Global meat production brings growing disease risk

Global animal food production is undergoing a major transformation that could lead to a higher risk of disease transmission from animals to humans, warns the Food and Agriculture Organisation of the UN – the FAO.

"The risk of disease transmission from animals to humans will increase in the future due to human and livestock population growth, dynamic changes in livestock production, the emergence of worldwide agro-food networks and a significant increase in the mobility of people and goods," the FAO says in a policy brief published in Rome earlier this month.

"There is no doubt that the world has to depend upon some of the technologies of intensive animal food production systems," said FAO livestock policy expert Joachim Otte. "But excessive concentration of animals in large scale industrial production units should be avoided and adequate investments should be made in heightened biosecurity and improved disease monitoring to safeguard public health," he added.

As countries have become more affluent and the world's population continues to rise, demand for meat and other livestock products has grown substantially.

To satisfy this higher demand for meat products, livestock production and densities have significantly increased, often close to urban centres. Industrial animal production has become more concentrated, using fewer but more productive livestock breeds.

The movement of animals and the concentration of thousands of confined animals increase the likelihood of transfer of pathogens. Furthermore, confined animal houses produce large amounts of waste, which may contain substantial quantities of pathogens. Much of this waste is disposed of on land without any treatment, posing an infection risk for wild mammals and birds.

"These developments have potentially serious consequences for local and global disease risks, which, so far, have not been widely recognized by policy makers," says FAO Chief Veterinary Officer Joseph Domenech.

Globally, pig and poultry production are the fastest growing and industrializing livestock sub-sectors, with annual production growth rates of 2.6 and 3.7 percent over the past decade.

As a consequence, in the industrialized countries, the vast majority of chickens and turkeys are now produced in houses of 15 000 to 50 000 birds. The trend towards industrialization of livestock production can also be observed in developing countries, where traditional systems are being replaced by intensive units, most notably in Asia, South America and parts of Africa.

Industrial pig and poultry production relies on a significant movement of live animals. In 2005, for example, nearly 25 million pigs, more than two million pigs per month, were traded internationally.

While the highly pathogenic H5N1 virus is currently of major global concern, the 'silent' circulation of influenza A viruses (IAVs) in poultry and swine should also be closely monitored internationally, FAO says. A number of IAVs are now fairly widespread in commercial poultry and to a lesser extent in pigs and could also lead to emergence of a human influenza pandemic.

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