# We need a global response to the pandemic threat

## By Maria Helena Semedo

Maria Helena Semedo, Deputy Director-General, Food and Agriculture Organization of the United Nations. She is a leading expert in global development issues and has worked in public service for over 30 years.

The COVID-19 pandemic has upended the world as we know it, marking the first disease in over a century to grind our day-to-day lives and our economies to a halt.

Some of the most damaging disease outbreaks in recent decades have involved zoonotic diseases, such as the Ebola virus disease, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). Each year, zoonoses — diseases and infections that go from animals, mostly wildlife, to humans, and then spread between humans — cause illnesses in around 2.5 billion people and almost 3 million deaths.

The impact of these diseases in countries, regions and, in some cases, around the globe, not only affect people's health directly, but also damages livelihoods and causes economic downturn. When the Ebola virus disease ravaged and stole thousands of lives in West Africa in 2014, restrictions and controls to contain the disease also intensified food insecurity. Agricultural supply chains were disrupted, limiting farmers' ability to grow or sell food. People went hungry. Some starved. Many lost their livelihoods.

Previous disease crises have led to similar experiences. Now we see the direct and indirect ramifications of the COVID-19 global pandemic jeopardizing food security and livelihoods for hundreds of millions of people. We cannot underestimate the widespread impact of zoonotic diseases on our communities, economies and society as a whole.

Zoonotic diseases are on the rise.

Deforestation, climate change impacts and the intensification and industrialization of agricultural activities, combined with increasing urbanization and population growth, are all contributing to the greater encroachment of humans and livestock into natural wildlife habitats. In many parts of the world, people still rely heavily on animals for transport, draught power, clothing and food, with hunting and eating wild animals also a common practice. This close relationship between animals and humans means that if an animal or zoonotic disease strikes, it can spread quickly, jeopardizing a country's development efforts and potential.

### Animal health workers on the front lines

One of our first lines of defence is animal health professionals and specialists. Their ability to monitor animals and keep them healthy through prevention, surveillance, detection and response to infectious animal diseases is a chance to pre-empt the emergence of zoonotic diseases.

For decades, the Food and Agriculture Organization of the United Nations (FAO) has provided training and technical assistance to animal health professionals worldwide, particularly in at-risk countries. Bolstering countries' abilities is part of the FAO's wider efforts to strengthen their disease control, as well as their preparedness and response, through laboratory diagnostics, disease surveillance, outbreak investigation and reporting, and to support national and policy infrastructure, including evidence-based planning and decision making.

Connecting laboratories through the Veterinary Diagnostic Laboratory (VETLAB) Network helps to channel expertise and coordinate actions towards our collective efforts in disease control. Established by the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, the VETLAB Network comprises veterinary laboratories in different countries, including the Joint FAO/IAEA laboratories, as an avenue for working together towards improving national laboratory capacities, as well as emergency response for detecting and controlling animal and zoonotic diseases both inside and across borders.

Over the years, recognizing the critical importance of quick and early disease diagnosis, the Joint FAO/IAEA Division has been boosting national capacities, as well as training and equipping hundreds of professionals, in the use of one of the fastest and most accurate diagnostic laboratory tests for animal and zoonotic pathogens: polymerase chain reaction (PCR) and its variant, reverse transcription–polymerase chain reaction (RT–PCR). When used in 'real time', these techniques can provide results in just a few hours. These diagnostic testing methods are not just for use by animal health professionals. They have also been used for decades to diagnose a range of diseases in humans. Learn more about this on page 8.

Real time RT–PCR is now the most widely used laboratory test for COVID-19. The FAO and the IAEA have been strengthening capacities by providing technical advice and support to countries in using this technique. Emergency diagnostic kits, including critical laboratory testing reagents, personal protective equipment, sampling materials, disinfectants, consumables and other equipment, have also been provided under this partnership.

## Global health, global responsibility

Borders are meaningless to diseases. If one country lacks the capacity to adequately deal with a disease, we are all at risk. The FAO and its member countries and partners, including the IAEA, the World Organisation for Animal Health (OIE) and the World Health Organization (WHO), are taking steps to work together in order to protect people, animals and the environment.

Information and communication within and across borders can help the world stay one step ahead. The FAO collaborates with national, regional and international officials and experts to monitor and assess disease situations. Governments and disease control professionals receive up-to-date information on disease threats through FAO communication channels, such as the Early Warning Bulletin and action reports. These channels draw on sources from national, regional and international governments, as well as organizations and other expert sources, to provide as much information as possible to encourage fast and appropriate response measures.

Specially designed software and systems for data collection, analysis and modelling are helping to spot trends and forecast potential disease threats, which supports countries' preparedness and enables their rapid response. For example, data submitted in real time, often by local farmers, experts and governments, through the FAO's Event Mobile Application (EMA-i) for smartphones, is one of several data sources that feeds into the FAO's EMPRES Global Animal Disease Information System (EMPRES-i). With daily data updates from over 190 countries, EMPRES-i generates maps of potential threats and is linked to the Global Early Warning System for Major Animal Diseases, including Zoonoses (GLEWS+), which shares information with the WHO and the OIE.

## A One Health approach

Responding to the next global pandemic will require all of us to work across all sectors and disciplines. The FAO, along with its partners, such as the United States Agency for International Development (USAID), is advancing a One Health approach. This means coordinating actions by linking human, animal and environmental health at the local, national, regional and global levels. This is especially relevant in tackling zoonotic diseases and antimicrobial resistance, as well as for improving biosafety and biosecurity, national laboratory systems and workforce development.

By engaging animal health specialists alongside experts such as physicians, biostatisticians, biologists, ecologists, scientists and field epidemiologists, it forms a comprehensive line of defence that can strengthen our global position against the emergence of zoonotic diseases.

Our global health counts on all of us sharing information, collaborating and taking concrete action to safeguard human, animal and environmental health. Only then can we protect ourselves from the impact of zoonotic diseases and further our work towards achieving food and global health security as set out in the United Nations' Sustainable Development Goal 3. This is essential to our daily lives and to continuing our global efforts towards achieving the goals set out in the United Nations 2030 Agenda for Sustainable Development.