Recommendations of the EMPRES Expert Consultation on Early Warning and Rapid Response to Reduce Disease Impact

An EMPRES expert consultation group met at FAO headquarters from 6 to 9 June 2005 to discuss the current status and future prospects of early warning and rapid response to existing and emerging transboundary animal diseases (TADs).

Participants

Invited experts were: Gyanendra Nath Gongal, Epidemiologist, Nepal, Bryony Ann Jones, Rinderpest Project Manager – the Sudan, Vétérinaires sans frontières, Belgium, Moetapele Letshwenyo, Deputy Director for Disease Control, Botswana, Mary F. Parker, United States Army Medical Research Institute of Infectious Diseases, Dirk U. Pfeiffer, Royal Veterinary College, Patricia Ruíz De Los Ríos, Field Epidemiologist, Bolivia, Cristóbal Zepeda, Center for Epidemiology and Animal Health, United States Department of Agriculture, Madeleine Thomson, International Research Institute for Climate Prediction, United States of America; representatives from partner organizations: Laurence Vial, CIRAD-EMVT[5], Karim Ben Jebara and Daniel Chaisemartin, World Organisation for Animal Health (OIE), Rasmus Egendal, World Food Programme, Denise Werker, World Health Organization (WHO) and Gerrit J. Viljoen, Joint FAO/IAEA (International Atomic Energy Agency) Division of Nuclear Techniques in Food and Agriculture (AGE), Vienna, Austria.

Proceedings

All group members recognized that EMPRES plays an essential role in improving global animal health. It therefore also contributes to sustainable animal production, rural development and improved livelihoods of the poor, food security and safe trade, and directly protecting human health through the prevention of zoonotic diseases.

The group felt that EMPRES should be supported and strengthened. FAO needs to provide EMPRES with sufficient institutional resources – human and financial – and promote its role in safeguarding against TADs by engaging ministers and their representatives during Council and Conference activities of the Organization.

The group recognized the current increased level of interaction and coordination between FAO/EMPRES and other international organizations (IAEA, OIE, WHO) as a very positive and necessary development. The group also noted that, internally, FAO has made various institutional and Organizational changes, such as the creation of the position of the FAO Chief Veterinary Officer, the establishment of the Emergency Centre for Transboundary Animal Disease Operations (ECTAD) and the launching of the FAO/OIE initiative Global Framework for the Progressive Control of Transboundary

[5] Centre de coopération internationale en recherche agronomique pour le développement – Département d'élevage et médecine vétérinaire.

Animal Diseases (GF-TADs), which includes the development of the Global Early Warning (and response) System for Animal Diseases including Zoonoses (GLEWS), planned in collaboration with WHO. The group commended these developments and encouraged other initiatives that would further increase the visibility and efficiency of EMPRES.

General recommendations

The group recommends that the operational relationship between EMPRES and GF-TADs should be clarified as soon as possible.

The group recommended that FAO/EMPRES improve awareness among policy- and decision-makers within FAO and its Members about the socio-economic consequences of TADs in order to facilitate timely disease reporting, intersectoral collaboration and emergency response at the field level. This activity should be highlighted during the FAO Council and Conferences and multiorganizational Global Outbreak Alert and Response Network meetings.

EMPRES should adapt to the needs of FAO Members in the control and prevention of TADs through increased consultation with relevant stakeholders.

The group emphasized that the success of EMPRES is dependent on effective political and technical partnerships with FAO Members as well as other national and international organizations such as OIE and WHO for all aspects of early warning, prevention and response. These partnerships require both the political will for action and the use of diagnostic, Web-searching, environmental-monitoring and climate-forecasting tools.

Specialized recommendations

The meeting was structured into four topics. The key recommendations for each topic follow.

Surveillance

EMPRES should continue to encourage the incorporation of complementary data sources such as livestock keepers and community animal health workers to improve the effectiveness and sensitivity of national and regional animal disease surveillance systems in detecting disease.

Only in specific circumstances based on documented criteria defined in consultation with stakeholders should EMPRES consider issuing alerts before the validation of events has been completed, and only after weighing the risks and benefits of releasing such information.

Information systems

In consultation with appropriate stakeholders, EMPRES should further define the scope and purpose of information dissemination and alert levels, according to a defined hierarchy of sensitivity.

EMPRES needs to have access to state-of-the-art information-processing and analytical tools to be able to achieve its early warning objectives.

Methodologies and tools

The group recognized the importance of EMPRES rumour-tracking activities and recommends further investment into their development.

It also recognized that FAO has a major role to play because of its access to ancillary data that affect animal and human health and overall welfare (agriculture, land use, production systems, conservation, humanitarian aid, climatic change, economic trends and analysis). Investing resources in these data, in conjunction with sound epidemiological understanding of animal health and production, would improve EMPRES' prevention and mitigation mandates.

EMPRES should regularly (re)assess existing and new data sources to improve rumour-tracking and validation. Partnerships with other organizations conducting similar activities should be promoted.

EMPRES should provide guidance to member countries on diagnostic technologies in accordance with international standards and promote the adoption of appropriate diagnostic technologies to improve surveillance and control of TADs.

EMPRES should utilize information from all relevant data sources to improve its disease risk assessment and forecasting capabilities.

Response

EMPRES should assist member countries with planning and implementation of measures to prevent and mitigate the spread of TADs and other animal disease events of international concern.

EMPRES should acquire core human-resource capacity (at FAO headquarters and in the decentralized FAO structure) and ensure rapid access to contingency emergency funds in order to be able to respond to TADs and other animal disease events of international concern quickly and effectively, under the direction of the FAO Chief Veterinary Officer.

Avian influenza: recent conferences

IZS VENEZIE[6]

Sick chicken, depressed with some oedema of the comb

The Second FAO/OIE Regional Meeting on Avian Influenza Control in Asia

As a follow up to the joint FAO/OIE Emergency Meeting on Avian Influenza Control in Animals in Asia, held in Bangkok, Thailand, 26–28 February 2004, in collaboration with the World Health Organization (WHO), the Second FAO/OIE Regional Meeting on Avian Influenza Control in Asia was convened in collaboration with WHO in Ho Chi Minh City, Viet Nam, 23–25 February 2005. The meeting was attended by over 155 delegates from 30 countries and regional organizations of Asia, multilateral and bilateral donor organizations and countries, scientific experts, representatives of international and national technical and scientific institutions, including FAO, the World Organisation for Animal Health (OIE) and WHO, and representatives of the private sector, including vaccine companies.

The objectives of this meeting were: 1) to assess the avian influenza (AI) situation; 2) to evaluate the achievements of control measures implemented in the previous 12 months; 3) to review recent scientific advances in the understanding of AI; and 4) to advise on new control measures, if warranted, and to identify future research needs. The key concepts of the meeting follow.

The epidemic has evolved, and scientific understanding of AI has increased. The meeting made clear that highly pathogenic avian influenza (HPAI) H5N1 viruses are established in several countries in Asia, persisting in farm and wild waterfowl, particularly ducks, and in the multiple avian species found in live bird markets. The role of ducks as a reservoir of infection, causing persistence and spread of AI, was well recognized.

The epidemic has evolved, and scientific understanding of AI has increased

FAO, OIE and WHO have recommended against the destruction of wild birds and their habitats, as such action is both inappropriate on conservation grounds and unlikely to assist significantly in disease control. In fact, the dissemination of the virus via the movement of live poultry and poultry products, particularly through live bird markets, appears to be more influential. Therefore, this sector is the most important target for control measures.

Studies have shown that H5N1 viruses are continually evolving and may potentially cause more serious disease in mammals, including humans – heightening concerns about a potential global human pandemic of influenza.

The long-term goal is the elimination of HPAI, which requires countries to implement stricter controls on, or even restructure, poultry production and marketing. Because any restructuring could have a significant economic and

[6] Istituto Zooprofilattico Sperimentale delle Venezie

T. SONGSERM

Subcutaneous haemorrhage along the leg of an affected chicken

social impact, options should be investigated, and impact assessment of HPAI control strategies should form part of the animal health planning process.

Regardless of other measures adopted, protection of human health and elimination of HPAI will depend upon improved biosecurity. In the short to medium term, infected countries must implement measures to reduce excretion of the virus and transmission between flocks and to prevent the exposure of humans to infection.

AI vaccines can play a useful role, if properly used. However, vaccination must only be started as part of an overall strategy, and the recommendations and standards established by FAO and OIE must be strictly followed. In the case of HPAI incursions into countries that have historically enjoyed freedom, the focus should be on stamping out and not on implementing a policy of routine vaccination for prevention and control.

The meeting also recognized the need for enhanced international and regional cooperation and for the establishment of sustainable regional networks on AI. A Global Master Plan at the international, regional, subregional and national levels has to be prepared, with a proper road map and timetable, to be endorsed by international and regional organizations, as well as by national governments. The investment to support key priorities in Southeast Asia, identified during this meeting, will be more than US$100 million over the next five years.

Recommendations were adopted on seven topics, including a general declaration for more investment in the control of HPAI: 1) the Ho Chi Minh City Declaration on Investment; 2) international standards and surveillance for international trade; 3) national/regional/international coordination and cooperation; 4) strategies for surveillance and control of AI; 5) the implications of HPAI virus for human health; 6) research priorities for AI; and 7) economics and policy issues related to AI.

Full report of the Second FAO/OIE Regional Meeting on Avian Influenza Control in Asia:

http://www.fao.org/ag/againfo/subjects/documents/ai/AI_2nd_RegMtg_HoChiMinhCity_Rep.pdf

OIE/FAO International Scientific Conference on Avian Influenza

The OIE/FAO International Scientific Conference on Avian Influenza was held in Paris, France, 7–8 April 2005. There were over 200 participants from 47 countries, including multilateral and bilateral donor organizations and countries, scientific experts, representatives of international and national technical and scientific institutions, including FAO, OIE and WHO, and representatives of the private sector, including vaccine companies.

The objectives of this conference were to provide a multidisciplinary forum for the exchange of the latest scientific information on AI, to discuss AI control and prevention, including vaccination, and to guide OIE in setting new standards

and guidelines for surveillance and international trade, for adoption by member countries. The main topics included on the agenda were ecology and epidemiology, pathogenesis, human health implications, diagnostics and control. The main recommendations on these themes follow.

Recommendations include developing risk-based surveillance programmes for early AI detection and encouraging national laboratories to join international networks to share isolates, data and expertise

Ecology and epidemiology

Studies should be conducted and supported to establish the ecology and epidemiology of the AI virus in reservoirs and spill-over, specific to each affected country. Such studies would serve to examine the role of wild birds in the maintenance and dissemination of AI viruses and to assess the role of alternatively farmed birds as intermediate hosts for the transfer of AI and as vehicles of mutation of H5 and H7 low pathogenic avian influenza (LPAI) into HPAI viruses. Further recommendations include both developing risk-based surveillance programmes for early AI detection and encouraging national laboratories to join multinational and international networks to share isolates, data and expertise.

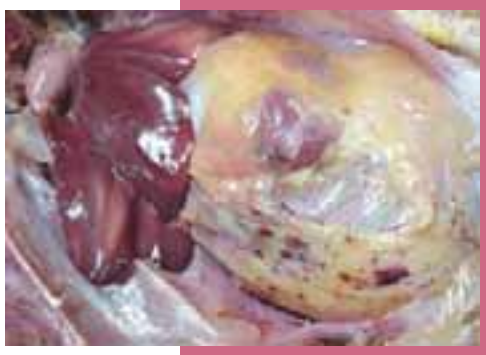
Pathogenesis

Ducks are widely recognized as a reservoir of AI infection, causing persistence and spread. Additional research should be conducted specifically on AI surveillance and vaccination in farmed ducks.

Human health implications

Studies and surveillance of the human–animal interface are recommended with cooperation among the newly established OIE/FAO Network of Expertise on Avian Influenza (OFFLU) and the WHO network (concentrating on infection in humans) and veterinary and public health services to improve national, regional and global health security.

Haemorrhage in serosa in the abdomen



T. SONGSERM

Diagnostics

The conference recommended that FAO and OIE assist and encourage countries in enhancing their veterinary infrastructures and in developing a laboratory network. Such a network should be coordinated through OFFLU. OIE and FAO should encourage developing both training programmes for laboratory personnel and appropriate diagnostic tests. The meeting recommended developing a prototype Material Transfer Agreement (MTA) for laboratories to facilitate virus transfer.

Control of AI (with a focus on vaccination)

It was recommended that donors should give priority to reinforcing veterinary services and animal health infrastructures in countries infected by or at risk of infection with AI. HPAI infections should be controlled at their source, through the implementation of risk-reduction interventions, including improved biosecurity,

stamping out, vaccination and education and improved awareness programmes. Vaccination should only be used in conjunction with monitoring vaccinated flocks. Appropriate surveillance systems that are capable of differentiating infected from vaccinated birds should be introduced. Vaccines should comply with OIE standards.

Improvement of management tools

The conference further recommended preparing a global master plan for the control and eradication of HPAI in Asia and in other threatened regions, with both regional and international coordination. National and regional strategies should incorporate a social and economic assessment.

Full report of the OIE/FAO International Scientific Conference on Avian Influenza:

http://www.fao.org/ag/againfo/subjects/documents/ai/OIE_FAO_Recom_05.pdf

FAO Consultation on the Development of a Global Strategy for Progressive Control of Highly Pathogenic Avian Influenza

A consultation held in Bangkok, Thailand, 17–18 May 2005, was attended by key personnel from the Association of Southeast Asian Nations plus China, Japan and the Republic of Korea (ASEAN+3), the ASEAN HPAI Task Force, Australia, the Democratic People's Republic of Korea, India, Pakistan, the South Asian Association for Regional Cooperation (SAARC) and FAO. The objective of this consultation was to discuss the first working draft of a Global Plan document that FAO and OIE had prepared recently with the support and contribution of WHO.

The preparation of this Global Plan was recommended by the Second FAO/OIE Regional Meeting on Avian Influenza Control in Asia and the OIE/FAO International Scientific Conference on Avian Influenza in order to develop a global long-term vision of the control of HPAI and to be assured that any country or regional project proposal would be in line with this global strategy.

Because the crisis in Asia represents an immediate emergency, it was decided that the Global Plan would first address the Asian region and that discussions with other regions would be initiated once the Asian component had been finalized. It was anticipated that the Asian component of the Global Plan would be presented to donors around July 2005.

The participants contributed to the elaboration of the document and gave full support to FAO and OIE to continue the consultation process.

News

In brief…

Since the publication of the last EMPRES Bulletin (No. 27), outbreaks of EMPRES priority diseases in different regions around the world have been reported to the World Organisation for Animal Health (OIE) or FAO.

Outbreaks reported, February–June 2005, by disease and country

Disease	Country	Reporting date	Location	Agent characterization
African swine fever	Burkina Faso	March 2005	Centre Region; Centre-Sud Region, Plateau Central Region	
	United Republic of Tanzania	February 2005	Kagera Region, Ngara District; Mwanza Region, Nyamagana District	
Avian influenza	Cambodia	February 2005	Kândal Province, Ta Khmau District	HPAI H5N1
		March 2005	Kâmpôt Province, Banteay Meas District	
	China	May 2005	Qinqhai Province, Gangcha County, Quanji Town, Niannaisuoma Village	HPAI H5N1
		June 2005	Xinjiang Uygur Autonomous Region, Changji District, Changji City and Tacheng District, Tacheng City	
	Democratic People's Republic of Korea	March 2005	Pyongyang Province	HPAI H7N7
	Indonesia	December 2004	Jawa Barat Province, Cirebon Regency; Jawa Tengah Province, Tegal	HPAI H5N1
		January 2005	Jawa Barat Province, Cirebon Regency, Sakabumi and Subang Regency	
		February 2005	Banten Province, Tengerang District; Jawa Barat Province; Jawa Tengah Province, Tegal; Sulawesi Selatan Province, Maros, Wajo and Soppeng Regencies	
		March 2005	Jambi Province, Batang Hari Regency and Jambi Municipality; Jawa Timur Province, Bojonegoro and Tuban Regencies; Jawa Tengah Province, Boyolali and Tegal Regencies; Sulawesi Selatan Province, Sidenreng Rappang, Soppeng and Wajo Regencies	
		April 2005	Banten Province, Tengerang District; Jawa Barat Province Indramayu Regency; Kalimantan Timur Province, Tenggarong	
		May 2005	Banten Province, Tangerang; Jawa Barat Province; Sumatera Utara Province, Simalungun Regency	
	Japan	June 2005	Ibaraki Prefecture, Mitsukaido City	H5N2
	South Africa	December 2004–May 2005	Northern Cape and Western Cape Provinces	H5 seropositive in adult birds on ostrich farms, no clinical signs

Outbreaks reported, February–June 2005, by disease and country *(cont.)*

Disease	Country	Reporting date	Location	Agent characterization
	Thailand	February 2005	Kamphaeng Phet Province, Lan Krabue District; Nakhon Ratchasima Province, Khon Buri District; Nakhon Sawan Province, Phayuha Khiri District; Nong Khai Province, Muang District; Nonthaburi Province, Muang District; Phichit Province, Sak Lek Subdistrict; Phitsanulok Province, Bang Krathum, Bang Rakam, Phrom Phiram, Wang Thong and Wat Bot Districts; Suphan Buri Province, Song Phi Nong and U Thong Districts; Uttaradit Province, Muang, Phichai, Thong Saen Khan and Tron Districts	HPAI H5N1
		March 2005	Sukhothai Province, Ban Dan Lan Hoi District; Phitsanulok Province, Bang Pla Ma and U Thong Districts	
		April 2005	Suphan Buri Province, Doem Bang Nang Buat and U Thong Districts; Lop Buri Province, Muang District	
	Viet Nam	February 2005	Bac Ninh, Ben Tre, Binh Duong, Ca Mau, Dong Nai, Hai Duong, Ha Nam, Hanoi, Ho Chi Minh, Kien Giang, Lam Dong, Ninh Binh, Ninh Thuan, Phu Tho, Quang Binh, Quang Nam, Soc Trang, Tay Ninh, Thai Binh, Thai Nguyen, Vinh Long Provinces	HPAI H5
		June	Ben Tre Province	HPAI H5N1
Classical swine fever	Nicaragua	June 2005	Granada Department, Nandaime District	
	South Africa	June–July 2005	Western Cape Province, Worcester	
Contagious bovine pleuro-pneumonia	Kenya	November–December 2004		
Foot-and-mouth disease	China	March 2005	Hong Kong Special Administrative Region, Sheung Shui, New Territories	Asia-1
		May 2005	Jiangsu Province, Wuxi City, Huishan District; Shandong Province, Taian City, Daiyue District; Beijing Municipality, Yanqing County; Hebei Province, Sanhe City; Xinjiang Uygur Autonomous Region, Hoboksar County	
		June 2005	Xinjiang Uygur Autonomous Region, Bayinggele District, Weili City; Hebei Province, Zhangjiakou City	
	Colombia	February–April 2005	Cundinamarca Province, Bogota	A24 Cruzeiro
	Democratic Republic of the Congo	May 2005	Ruzini, Uvira	SAT-1, SAT-2, SAT-3 and A (serological survey)
	Kenya	2004		SAT-1, SAT-2, A and O
	Russian Federation	June 2005	Amur Region, Svobodnenskiy District, Busse and Svobodnyy District, Busse	Asia-1
Lumpy skin disease	Senegal	February 2005	Vélingara Department	

Outbreaks reported, February–June 2005, by disease and country *(cont.)*

Disease	Country	Reporting date	Location	Agent characterization
Sheep pox and goat pox	Viet Nam	January 2005	Cao Bang Province, Trùng Khanh District; Bac Giang Province, Luc Nam and Luc Ngan Districts; Lang Son Province, Huu Lung District	
		March 2005	Hà Tây Province, My Duc District	

Contributions from FAO reference laboratories and collaborating centres

FAO World Reference Laboratory for Foot-and-Mouth Disease, Pirbright, United Kingdom

Report, February–June 2005, by country

Country	Number of samples	FMD[1] virus serotype							SVD[2] virus	NVD[3]
		O	A	C	SAT-1	SAT-2	SAT-3	Asia-1		
China (Hong Kong Special Administrative Region)	17	8						8		1
Iran, Islamic Republic of	5		4							1
Kenya	15		2	1	1	7				4
Lao People's Democratic Republic	1		1							
Myanmar	4	4								
Pakistan	13	9								4
Saudi Arabia	12	9								3
Sudan	3	3								
Thailand	9	1	2							6
Viet Nam	5	5								
Total	**84**	**39**	**9**	**1**	**1**	**7**		**8**		**19**

[1] Foot-and-mouth disease
[2] Swine vesicular disease
[3] No FMD, SVD or vesicular stomatitis virus detected

FAO World Reference Laboratory for Morbilliviruses, Pirbright, United Kingdom

Report, February–June 2005, by country

Country	Species	Sample type	Number of samples	Disease samples tested for	Test used	Result
Jordan		Vaccine	1	PPR[1]	Virus titration	Fail
United States of America	Bovine	Sera	81	Rinderpest	C-ELISA[2]	Negative

[1] *Peste des petits ruminants*
[2] Competitive enzyme-linked immunosorbent assay

FAO/OIE Reference Laboratory for Rinderpest and *Peste des Petits Ruminants*[1], Montpellier, France

Report from the FAO Regional Reference Laboratory for Africa and Asia for PPR, February–June 2005, by disease tested and country

Country	Species	Sample	No. of samples	Test	Result	
					Rinderpest positive	PPR positive
Rinderpest/PPR						
Central African Republic	Bovine	Swab	6	RT-PCR[2]	0	0
	Bovine	Serum	31	C-ELISA/VNT[3]	6[4]	0
	Bovine	Serum	618	C-ELISA	1[4]	0
	Caprine	Swab	4	RT-PCR	0	4
	Caprine	Serum	9	C-ELISA/VNT	0	4
	Ovine	Serum	1	C-ELISA/VNT	0	0
	Ovine	Serum	33	C-ELISA	0	0
Kenya	Buffalo	Serum	15	C-ELISA/VNT	1[4]	0
	Desert warthog	Serum	6	C-ELISA/VNT	0	0
	Giraffe	Serum	6	C-ELISA/VNT	0	0
	Oryx	Serum	1	C-ELISA/VNT	0	0
	Wildlife	Tissue/swab	18	RT-PCR	0	0
Uganda	Bovine	Serum	78	C-ELISA[5]	26	0
	Buffalo	Serum	77	C-ELISA/VNT	0	20

[1] Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) – Département d'élevage et médecine vétérinaire

[2] Reverse transcription–polymerase chain reaction with morbillivirus, rinderpest, PPR or dolphin-specific primers

[3] Competitive enzyme-linked immunosorbent assay (C-ELISA) is based on detection of the nucleoprotein and the haemagglutinin of both viruses. These tests are confirmed by the virus neutralization test (VNT) using rinderpest and PPR virus vaccine

[4] Belong to a non-eligible age group

[5] Based on horseradish peroxidase (HRP) C-ELISA

Report from the FAO Regional Reference Laboratory for Africa and Asia for PPR, February–June 2005, by disease tested and country *(cont.)*

Country	Species	Sample	No. of samples	Test	Result	
					Rinderpest positive	PPR positive
Rinderpest/PPR/morbillivirus						
France	Dolphin	Tissue	2	RT-PCR	Negative[6]	
	Buffalo	Serum	77	C-ELISA/VNT	0	20
PPR						
Tajikistan		Tissue culture PPR vaccine	1 batch	Quality control	No	Yes

[6] Negative for rinderpest, PPR and morbillivirus

New publication

La surveillance épidémiologique en sante animale: un ouvrage pratique pour la mise en place des réseaux de surveillance épidémiologique

This manual is for epidemiosurveillance network workers. It is a practical guide to understanding epidemiology – what it is, what its objectives are and the methods for the design and implementation of an epidemiosurveillance network in the field. The large diversity of epidemiosurveillance networks available in the field is highlighted. Concrete examples, local and global, are given by their implementors.

This book can be purchased through: La librairie du CIRAD; TA 283/04; Avenue Agropolis; 34398 Montpellier Cedex 5; France. Tel.: +33 (0)4 67614417; Fax: +33 (0)4 67615547; E-mail: librairie@cirad.fr; Internet: http://www.cirad.fr/librairie

New staff

Felix Njeumi

Dr Njeumi joined the EMPRES group of the Animal Health Service as an Animal Health Officer (Disease Management) in April 2005. From Cameroon, Dr Njeumi graduated in Veterinary Science at the University of Parma, Italy, and completed his Ph.D. in Epidemiology of Mild Rinderpest for the Kenya–Somalia border at the University of Bologna, Italy. He has a strong interest in survey design, disease reporting and investigation and data analysis. During the three years prior to his appointment at FAO, Dr Njeumi worked for the Pan African programme for the Control of Epizootics (PACE) in Somalia for the final eradication of rinderpest and control of other transboundary animal diseases (TADs). Other work experience includes the University of Bologna and an emergency relief programme for the control of TADs in the Horn of Africa. His work at FAO encompasses disease management initiatives within the Animal Production and Health Division with emphasis on the final eradication of rinderpest in the Somali ecosystem, as well as coordination of the EMPRES Bulletin.

Ahmed El Idrissi

Dr El Idrissi assumed duties in the Animal Health Service as an Animal Health Officer in February 2002 under the Oil-for-Food Programme for Iraq and other emergency projects (e.g. in Afghanistan, the Horn of Africa, Kosovo, Tajikistan). Since February 2005 he has been the focal point of project OSRO/IRQ/406/UDG for the restoration of veterinary services in Iraq. The project is funded by the UN Development Group Trust Fund for Iraq. He also coordinates the implementation of country-specific projects on avian influenza in Asia. Dr El Idrissi is a veterinarian with a Ph.D. in Veterinary Microbiology from the University of Minnesota, United States of America. He is Professor at the Institut Agronomique et Vétérinaire Hassan II (Rabat, Morocco), where, before joining FAO, he served as head of the Department of Microbiology and Infectious Diseases and led several applied research activities in epidemiology and the diagnosis of animal infectious diseases, at both national and regional levels.

Stop the press

In this issue, information presented on transboundary animal disease outbreaks covers February–June 2005 and is based on data available at the time of the Bulletin's preparation. As of 31 December 2006 …

- An outbreak of classical swine fever (CSF) was reported in South Africa in July 2005, after 87 years of freedom from the disease. The disease was detected in the Eastern Cape and Western Cape Provinces. Outbreaks of CSF also occurred in Nicaragua (July 2005), Bulgaria (February–March 2006), Brazil (March–June 2006), Germany (March–May 2006), Guatemala (May 2006), Croatia (July–November 2006), Bulgaria (August 2006), Bolivia (September 2006), Ecuador (October 2006) and South Africa (December 2006).
- There were outbreaks of African swine fever in Nigeria (July 2005) and Zambia (January–February 2006).
- Highly pathogenic avian influenza (HPAI) H5N1 was further detected in the Russian Federation and Kazakhstan (July 2005) and Mongolia (August 2005, wild bird), Turkey and Croatia (October 2005) and in Iraq (February 2006), suggesting a westward spread of the virus along the pathways of migratory birds flying from Southeast Asia. After the initial confirmation, HPAI H5N1 continued to circulate in the Russian Federation (July–October 2005, February, August 2006), Croatia (October 2005 to January 2006), Romania (October 2005 to February 2006), Turkey (October 2005 to March 2006) and the Ukraine (December 2005 to June 2006), until spring 2006. The severe 2005/2006 winter may have triggered significant short-term migration, or may have initiated earlier migration. HPAI H5N1 outbreaks further spread into Western Europe: France (February 2006), Sweden (H5, March 2006), Serbia (March 2006), Germany (April 2006), Denmark (May 2006) and Hungary (June 2006), and infected wild birds were also found in many other places in Europe. From the beginning of the 2006, eight African countries started to report H5N1 outbreaks: Nigeria, Egypt, Niger (February 2006), Cameroon, the Sudan (March 2006), Côte d'Ivoire, Burkina Faso (April 2006) and Djibouti (May 2006). The infection was also reported in Israel (March 2006), Jordan (March 2006), Occupied Palestinian Territory (March–April 2006). In Asia, there have been fewer outbreaks than in 2004, but they continue to be reported: in East Asia, China (August 2005 to September 2006), the Republic of Korea (November–December 2006) and Japan (January 2007); in Southeast Asia, Cambodia (March, August 2006), Indonesia (August–December 2005, March, July, August 2006), Malaysia (February–March 2006), Myanmar (March–April 2006), Lao People's Democratic Republic (July 2006), Thailand (July–November 2005, July 2006) and Viet Nam (July, August, October 2005 to January, August, December 2006); and in South Asia, India (February–April 2006), Pakistan (February, April, July 2006) and Afghanistan (March 2006). In South Africa, HPAI H5N2 was reported in June 2006.
- An outbreak of bluetongue occurred in Spain (July–November 2005), Algeria (July–August 2006), the Netherlands (August 2006), Germany (August–September 2006), Belgium(August–November 2006), France (August–November 2006), Morocco (September–November 2006), Tunisia (October 2006), Poland (October 2006), Bulgaria (October–November 2006), Italy (October–December 2006), Israel (November 2006), Portugal (November 2006) and Luxembourg (November–December 2006).
- Foot-and-mouth disease (FMD) Asia-1 outbreaks occurred in China (July, December 2005 to September, November 2006), Mongolia (August, October 2005), Myanmar (July, December 2005), the Russian Federation (July 2005 to January 2006) and Viet Nam (October–December 2005, May 2006). FMD outbreaks of other serotypes were also reported in Turkey (Thrace region: January–June 2006, Type A) and Egypt (January–March 2006, Type A), Israel (December 2005, Type O), Occupied Palestinian Territory (February–March 2006, Type O), the Democratic Republic of the Congo (May 2005, Types SAT-1, SAT-2, SAT-3 and A; May 2006, not typed), Guinea (October–November 2006, not typed), Botswana (July–August 2005 and April–May 2006, Type SAT-2; June 2006, Type SAT-1), South Africa (July 2006, Type SAT-3), Brazil (October 2005 to April 2006, Type O), Argentina (February 2006, Type O), Ecuador (May–August 2006, Type O), Cambodia (July–August, October 2005, May–June 2006, not typed), Philippines (August, December 2005, Type O), Malaysia (July–September 2005, November–December 2005, January, March, May–June 2006, Type O; July 2005 Type A), Myanmar (July–September 2005, February–March, May 2005 to September 2006, Type O; July–November 2005, not typed), Thailand (July–September 2005, December 2005 to September 2006, Type A; July–December 2005, January, July, September 2006, Type O), Viet Nam (July–September 2005, November 2005 to April 2006, Type A; July–October 2005, January–October 2006, Type O).
- Newcastle disease was reported in Azerbaijan, Botswana, Brazil, Bulgaria, Cyprus, Denmark, the Former Yugoslav Republic Of Macedonia, France, Greece, Israel, Italy, Japan, Latvia, Mexico, Romania, Serbia, Slovakia, Sweden, Turkey, Ukraine and the United Kingdom, and lumpy skin disease occurred in Egypt (January–April 2006) and Israel (June–August 2006).
- Afghanistan (August 2005), Gabon (December 2005), Iraq (March 2006), the United Arab Emirates (October 2005) and Uzbekistan (October 2005) declared themselves "provisionally free from rinderpest".

These data have been obtained from OIE sources.

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