



# EBOLA VIRUS DISEASE

## FREQUENTLY ASKED QUESTIONS

# EBOLA VIRUS DISEASE OUTBREAK

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### 1 WHAT IS EBOLA VIRUS DISEASE?

Ebola virus disease, formerly known as Ebola haemorrhagic fever, is a human illness caused by infection with an Ebola virus. There are five known species of Ebola viruses, four of which cause human illness. For more information: <http://www.cdc.gov/vhf/ebola/about.html>

### 2 WHAT IS BEHIND THE CURRENT EPIDEMIC IN WEST AFRICA?

The current Ebola virus disease epidemic in West Africa is being sustained by human-to-human transmission of the Zaire ebolavirus, the most lethal of the five known species of the Ebola viruses.

It is believed epidemic began in December 2013 due to an isolated incident in Guinea in which a child became infected directly or indirectly through contact with fluids or secretions from a wild animal carrying the virus. This incident would probably have been linked to contact with an infected bat or organs from a contaminated bat or another infected hunted animal.

It is possible that the Zaire ebolavirus had been circulating undetected in West Africa for some time. The emergence of the virus in Guinea highlights the risk of Ebola virus disease outbreaks in the whole West African subregion.

### 3 WHERE DID THE ZAIRE EBOLAVIRUS COME FROM?

The Zaire ebolavirus was the first Ebola virus ever isolated. The virus caused the first reported outbreaks of the Ebola virus disease in 1976 in the Democratic Republic of the Congo and the Sudan. The name of the disease comes from the first recorded outbreak in 1976 in an area that lies on the Ebola River.

The virus has probably circulated in the forests for hundreds or thousands of years. Although rare, outbreaks in humans can occur when humans come into contact with secretions or bodily fluids from infected or diseased animals.

### 4 HOW DOES EBOLA VIRUS DISEASE AFFECT HUMANS?

For symptoms and all other human health information, please refer to the World Health Organization (WHO). <http://www.who.int/csr/disease/ebola/faq-ebola/en/>

## 5 HOW ARE EBOLA VIRUSES SPREAD?

Ebola viruses are spread among humans through direct contact of broken skin or mucous membranes with contaminated body fluids from people with symptoms of the disease. See WHO: <http://www.who.int/csr/disease/ebola/faq-ebola/en/>

Although certain species of bats are considered a natural reservoir of Ebola viruses, spillover from wildlife to humans is extremely rare and almost always occurs as an isolated incident. Therefore, animals do not play a significant role once Ebola virus disease starts to spread among humans. Other forest dwelling animals (e.g. chimpanzees, gorillas or wild ruminants) may become infected and suffer from the Ebola virus. If hunted and prepared for human consumption, these animals may infect those that dress and prepare the carcass prior to cooking.

## 6 WHAT SHOULD BE DONE TO PROTECT HUMANS FROM EBOLA VIRUSES?

FAO recommends following WHO guidelines with regard to human health concerns. <http://www.who.int/csr/disease/ebola/faq-ebola/en/>

## 7 IS IT SAFE TO TRAVEL TO WEST AFRICA?

For travel advice, please refer to WHO: <http://who.int/ith/updates/20140421/en/>

## 8 WHICH AREAS ARE MORE AT RISK?

The main countries affected are Guinea, Sierra Leone and Liberia. Nigeria and Senegal have also reported human cases. According to WHO, countries that share land borders or major transportation connections with the affected countries are at risk for spread of the Ebola outbreak, including: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau and Mali. <http://www.who.int/csr/disease/ebola/situation-reports/en/>

An Ebola outbreak also appeared in the Democratic Republic of Congo in August 2014, but based on available data, this event is independent from the West African outbreak. Moreover, the latest information indicates the outbreak in the Democratic Republic of Congo is under control.

## 9 HOW IS EBOLA VIRUS DISEASE ASSOCIATED WITH ANIMALS?

Fruit-eating bats are believed to be the principal animal reservoirs of Ebola viruses. Past research shows that bats can carry the virus without showing clinical signs of illness. Ebola viruses have also been detected in chimpanzees, gorillas, pigs and duikers (i.e. a small wild antelope).

While bats are suspected to have played a role in the start of the current human epidemic, it is unknown which other animal species, if any, may have been involved in the transmission of the virus to a human or how the virus was transmitted from wildlife to people.

## 10 WHAT IS BUSH MEAT?

Bush meat refers to meat or by-products from wild animals that are hunted for sale and consumption. Many different species of game are hunted as bush meat for consumption and sale, including bats, rodents, monkeys and chimpanzees.

## 11 IS BUSH MEAT SAFE TO EAT?

When assessing risk, it is important to distinguish between the many different animal species considered as bush meat. Currently, bats pose a risk to humans, since bats are considered the likely reservoir of the Zaire ebolavirus. Therefore, FAO recommends people in affected and at-risk areas not hunt, dress or eat bats. Other wild animals in areas where Ebola viruses have been detected can play a role in virus circulation at the animal-human interface. For this reason, wild animals that have died from unknown causes should not be handled or eaten. These animals should not be given or sold or used to feed other animals.

With the exception of bats, healthy, wild animals hunted, slaughtered, handled and consumed as bush meat present little to no risk to humans if good hygiene, proper protection and appropriate cooking practices are followed.

Under no circumstances should raw bush meat or uncooked dishes based on the blood of wild animals be consumed, since these practices place people at high risk of contracting any number of infections with dangerous pathogens.

## 12 DO WILD ANIMALS POSE A THREAT TO HUMANS OF CONTRACTING EBOLA?

Living, wild animals pose little Ebola threat to humans. It is extremely difficult to contract an Ebola virus from contact with wild game, since transmission requires direct contact of open skin or mucous membranes with the bodily fluids or secretions of an infected animal. The current epidemic is most likely the result of an isolated incident in which an activity brought a person into contact with the blood or fluids of an infected bat or other animal that had acquired an Ebola infection most likely from a bat.

## 13 WHAT ARE GOOD FOOD PREPARATION PRACTICES?

Ebola viruses, as well as other microbes, are not transmitted through consumption of well-cooked food. Ebola viruses are inactivated by normal temperatures used for cooking (so that food reaches 60 °C in all parts – “piping” hot); it is safe to eat properly prepared and cooked meat.

Proper food preparation includes:

- hand washing before and after handling food;
- hand washing in between handling raw food and cooked or ready-to eat food;
- keeping raw meat separate from cooked or ready-to-eat foods;
- keeping utensils and surfaces used to prepare raw meats separate from those used for other foods (e.g. chopping boards, knives and plates); and
- washing and disinfecting all surfaces and utensils that have been in contact with raw meat.

Source: WHO and FAO

## 14 SHOULD THE MOVEMENT OR SALE OF WILDLIFE AND/OR BUSH MEAT BE RESTRICTED?

FAO is not recommending movement restrictions for bush meat or healthy live wild animals.

FAO does, however, stress the need for proper precautions when hunting, handling, transporting and selling bush meat. Legal restrictions on the trade of bush meat should be strictly enforced. Legal restrictions on the hunting or capture of endangered species should likewise be strictly enforced.

## 15 WHAT SPECIFIC PRECAUTIONS SHOULD BE TAKEN BY INDIVIDUALS INVOLVED IN THE BUSH MEAT TRADE?

- Hunting, handling of bats should be avoided.
- Bush meat hunters, transporters, sellers and all other intermediaries should wear gloves when dressing and handling carcasses or meat to minimize the risk of contact with bodily fluids or secretions from wildlife.
- Only healthy wildlife should be considered apt for bush meat; sick or dead wild animals should not be handled, sold or consumed.
- Anyone who encounters dead wildlife should alert the authorities.
- Clean surfaces, knives, and other utensils should be used as good practice; refrigeration to avoid spoilage during transport would decrease the opportunities for other microbes to contaminate the meat.

## 16 ARE MY LIVESTOCK SAFE? HOW CAN I PROTECT THEM?

Information is extremely limited on the ability of the Ebola virus to infect livestock like cattle, sheep and goats or chickens. Other, more common diseases pose a much more likely risk to livestock. Consult the veterinary authorities for a comprehensive list of the disease threats in your area. Farmers should protect their livestock from these diseases and other health threats by implementing good biosecurity and hygiene practices, vaccination regimes where available, keep animals in enclosures and not to feed them with raw meat, scraps or dead animals.

For more information:

Biosecurity (FAO ECTAD Information Sheet):

<http://www.fao.org/documents/card/en/c/dece81cb-988b-56a1-af14-6699cd1bc0f2/>

Sustainable animal production (FAO): <http://www.fao.org/3/a-u7600t/index.html>

Guide to Good Farming Practices (FAO): <http://www.fao.org/documents/card/en/c/4237ec8b-f340-5488-a510-44ce3b38dcd3/>

## **17 CAN SCAVENGING OR STRAY ANIMALS PLACE MY FAMILY OR ME AT RISK?**

The main risk of Ebola spread and infection is through human-to-human transmission. Information on the ability of scavenging animals to carry the virus is limited. However, scavengers like stray dogs can pose a risk by physically moving the remains of infected animals or people closer to human populations.

## **18 CAN A PIG FARMER INFECT PIGS?**

The potential for humans to infect pigs with Ebola viruses is unknown. The only Ebola virus found to infect pigs is the Ebola-Reston virus in parts of Southeast Asia, which has never been reported to cause human disease. However, in areas where Ebola is confirmed, FAO strongly advises people keep animals in enclosures.

## **19 WHAT COULD BE THE IMPACT OF EBOLA ON AGRICULTURE AND FOOD SECURITY?**

Ebola virus disease is placing undue strain on health and medical services, economies, livelihoods and food systems across the most affected countries in West Africa. The tragic loss of life is one of many negative impacts. Attempts to control the epidemic, fears of infection and overall panic have caused many people to abandon their activities, including farming, taking care of livestock and marketing of products, such as milk or eggs. This is translating into loss of income and a decrease in food production and sale. The prolonged disruption of the current harvest and subsequent planting season will drive hundreds of thousands of vulnerable people deeper into poverty and hunger as food sources dwindle.

## **20 WHAT CAN BE DONE TO REDUCE THE IMPACT OF THE CRISIS ON FOOD SECURITY AND LIVELIHOODS?**

As soon as the epidemic is fully controlled, interrupted agriculture practices must be revived where possible and alternative sources of food and income identified to safeguard the livelihoods and food security of those most affected.

FAO stands ready to help countries cope with the current crisis and revive disrupted livelihoods. FAO works with governments to provide training, inputs, tools and expertise to promote food security via support to the agriculture sector.

## **21 WHAT IS FAO DOING WITH REGARD TO THE CURRENT EPIDEMIC?**

Preventing further loss of human life and stopping the spread of the virus is top priority at this time. FAO is working in supporting the humanitarian response to help stop the epidemic as part of a coordinated UN effort.

To this end, FAO has activated networks of local animal health clubs, Veterinary Services and allied Community Animal Health Workers, producer organizations, forestry contacts and agriculture extension services to help UNICEF and WHO communicate risk to affected and non-affected populations. It is critical for communities – urban and rural – to understand practices that pose the highest risks of human-to-human transmission and potentially spillover events from wildlife so people can make informed decisions.

FAO is also working with UN partners and the governments of Guinea, Liberia and Sierra Leone, Nigeria and elsewhere to improve community knowledge about the virus via rural radio and extension services in order to help reduce the risks posed to humans by Ebola virus disease.

FAO is liaising with key partners, including the United Nations Children's Fund (UNICEF), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the World Food Programme (WFP) the World Health Organization (WHO) and the World Organisation for Animal Health (OIE).

## **22 WHAT ARE THE NEGATIVE REPERCUSSIONS OF STIGMA/FEAR ON AGRICULTURE?**

The stigma faced by Ebola survivors represents a serious threat to food security. Scientifically unwarranted fear of infection via an Ebola survivor can cause customers to stop frequenting a survivor's shop, to cease to purchase produce or animal products from agrarian survivors and to exclude survivors from agriculture and income generating activities.

## **23** WHAT CAN BE DONE TO REDUCE THE LIKELIHOOD OF EBOLA VIRUS DISEASE EPIDEMICS IN THE FUTURE?

Improving global health systems is key to safeguarding the health of future generations. FAO works with WHO, UNICEF, OCHA, Médecins Sans Frontières, OIE and other partners – including technical agencies of the African Union and Regional Economic Communities – in the international effort to improve disease preparedness, health infrastructure and rapid response capacities.

With regard to animals, after the immediate crisis has been overcome, FAO will work with governments, international and local partners to better understand the risks animals might pose to humans in order to give policy makers the information they need to make decisions that protect communities. FAO support will include building capacities in early warning and response at the human-animal-ecosystem interface to reduce the likelihood of future outbreaks.

Increased awareness in at-risk communities who depend on wildlife for food should also be a priority of future work to reduce the risk of spillover of Ebola viruses from wildlife to human populations.

## **24** WHERE CAN I GET MORE INFORMATION?

<http://www.who.int/csr/disease/ebola/en/>

<http://www.cdc.gov/ebola>

Investigating the Role of Bats in Emerging Zoonoses (FAO):  
<http://www.fao.org/docrep/014/i2407e/i2407e00.pdf>

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