

Synopsis of an open seminar on

One World, One Health

Sida, Stockholm on June 11, 2009

Organized by the Sida Animal Health reference group with participation from UN System influenza coordinator, OIE and FAO

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Editor: *Ulf Magnusson*



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FOREWORD

Infectious diseases in livestock can be detrimental to rural people in poor countries in several ways: obviously they may ruin the possibility to an income or source of high quality food; they may also be a direct threat to human health as the diseases may be transmitted from the animals to these people living in close contact with their animals.

Given this importance of the global livestock diseases in the developing agenda for the rural poor Sida has established an Animal Health reference group with expertise from three governmental agencies and one university aligned with the Swedish policy for global development. Two years ago the reference group organised a well attended seminar at Sida on the livelihood aspect of livestock diseases “Livestock diseases, poverty and trade” with presentations from senior representatives of FAO, International Livestock Research Institute (ILRI) and World Animal Health Organisation (OIE).

This seminar focused on another critical aspect of livestock infections – the zoonotic public health issue. This very current aspect is elaborated on by leading expertise within the field from UN System influenza coordination, OIE and FAO with the framework “One world, One health” as a basis. We hope that you find the synopsis interesting and useful.

Uppsala and Jönköping, August 2009,

The Sida Animal Health reference group,

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The text in this synopsis has been compiled by the company “Ord och Vetande”. The text has then been checked for technical errors by the speakers.

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WELCOME ADDRESS

Mia Horn af Rantzien, Deputy Director General, Sida

SWEDISH COMMITMENT

Dr Horn af Rantzien welcomed the participants to the seminar arranged by Sida's reference group for animal health, she then introduced the subject by saying:

“Scientific reports say that 70% of all so called emerging infectious diseases in humans originate from animals. The most well-known examples of such diseases are the avian flu and HIV/AIDS. “ and continued,

“With the knowledge that this kind of zoonotic diseases - i.e. spreading from animals to human and vice versa - may not only severely threat human health world wide, but also the livelihood of the 600 M rural poor in the world that depend of livestock, Sida has supported the global fight against the avian influenza with approx 200 MSEK to FAO and WHO over the last 3 years.”

Another important aspect of these communicable diseases are that they mostly are truly global and don't respect national borders. The rapid spread of the current swine influenza epidemic is a recent example of this. Notably, it is not only the extensive international travelling that contributes to this global dimension of infectious diseases: also the international legal, and informal, trade with living animals and food and other animal products contribute.

ON THE DEVELOPMENT AGENDA

Dr Horn af Rantzien pointed out that it is well known that the control or fight against communicable diseases is most effective at the origin of the disease. The creation of these new variants of zoonotic diseases is often favoured by high human and animal density and that humans and animals live close together.

“These conditions are more common in developing countries compared to richer countries, why the issue of emerging infectious diseases ends up high on the international development agenda.”

Besides the human and animal suffering, it is estimated that the cost for the avian influenza has already cost over 20 billion USD. A full influenza pandemic is estimated to cost the world economy 2 trillion USD. Investments in preventive measures are therefore likely to be highly cost effective.

Against this background, a group of international agencies developed jointly a strategic framework called One world, One health with the objective to establish how to best diminish the risk and minimize the global impact of epidemics and pandemics due to emerging infectious diseases.

“We are pleased to have senior representatives for three of these international agencies here with us today” declared Dr Horn af Rantzien.

ALIGNED WITH THE SWEDISH POLICY FOR GLOBAL DEVELOPMENT

“One world, One health focus on the infectious diseases at the animal-human-ecosystem interface to improve public health, food safety and security and the livelihoods of poor farming communities, as well as protecting the health of ecosystems. All these aspects are within the Swedish policy for global development and are as such strongly related to Sida's activities” explained Dr Horn af Rantzien.

The Deputy Director General ended her welcome address by stating that “Sida continues to support the work by FAO and WHO in the area of communicable diseases including zoonosis” and wished the participants a fruitful seminar.

ONE WORLD, ONE HEALTH

– BENEFITS AND CHALLENGES OF IMPLEMENTATION

Paul R Gully, Deputy Coordinator, UN System Influenza Coordination

IT'S NOT JUST ABOUT VETERINARY AND HUMAN MEDICINE

Dr Gully said that the initiative is not only a way to increase the collaboration between veterinary and human medicine, or even between the animal and human health sectors.

“One World, One Health is a concept and behaviour that will promote cooperation between many different actors working within the broader area of human and animal disease control. There are so many other actors to be brought in apart from veterinarians and doctors,” he said.

The document: *Contributing to One World, One Health A Strategic Framework for Reducing Risks of Infectious Diseases at the Animal–Human–Ecosystems Interface* has been developed jointly by the four agencies Food and Agriculture Organization (FAO), World Organisation for Animal Health (OIE), World Health Organization (WHO), United Nations Children’s Fund (UNICEF), and by the World Bank and the UN System Influenza Coordinator (UNSIC).

Dr Gully went on to say that the One World, One Health initiative isn’t even limited to disease and public health, but it is also about ecosystem health; that there is a biosphere component.

“We must not forget that. And it’s not only about infectious diseases, but also for example cancer.” “There is also the question of people’s livelihoods, of protein supplies,” he said. “We in the west may have difficulty seeing these connections as we are for the most part so completely divorced from the production of our food.”

Achieving the purposes of the initiative means that all kinds of actors have to be included, and are indeed being brought in, according to Dr Gully.

“We need to involve economists, social scientists,

anthropologists, and so on. These days anthropologists are actually included when there is an Ebola outbreak. We require cooperation between sectors such as health, agriculture and natural resources. There needs to be joint investigation, joint research and joint advocacy. There needs to be conditional funding requiring collaboration, and joint courses in education where veterinary and medical students can meet.”

AWARENESS IS SPREADING

He pointed out other groups and initiatives working along similar lines. One example is the One Health worldwide strategy that works to bring together human and veterinary medicine. There is also a One Health that is the European Union’s new animal health strategy, which aims to address the risks to the economy and society as a whole from animal diseases. Then there is the EcoHealth initiative of the International Association for Ecology and Health.

The Pan-American Health Organization, PAHO, also has a Veterinary Public Health Unit, and the organization hosts the RIMSA forum, which is an Inter-American meeting, at ministerial level, on health and agriculture. In Italy the department of Veterinary Services resides in the Department of Health.

But what is generally missing, according to Dr Gully, is sustained, and broad collaboration.

“This way of working has been around for a while in different forms and shapes, but it has not had a name. Now it does.”

CLIMATOLOGISTS CAN HELP PREDICT OUTBREAKS

Dr Gully went on to give several examples of diseases that require attention from the kind of broad spectrum of professionals that One World, One Health hope will work more closely together, and where better collaboration across traditional professional boundaries could reduce the risk and size of outbreaks.

Among the most obvious diseases are the avian flu (H5N1), West Nile fever, Rabies (in, for example, Peru), Rift Valley Fever in the Horn of Africa, Ebola and Nipah, and Ebola Reston in the Philippines.

“When West Nile Virus appeared in New York it was not picked up quickly. There were no collaborations in effect to link the disease in animals and humans. We rapidly got that kind of cooperation together in Canada, but it did not exist before this.”

There have been a large number of outbreaks of Rift Valley Fever in animals in the Horn of Africa, with hundreds of thousands of cases associated with thousands of cases in humans. The knowledge was there that there were climatic conditions that were precursors to outbreaks, but the knowledge was not shared.

“If health professionals could collaborate with, for example climatologists, outbreaks could be predicted, people and animals be vaccinated, and the potential of an outbreak reduced.”

COMPLEX RELATIONSHIPS

The rabies problem in Peru started with infected vampire bats that bit cows. The cows died, so the bats turned to humans. Suddenly there was an outbreak of rabies among humans.

“There had been no information transmitted to human health workers that cows had been infected by rabies-carrying bats,” Dr Gully said.

Such information could have made it possible to prevent the outbreak.

“Bats are also the probable reservoir of Ebola and Nipah viruses. There have been extensive investigations where human and animal health professionals have worked together to identify this mode of transmission. There is still a lot to do, but without this collaboration we wouldn’t know what we now know.”

Ebola Reston virus fever occurs in pigs in the Philippines, and seems to occur together with other pig viruses.

“We do not know how serious the possible threat to humans is. We don’t even know for sure that this causes disease at all.”

The virus spreads because of more intense pig farming. Fruit trees tend to be planted near the pig farms, and then the fruit bats arrive.

“What does this lead to? We don’t know. But better collaboration can speed up a response and would definitely be beneficial,” Dr Gully pointed out.

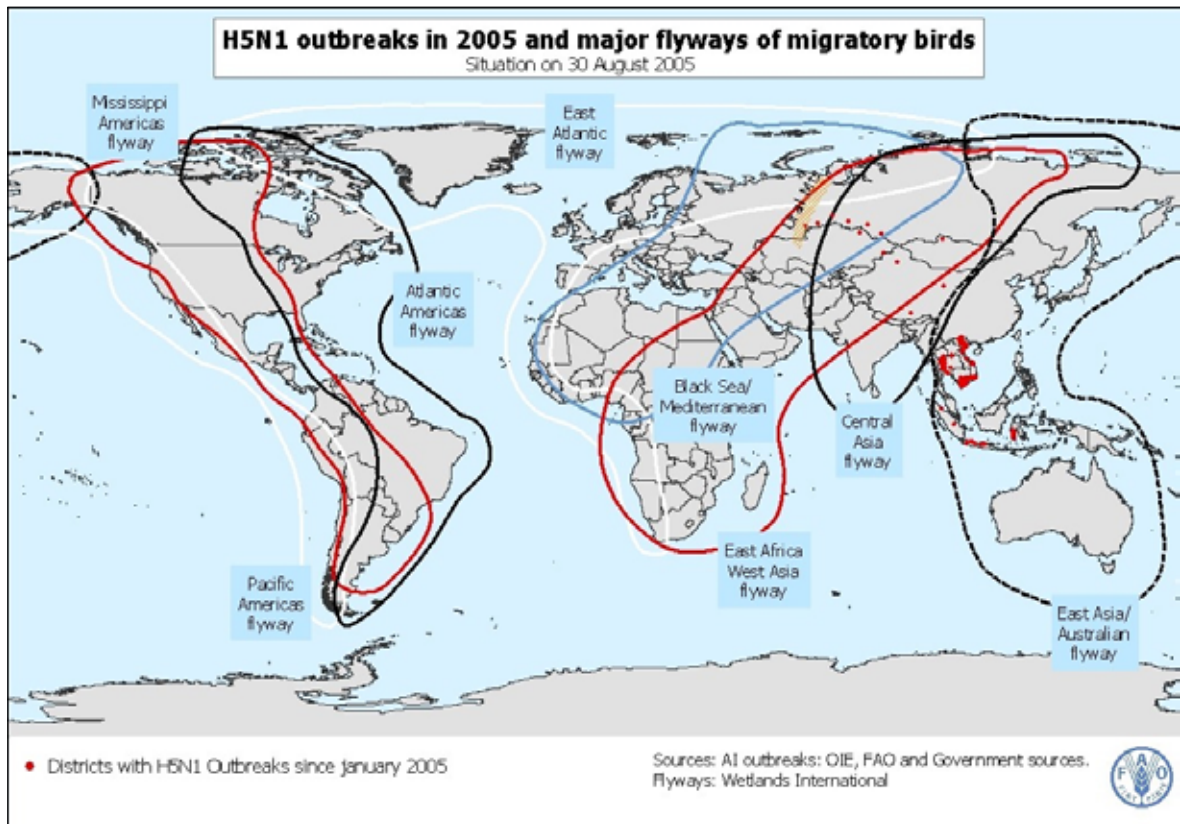
THERE ARE PROBLEMS TO OVERCOME FOR OWOH

Dr Gully pointed out the cultural gap that exists between veterinary and human medicine as a problem that One World, One Health has to overcome in order to be effective. One way to start addressing this is to have joint courses in education for veterinary and medical students.

“There is a tendency to see these as ‘only animal diseases’. This is getting better, but it takes time, even at our level. There are still protests that the framework includes diseases that have no human manifestation.”

There is a need for political will and cooperation between sectors such as health, agriculture and natural resources. Then there is the wildlife sector.

“Medical advances get all the attention. This is why we need everybody at the table, to maintain a balance” he concluded.



At a few occasions wild birds have been responsible for long distance spread of HPAI. However, this is relatively rare compared to the spread via domestic poultry.

Illustration source: FAO/OIE

OIE ACTIVITIES AS THEY RELATE TO THE IMPLEMENTATION OF THE ONE WORLD, ONE HEALTH INITIATIVE

Alejandro Thiermann, Senior Advisor to the Director General, World Organisation for Animal Health (OIE)

WE MUST BUILD SUSTAINABLE INFRASTRUCTURES

The second invited speaker at the seminar was Dr Alejandro Thiermann; like the other speakers, Dr Thiermann stressed that One World, One Health is not a new organisational structure or group, nor is it a new management style. It is a new behaviour. “We cannot solve these problems unless we work together,” he said.

He pointed out that many of the new diseases originate in animals. Of known human infectious diseases 60 percent have their source in animals, as do 75 percent of emerging human diseases and 80 percent of the pathogens that could potentially be used in bioterrorism. This and the fact that new diseases emerge much more rapidly makes a new approach like One World, One Health vital if we are to successfully meet these challenges.

Public animal health systems are not only important for zoonotic diseases, he continued. There is an economic aspect, and diseases do not only affect human health but also human well-being.

LEAN BUT MEAN ORGANISATION

Dr Thiermann gave a brief description of OIE activities as they relate to the implementation of the One World, One Health initiative.

“OIE is a very lean organisation. We have fewer than 100 staff worldwide, but OIE is in contact with more than 150 reference labs around the world.”

The organisation’s mandate is to stop animal diseases from spreading around the world, and to improve animal health worldwide. The OIE works to increase the transparency in animal health issues, and to collect, analyse and disseminate veterinary scientific information. The organisation also works to provide technical expertise and promote

solidarity for the control of animal diseases worldwide. A fourth mission is to guarantee the sanitary safety of world trade by developing sanitary rules for international trade in animals and animal products.

The OIE also works to improve the infrastructure, legal framework and resources of the Veterinary Services.

The organisation was created following the Rinderpest epizootic in Belgium in 1920. It is an extremely infectious disease of cattle, domestic buffalo, and some species of wildlife. An outbreak in the 1890s killed 80 to 90 percent of all cattle in Southern Africa, as well as in the Horn of Africa.

FAST SYSTEM

The OIE’s most well known publications are the Animal Health Standards. These are four documents, the Terrestrial Animal Health Code, the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, the Aquatic Animal Health Code and the Manual of Diagnostic Tests for Aquatic Animals. The documents are reviewed, discussed and adopted yearly.

“This means that the system is very fast and the standards can change at a year’s notice.”

Countries are obliged to report notifiable diseases to OIE, and there are criteria for listing diseases. The OIE immediately gets reports if there is something new – a new disease, or an established disease that occurs in a new geographical area or expresses changes in its manifestations.

“West Nile Fever is an example of this. It existed before in the Middle East, but when it spread to North and South America it was immediately reported to the OIE.”

An additional aspect of the OIE's work is to look for unofficial information and submit it to the relevant Delegate asking for confirmation or denial.

"Reference lab are also required to notify the OIE when they are asked to analyse a sample that then happens to be positive to a notifiable OIE disease."

MUST BUILD CAPACITY AND INFRASTRUCTURE

In the One World, One Health perspective, Dr. Thiermann pointed to the need to build capacity, not least at the regional level and in countries that lack infrastructure. This is an important area of building a global capability to detect and prevent the spread of disease.

"Until there is also collaboration between sectors at the national level we can't achieve good international cooperation."

"We must also evaluate the veterinary services. Where are the important weaknesses? What are their strong points? What resources are available? We must also work to assist relevant legislation to

be passed in order to be able to enforce the international standards."

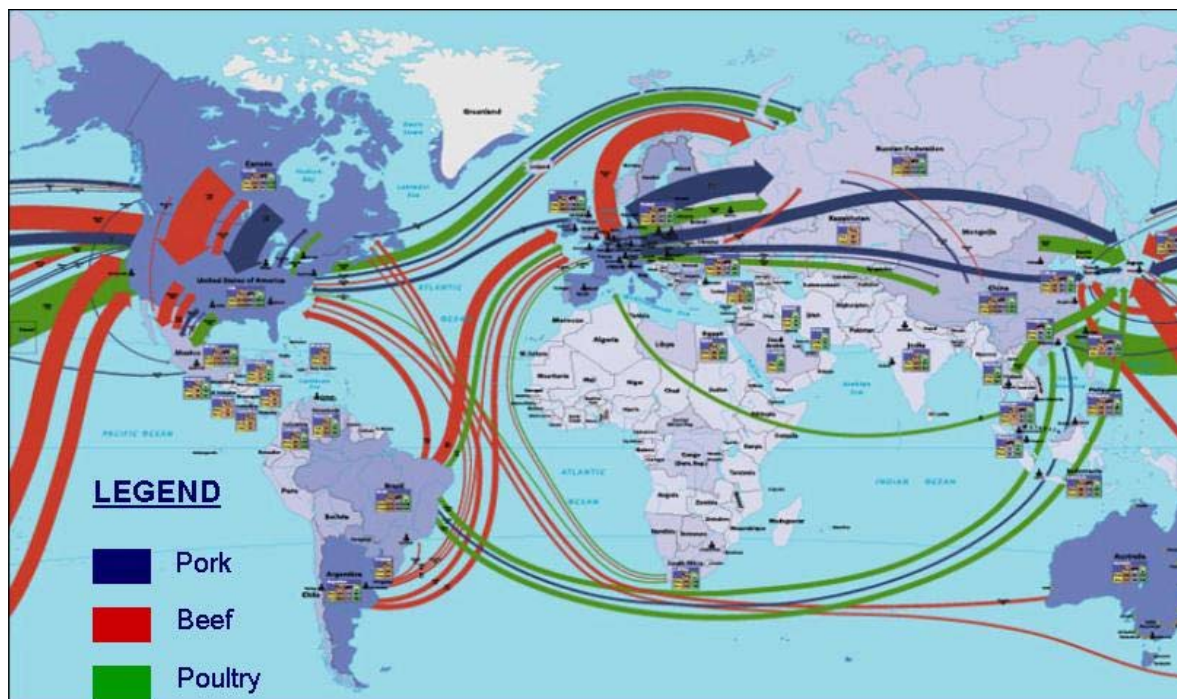
A part of building capacity and improving infrastructure is strengthening links between labs.

"Lab twinning is an important OIE initiative for this."

The OIE run a lab twinning programme to help developing countries gain expertise from more experienced laboratories and their diagnosticians. Labs in countries with a weak infrastructure can be "twinning" with an experienced lab, and share knowledge as well as personnel.

"But it's important to realise that this is not just a question of sharing one or two scientists. The exchange and cooperation goes far beyond that. The goal is for the "learning" lab to improve in a sustainable way."

And sustainability is one of the key elements, Dr. Thiermann, pointed out. The public animal health systems must be sustainable. The surveillance and reporting systems must be sustainable. This sustainability is especially a challenge when it comes to the developing countries.



The spread of pathogens and the increasing global travel and trade. Animals can be in any part of the world in time shorter than the incubation period of many diseases.

Illustration source: Joint FAO-OIE-WHO-UNICEF-UNSC-WB presentation Sharm El Sheikh Ministerial Conference on HPAI, Egypt 25-26 October 2008

FAO'S HOLISTIC APPROACHES AND OPERATIONAL STRATEGIES TO PREVENT AND CONTROL MAJOR TRANSBOUNDARY ANIMAL DISEASES, FOOD BORNE AND NEGLECTED DISEASES ALONG THE ONE WORLD, ONE HEALTH FRAMEWORK

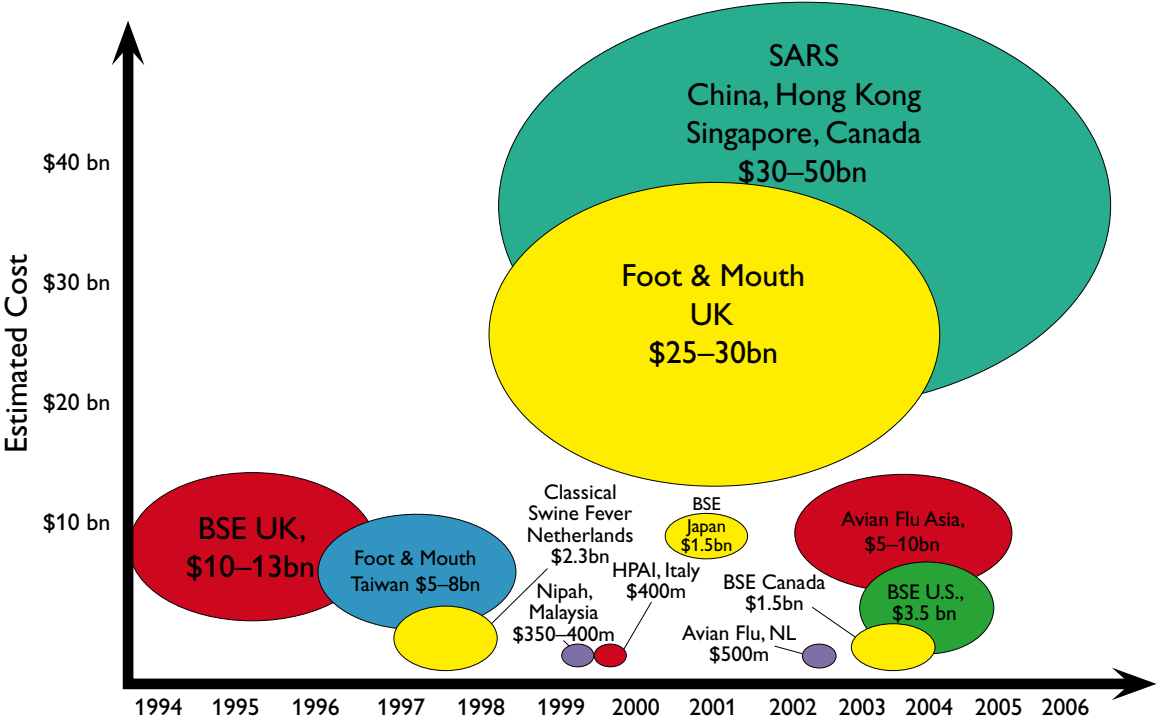
Joseph Domenech, Chief, Animal Health Service, FAO

HOLISTIC APPROACH TO FAR-REACHING PROBLEMS

The third of the invited speakers was Dr Joseph Domenech, who talked about how the One World, One Health framework fitted with FAO's holistic and global approaches and operational strategies to prevent and control major transboundary animal diseases, food-borne and neglected diseases.

The main goal of One World, One Health is to

reduce the risk and global impact of disease outbreaks. The main avenues are improving intelligence about livestock and wildlife, improving surveillance and emergency responses through stronger public and animal health systems. The approach requires broad cooperation among different disciplines and sectors worldwide.



The economic impact of emerging infectious diseases per 2006. Figures are estimates and are presented as relative size. Illustration source: Joint FAO-OIE-WHO-UNICEF-UNSC-WB presentation Sharm El Sheikh Ministerial Conference on HPAI, Egypt 25-26 October 2008

HEALTH IN A WIDER CONTEXT

Dr Domenech agreed with the other speakers that the One World, One Health framework is not only a question of animal and human health.

“There is also an economic impact from these diseases. It impacts people’s livelihoods and the development of societies. So we have to consider the diseases in the context of, for example, farming systems, land use and climate questions.”

Even animal health in itself exists in a wider context, he pointed out. It impacts rural development and food security for example.

That is why One World, One Health must foster the development of truly wide-reaching capabilities, both in engaging professionals from a wide variety of professions and in engaging stakeholders worldwide.

Dr Domenech pointed to the fact that avian flu actually brought one positive result, in that it provided an occasion to develop a global approach, new methods, and to come to a better understanding of how these diseases work. This approach has to be sustained and widened. This is partly what One World, One Health is about.

IMPACTS FROM SOCIETAL AND OTHER CHANGES

There are many different changes in human society on a global scale that have to be taken into account when working within the One World, One Health framework. There is continued urbanisation and rapid economic development in many areas, while in other areas poverty is on the rise. Food demand is increasing, which means that farming is intensifying to increase food production.

There is movement of production, of animals, and of people. Air travel alone increases by about 5 percent a year, including the shipment of live-stock.

“This means that animals can reach any part of the world in a time shorter than the incubation period of main epizootic diseases,” Dr Domenech said.

Travel can be a problem in a more regional sense. The concentration of cattle can increase in an area, when they for some reason move in from different surrounding areas. This can of course lead to an increased possibility of diseases spreading.

There is also the uncontrolled trade to take into account, which is very considerable.

Climate change will impact the issues that One World, One Health wants to address.

“We can predict some of the effects of climate change but not others.” Dr Domenech said. “Even the changes we can predict we cannot stop.”

And climate change will affect the spread of both diseases and vectors, as well as human and animal health, livelihood and agriculture, among other things.

WILDLIFE IS DIFFICULT TO MONITOR

“Wildlife is an extremely important area for more research and collaboration since many pathogens originate in wildlife.” Dr Domenech said. “But it is also a difficult area to work with, since wildlife actually live in the wild.”

There are also many conflicts between wildlife and domestic animals. One example of how human health issues impact wild animals is that disease can be a pretext to kill wildlife, like pigeons being killed in Indonesia to keep avian flu from spreading.

“We don’t even know the role of wild birds in the H5N1 epidemiology. Are they the victim or the problem, a reservoir or a spreader only?”

Other challenges concerning wildlife are farmers encroaching on forests, bush meat hunting, exotic animal farming and the trade in exotic animals.

BIOSECURITY IS ONE KEY

Dr Domenech mentioned biosecurity as an example of a major long term tool to prevent and stop the spread of diseases. His organisation, the FAO, is preparing a biosecurity programme for pig production, in collaboration with the World Bank and OIE.

“We must find ways to stop diseases from entering farms.”

He however saw considerable challenges as well as progress in this area.

“Biosecurity is usually totally unfeasible in developing countries, especially at the village level. But the big multinationals are implementing measures, since for them it is simply good business. This area is generally improving, but small farmers are a nightmare from this point of view, since it is really difficult to explain the issues to these small scale farmers and actually make them spend the money.



There is a dramatic increase of demand for livestock in many developing countries. Often is livestock kept in close proximity to humans in these countries which increases the risk of transmitting diseases from animals to humans.

Illustration source: Joint FAO-OIE-WHO-UNICEF-UNSC-WB presentation Sharm El Sheikh Ministerial Conference on HPAI, Egypt 25-26 October 2008

He concluded that One World, One Health must work to prepare to implement biosecurity measures in developing countries.

“One way to work towards this is by encouraging partnerships and regional platforms that can bring in regional actors.”

CHALLENGES GOING AHEAD

On the operational side tools are needed, such as information and data systems. What does the movement of animals look like, the development of land use, the evolution of ecosystems?

Fostering regional networks will also build confidence between peoples and nations.

“But these networks should only contain technical people to avoid getting bogged down with politics. In networks of technical people we can also carry out training, which is good economics.”

When we talk about investing in better prevention there is a very important political side, Dr. Domenech pointed out. The ministries of finance may handle the actual funding, but they don't handle livestock issues or human health issues.

“So we need to do much advocacy work targeted at governments, to make them see these issues as interconnected.”

Dr Domenech also pointed to the importance of carrying out serious cost-benefit analyses, to prove to donors that there is a benefit in controlling and preventing these diseases.

“We must also work both for the short term and the long term. To do that we must decide what issues must be short term and what issues are long term. We have to respond to outbreaks, but also prevent the spread of disease. There is a continuum of measures.”

CONCLUDING DISCUSSION

BUILD FOR THE FUTURE, BUT ALSO KEEP THE GAINS

The seminar concluded with a discussion, giving the audience the opportunity to ask the invited speakers questions and also to offer their own thought on the issues that the One World, One Health framework is seeking to address. The discussion was moderated by the Chair of the Animal Health Reference group, Professor Ulf Magnusson from the Swedish University of Agricultural Sciences, SLU.

Professor Magnusson started by reemphasising that the fight against these diseases is most important to perform in the poor countries and a lot has been done along this line as a consequence of the work against the avian flu.

“It is most cost effective – in a global perspective – to fight the disease at the source. This work has to be long term, and has to focus on capacity building and governance issues. But who will monitor this work? Is it up to the governments? Us? Some international entity?”

IS “HOW” THE BIG ISSUE?

When it comes to the different challenges faced in making a more sustainable and broad effort to combat the spread of disease and the problems following in the footsteps of disease, one member of the audience felt that the “how” is the biggest challenge – how to work more efficiently, how to be more strategic, etc.

“There is not primarily a lack of knowledge, people or good science. The big question is how to build capacity in the developing countries in order to meet health threats.”

There was also a question about the purpose of the organisations themselves. Does it become

more effective with all these organisations? Or are they fighting each other?

ECONOMIC DEVELOPMENT ONE KEY

Dr Thiermann pointed to political issues in developing countries.

“If there is no trade benefit for them in taking measures, then sustainability will be hard to achieve. Their politicians are the same as ours. They are re-elected for solving immediate needs.”

Dr Domenech agreed.

“Sustainability is all about economic development.”

He pointed out that the rich countries also stood to gain from a more pro-active stance.

“Even the rich countries cannot prevent these diseases from occurring. So it should be a win-win situation. It’s not only about solidarity with developing countries.”

But someone also made the observation that 97 percent of the deaths from these diseases occur in the developing world.

Paul Gully thought he could sense a change in how these threats are perceived.

“In the past they have been perceived as coming from the south. Now it is less so.”

A case in point is the “Swin flu” - H1N1, which may have started in the US and in Mexico.

BIG FARMS AND SMALL FARMS

There was a question about how secure the animals that are sold all over the world are, and how certain we can be that they don’t transmit diseases. The questioner felt that the rich countries also export a lot of disease. This was questioned by some.

One in the audience asked whether small scale backyard farming is more natural and thus safer from an animal and public health perspective, than large scale farming.

Both Alex Thiermann and Joseph Domenech responded simultaneously:

“No, this is normally not the case. The issue is not the size of the farm, but the way it is managed. The biggest biosecurity and health problem is mostly in backyard farming. Once a disease is introduced into a farm the problem is potentially bigger in bigger farms. You have to manage differently.”

Joseph Domenech perceived the mid-sized farms to be the biggest challenge, since they may not always be operated with the same level of professionalism as the bigger commercial farms.

IMPORTANT ALSO TO STRENGTHEN ORGANISATIONS

A member of the audience pointed out that even if it is important to improve the collaborations at the country level, there are other arenas to be nurtured.

“We are of course very dependent on support within the respective countries, but the UN and NGO’s are also important. So we can try to strengthen the country team of the UN for example. The collaboration between international agencies is also central. It is important that the technical agencies speak with one voice.”

The speakers responded with one voice that “Great improvements have been made about this during the last couples of years and the OWOH-

framework is a way to strengthen this harmonization”.

Ulf Magnusson also remarked that the seminar itself is a good sign: “We’re all here, chatting together.”

PRO POOR, BUT WHAT ABOUT THE FUTURE....

In an attempt to summarize the pro poor-messages from the seminar Ulf Magnusson pointed out three important issues:

- the strengthening of the human capacity both in the human health and animal health sector,
- the work for more effective governance, and
- the safe-guarding of the investments and progress that has been made in the public and animal health sector as a consequence of the avian flu outbreak.

“The obvious concern is if there will be a political, media and donor fatigue and that the commitment from the global society will fade. Then all the good investments that came out of the avian flu scare were in vain. The human resource or capacity building is a key element in making such investments sustainable. Otherwise, what will be left in a few years?”

With that sobering remark Professor Magnusson thanked the speakers and the audience, and closed this Seminar on the One World, One Health initiative.

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