, poverty and high food and fuel prices. About 40 percent of the population is considered food insecure. Recovery and resilience operation replaced emergency relief assistance.

ASIA & THE PACIFIC			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Afghanistan	<i>Threats to the food chain/economic</i>	Moderate-High	Moroccan Locust infestations will occur in the north.
		Moderate-High	Risk of wheat yellow rust.
	<i>Severe localized food insecurity/disruption</i>		Continuing conflict and population displacement. 2.1 million people are classified as very severely food insecure. Over 700, 000 people are internally displaced, mostly in Helmand province. 1.7 million targeted with food assistance.
China	<i>Threats to the food chain/economic/zoonotic</i>	Moderate	Risk of Avian Influenza outbreaks increase in the early months of the year. Several serotypes are found in China. In February 2015, 59 human cases of Low Pathogenic Avian Influenza (LPAI) H7N9 were reported.
		High	New serotype of Avian Influenza (HPAI H5N3) outbreak in September. Risk of spread to neighboring countries.
			Continuing outbreaks of HPAI H5N6, (9 outbreaks reported from December 2014). Risk of spread and potential impact on livelihoods and food security.
			Recent outbreaks of Foot-and-mouth disease (FMD) serotype O, in cattle.
Democratic People's Republic of Korea	<i>Widespread lack of access/supply</i>		Economic constraints and lack of agricultural inputs. With a stagnant harvest in 2014, the food security situation in 2014/15 is likely to remain similar to that of the previous year, with most households estimated to have borderline and poor food consumption rates.
India	<i>Threats to the food chain/economic</i>	High	Risk of wheat yellow rust.
			Several outbreaks of HPAI H5N1 in November 2014. Risk of spread and potential impact on livelihoods and food security.
			High risk of further spread of <i>Enterocytozoon hepatopenaei</i> (EHP) to shrimps <i>Penaeus monodon</i> through live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
			High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> and <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.

ASIA & THE PACIFIC			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Indonesia	<i>Threats to the food chain/economic</i>	High	Risk of HPAI H5N1 and potential impact on livelihoods and food security.
			High risk of further spread of <i>Enterocytozoon hepatopenaei</i> (EHP) to shrimps <i>Penaeus vannamei</i> through live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
Japan	<i>Threats to the food chain/economic</i>	High	Recent infections of Avian Influenza (H5N8) in wild birds and risk of further spread.
Mongolia	<i>Threats to the food chain/economic</i>	Moderate-High	Further spread of Foot-and-mouth disease (FMD) outbreaks reported during March in western Mongolia. During January and February 2015, outbreaks of sheep and goat pox (SGP) were reported.
Myanmar	<i>Threats to the food chain/economic</i>	High	Further spread of HPAI H5N1 and potential impact on livelihoods and food security.
Nepal	<i>Threats to the food chain/economic</i>	Moderate	Risk of wheat yellow rust.
Pakistan	<i>Threats to the food chain/economic</i>	Low	Desert Locust. Small-scale breeding may occur in the southwest.
		Moderate-High	Risk of wheat yellow rust.
the Philippines	<i>Threats to the food chain/economic</i>	Moderate	Risk of Fusarium Wilt of banana (race TR4) spread.
		High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> , <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
the Republic of Korea	<i>Threats to the food chain/economic</i>	High	Recent outbreaks of Avian Influenza (H5N8). Risk of spread.
			Recent outbreaks of Foot-and-mouth disease (FMD) serotype O, in swine and cattle. Further spread within the country by uncontrolled animal movement.
Sri Lanka	<i>Threats to the food chain/economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus monodon</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.

<b>ASIA &amp; THE PACIFIC</b>			
<b>COUNTRY</b>	<b>TYPE OF THREAT</b>	<b>LEVEL</b>	<b>DESCRIPTION</b>
<b>Viet Nam</b>	<i>Threats to the food chain/economic/zoonotic</i>	High	Recent outbreaks of Avian Influenza (H5N6) in backyard poultry and risk of further spread.
		Moderate	Risk of introduction of a new strain of Avian Influenza (H7N9) from a neighboring country, causing risk to human health and economic hardships for the people.

<b>EUROPE &amp; CENTRAL ASIA</b>			
<b>COUNTRY</b>	<b>TYPE OF THREAT</b>	<b>LEVEL</b>	<b>DESCRIPTION</b>
<b>Albania</b>	<i>Threats to the food chain / economic</i>	High	Continuous damages to pine forests caused by pine processionary moth are reported.
<b>Armenia</b>	<i>Threats to the food chain /economic</i>	Moderate	Risk of wheat rust diseases, especially yellow rust.
		Low	Italian Locust infestations may occur.
		Moderate	Cases of Brucellosis in humans were reported in areas of the country.
<b>Azerbaijan</b>	<i>Threats to the food chain/economic</i>	Moderate	Moroccan and Italian Locust infestations are expected to slightly increase. An area of up to 65 000 ha should be treated. Risk of wheat rust diseases.
		Moderate	Further spread of Lumpy skin disease (LSD).
<b>Georgia</b>	<i>Threats to the food chain/economic</i>	High	Moroccan and Italian Locust infestations are expected in the southeast. Significant worsening of the locust situation over the past three years is observed.
		Moderate	Risk of wheat rust diseases, especially yellow rust.
	<i>Zoonotic</i>	Moderate	Cases of Anthrax have been reported in humans and animals.

<b>EUROPE &amp; CENTRAL ASIA</b>			
<b>COUNTRY</b>	<b>TYPE OF THREAT</b>	<b>LEVEL</b>	<b>DESCRIPTION</b>
<b>Kazakhstan</b>	<i>Threats to the food chain/economic</i>	Moderate-High	Locust pests. Outbreaks necessitating control operations, however, on a smaller area than in 2014.
		Moderate	Risk of wheat rust diseases, especially yellow rust.
	<i>Zoonotic</i>	Moderate	Cases of Anthrax have been reported in humans and animals.
<b>Kyrgyzstan</b>	<i>Threats to the food chain/economic</i>	Moderate-High	Locust infestations and treatments planned on 65 000 ha mainly against the Moroccan Locust, a little more than in 2014.
		Moderate	Risk of wheat rust diseases, especially yellow rust. Risk of further spread of Foot-and-mouth disease (FMD) in cattle.
	<i>Threats to the food chain/economic</i>	Moderate	Locust infestations and treatments planned.
Recent cases of African swine fever (ASF) in wild boars. Risk of spread to neighboring countries.			
<b>Tajikistan</b>	<i>Threats to the food chain/economic</i>	Moderate-High	Locust infestations (mainly of the Moroccan Locust) are expected on an area up to 120 000 ha, higher than in 2014.
		Moderate	Risk of wheat rust diseases, especially yellow rust.
<b>Turkmenistan</b>	<i>Threats to the food chain/economic</i>	Moderate-High	No information available on locusts but outbreaks are likely to occur.
		Moderate	Risk of wheat rust diseases, especially yellow rust.
<b>Uzbekistan</b>	<i>Threats to the food chain/economic</i>	Moderate-High	Locust infestations are expected on almost 500 000 ha and control operations planned on more than 400 000 ha against the three locust types, which is higher than in 2014.
		Moderate	Risk of wheat rust diseases, especially yellow rust.

LATIN AMERICA & CARIBBEAN			
COUNTRY	TYPE OF THREAT	LEVEL	DESCRIPTION
Colombia	<i>Threats to the food chain/economic</i>	Moderate	Recent cases of Classical swine fever (CSF) and spread to unaffected areas.
		High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g., live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
Ecuador	<i>Threats to the food chain/economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
El Salvador	<i>Exceptional shortfall in aggregate food production/supply</i>		Drought-reduced maize production. The 2014 drought-reduced maize production is estimated at a three-year low. Maize import requirements are forecast at a seven-year high.
Guatemala	<i>Threats to the food chain/economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
Haiti	<i>Threats to the food chain /economic</i>	Moderate	Risk of spread of classical swine fever (CSF) and swine diseases along with incursion to neighboring country.
	<i>Exceptional shortfall in aggregate food production/supply</i>		Drought-reduced cereal production. Drought conditions during the 2014 main first season, accounting for more than half of annual cereal production, have significantly reduced supplies of maize and rice.
Honduras	<i>Threats to the food chain / economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
			A severe outbreak of Bark beetles is affecting about 10 000 ha of conifer forest.

	<i>Exceptional shortfall in aggregate food production/supply</i>		Drought-reduced maize production. The 2014 maize production reached a 10-year low as a result of severe drought conditions during the main first season, accounting for more than half of annual production. Maize import requirements are forecast at a record level.
<b>Mexico</b>	<i>Threats to the food chain / economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
<b>Panama</b>	<i>Threats to the food chain / economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g., live polychaetes, clams, oysters, etc.) used as feeds for broodstock.
<b>Peru</b>	<i>Threats to the food chain/economic</i>	High	High risk of further spread of Acute hepatopancreatic necrosis disease (AHPND), also known as Early Mortality Syndrome (EMS), to shrimps ( <i>Penaeus vannamei</i> ) from infected broodstock, post-larvae and live animals (e.g. live polychaetes, clams, oysters, etc.) used as feeds for broodstock.

## Information Sources

### *Desert Locust*

FAO Desert Locust Information Service (DLIS)  
<http://www.fao.org/ag/LOCUSTS/en/activ/DLIS/index.html>

### *Madagascar locust crisis*

- Bulletins of the Locust Watch Unit (available at <http://www.fao.org/emergencies/crisis/madagascar-locust/en/>)
- Locust Situation Updates (available at <http://www.fao.org/emergencies/resources/documents/madagascar-locust-crisis/en/?doctype=2> )
- “Fil d’information décadaire”.
- Weekly updates during Action Plan Meeting.
- Daily and/or regular exchanges between FAO Response Coordinator and Campaign coordinator.

### *Locust in Caucasus and Central Asia:*

- Monthly regional bulletins on locust situations in CCA, <http://www.fao.org/ag/locusts-CCA/en/1010/1080/index.html>
- FAO. 2014. Technical Workshop on Locusts in Caucasus and Central Asia (CCA) (available at [http://www.fao.org/ag/locusts-CCA/common/ecg/1182/en/Report\\_Locust\\_Workshop\\_CCA\\_2014\\_FINAL\\_EN.pdf](http://www.fao.org/ag/locusts-CCA/common/ecg/1182/en/Report_Locust_Workshop_CCA_2014_FINAL_EN.pdf) )

### *Red Locust*

International Red Locust Control Organization in Central and Southern Africa (IRLCO-CSA).

### *Cassava virus diseases*

FAO activity and survey reports within last few years. Recent mission report in Rwanda.

### *Banana Bunchy top disease in East and Central Africa*

Reports of IITA, CARBAP and notes from the region.

### *Wheat rust disease*

- Global rust Monitoring System, Research Institutions in Kenya and Morocco.
- International Society for Infectious Diseases (ProMed)

### *Transboundary Animal Diseases (TADs)*

- Global Animal Disease Information System (EMPRES-i) (<http://empres-i.fao.org/eipws3g/>)
- Global Early Warning System (GLEWS) at FAO

### *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>)

### *Ebola virus disease*

Ebola Situation Report - 25 March 2015. WHO

### *Threats to Food Security*

FAO. 2015. Crop Prospects and Food Situation, No 1, March 2015 (available at <http://www.fao.org/3/a-l4410E.pdf>)



**For more information:**

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