EMPRES
Transboundary Animal Diseases Bulletin

EMPRES e-mail: empres-livestock@fao.org – Web site: www.fao.org/empres

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INSIDE

NEW HEAD OF THE INFECTIOUS DISEASES GROUP-EMPRES

The FAO Director-General has appointed Dr Juan Lubroth, a United States citizen, as Senior Officer, Infectious Diseases Group-EMPRES. He succeeds Mark Rweyemamu, and will formally assume his duties in February 2002.

Juan Lubroth: new head of IDG-EMPRES

Juan comes to FAO by way of the United States Department of Agriculture's Plum Island Animal Disease Center, where he worked as Head of the Reagents and Vaccine Services Unit, Foreign Animal Disease Diagnostic Laboratory *(see page 15)***.**

MINISTERIAL MEETING ON FOOT-AND-MOUTH DISEASE – GLOBAL ACTION AGAINST FMD PROPOSED

FAO member countries and organizations that participated in the "Ministerial Meeting on the Experiences of FMD", held during the thirty-first session of the FAO Conference, have all lent their support to the call for a global partnership to fight the devastating effects of FMD in the world. During the Ministerial meeting, it was observed that FMD goes beyond a veterinary issue and that its negative consequences are not limited to the agriculture sector alone, but also encompass the livelihoods of rural people, as demonstrated recently by the FMD outbreak in Europe *(see page 3)***.**

FAO Plenary Hall during the Conference

COMPLICATIONS ARISING FROM THE USE OF RECOMBINANT VACCINIA VACCINES IN IMMUNOSUPPRESSED PEOPLE

Some concern about the use of recombinant vaccinia vaccines in immunosuppressed people has been brought to the fore again following the contamination of a woman from Ohio, United States, with the recombinant vaccinia-rabies glycoprotein virus *(see page 14)***.**

RINDERPEST

Rinderpest surveillance in Afghanistan and Pakistan

There is serious concern over the role that the events currently occurring in Afghanistan could have on the rinderpest situation in South Asia. Fortunately, the Global Rinderpest Eradication Programme (GREP) has been coordinating serological studies in the region over the last two years and these provide a degree of confidence that rinderpest has not been circulating in the border regions of Afghanistan and in the contiguous, ecologically related areas of Pakistan in recent years. This confirms the understanding gained from clinical surveillance.

FAO MEDIA BASE/M. GRIFFIN

Blackwater vaccination supported by FAO at Dehdadi village near Mazar-i-Sharif

With the unfolding events in Afghanistan, concern now centres on the risk of rinderpest spreading from Sindh Province in Pakistan to other unaffected parts of the country and hence to Afghanistan and elsewhere in South Asia

Concern now centres on the risk of rinderpest spreading from Sindh Province in Pakistan to other unaffected parts of the country and hence to Afghanistan and elsewhere in South Asia. Never have the countries of South Asia been so vulnerable to a resurgence of rinderpest.

In this final stage of the eradication process, all countries have ceased routine mass vaccination in favour of surveillance and elimination of residual foci of infection. The risk of spread within Pakistan and Afghanistan could originate from the movement of buffaloes and cattle for slaughter to feed troops and civilian personnel. Rinderpest could also spread through the movement of breeding stock to rehabilitate agriculture in Afghanistan as well as for development projects in Pakistan.

It is essential that everyone involved is aware of the risks and care is taken to safeguard against the spread of rinderpest through movement of livestock. Failure to do so could be disastrous, threatening not only livestock farming throughout the region, including the central Asian republics and beyond into the Near East, but ultimately threatening the whole future of GREP.

The situation highlights the urgent need to focus on rapidly eliminating the last reservoir of rinderpest in Asia, which is centred on the Indus River buffalo tract of Sindh Province in Pakistan. Only when the last reservoir has been consigned to history will the risk of rinderpest resurgence disappear.

Source of information:

Afghanistan: Dr Aggrey Majok.

TCP/AFG/065, "Progressive Control of Major Transboundary Animal Diseases in Afghanistan and Neighbouring Countries".

FAO/UNDP AFG/96/007, "Livestock Development for Food Security Programme in Afghanistan".

Pakistan: Dr Manzoor Hussain, by courtesy of the Livestock Commissioner.

TCP/PAK/8923, "Epidemiological Analysis of Rinderpest and Development of an Eradication Strategy".

FOOT-AND-MOUTH DISEASE

Ministerial meeting on FMD, FAO headquarters, Rome, 6 November 2001 – Global action against FMD proposed

FAO member countries and organizations that participated in the ''Ministerial Meeting on the Experiences of FMD'', held during the thirty-first session of the FAO Conference, have all lent their unalloyed support to the call for a global partnership to fight the devastating effects of FMD in the world. During the Ministerial meeting, it was observed that FMD goes beyond a veterinary issue and that its negative consequences are not limited to the agriculture sector alone, but also encompass the livelihoods of rural people, as demonstrated recently by the FMD outbreak in Europe.

In Europe, around four million animals were slaughtered in 2001 in order to eradicate the FMD epidemic. The impact of epidemic animal diseases on agriculture, trade and food security assumes an even greater dimension in the developing countries of Africa, Latin and South America, the Near East and South and Southeast Asia, where FMD outbreaks have been reported. Hence the need for a global approach. But a global approach also requires global partners.

The Director-General speaks

In his opening address, the FAO Director-General, Dr Jacques Diouf, stated *inter alia*, ''It is possible to drastically reduce the risk of such terrible animal diseases as FMD. For animal diseases, however, we need a system similar to the one already developed by FAO for food crops: a global information and early warning system for transboundary animal diseases that takes account of the official reporting of the Office international des épizooties (OIE) and other sources of epidemiological information on the dynamics of disease.''

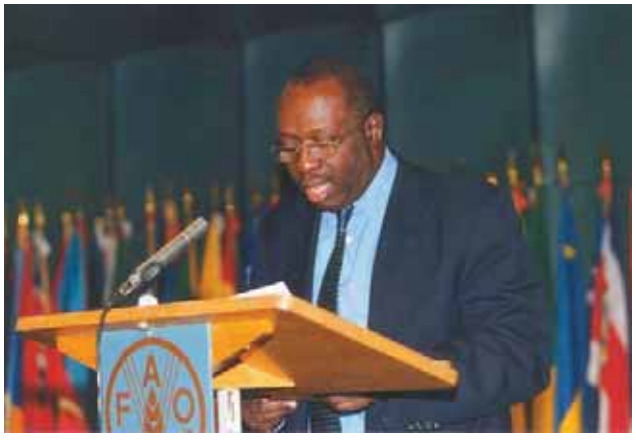
The FAO Director-General, Dr Jacques Diouf, says it is possible to reduce the risk of FMD and calls for a global information and early warning system for transboundary animal diseases

He continued, ''With increasing globalization, the potential is there that different FMD types could spread widely from their natural habitats in developing countries, unless effective control measures are put into place at source, where they are endemic.'' The Director-General further called upon the industrialized nations to give support to the developing countries in their fight against animal diseases as such support could help reduce and forestall the risk of FMD outbreaks in developed countries.

Dr Louise O. Fresco, FAO Assistant Director-General, Agriculture Department, was at hand to welcome participants, who comprised agriculture ministers and government delegates from 80 member countries.

The meeting was chaired by the Minister of Agriculture of the Netherlands, Mr L.J. Brinkhorst, assisted by the Minister of Agriculture of India, Mr Shri Ajit Singh. The keynote speakers were Mr Johan De Leeuw (Director-General of the Ministry of Agriculture of the Netherlands) and Dr Taneja (Indian Animal Husbandry Commissioner).

FAO Director-General Dr Jacques Diouf speaking during the Conference



AVENTINO PHOTOLAB ROME

The Netherlands and India recount experiences

The Director-General of the Ministry of Agriculture of the Netherlands gave a succinct analysis of the FMD situation in the Netherlands, revealing that although the 2001 epidemic was restricted to a relatively small part of the country, the Netherlands had paid a high cost, the equivalent of US$250 million, to control the outbreak. The enforcement of control measures took another US$50 million, plus over US$100 million in lost incomes to affected farmers and in other related industries. Another huge price had been paid, this time an ethical one, associated with the mass slaughter

of healthy animals that otherwise would have been ready for the trade market. In total, 26 farms were infected and 265 000 animals were killed. The strategy adopted in the Netherlands case was the stamping-out measure associated with vaccination.

The global action called upon against FMD will benefit from the positive experience of a similar FAO initiative, under the name GREP, launched in the 1980s with the declared objective of eliminating rinderpest from the world by the year 2010

The Minister of Agriculture of India spoke from the perspective of the developing countries, highlighting the threats posed by animal diseases such as FMD to the very important agriculture sector in the developing economies. These threats lower production, which inevitably leads to barrier restrictions and, as a consequence, mines the root of development. He pledged the support of his Government to the global partnership against FMD. The Indian Animal Husbandry Commissioner highlighted the difficulties encountered by the developing countries in their fight against FMD, including the economic situation (low level of investment in the livestock sector generally), lack of awareness and poor research.

In his contribution, the Director of the FAO Animal Production and Health Division, Mr S. Jutzi, spoke on ''FMD control/eradication in support of international agricultural development", throwing more light on the mechanisms of FMD, i.e. cause and effects. He further observed that the ''ease of disease spread against a background of globalization of trade, with increased mobility of people, goods and services, put the entire world at risk. It was therefore necessary to attack FMD at its source – in developing countries where the disease is endemic – and this would require a global campaign against the disease. FAO was ready and willing to provide technical assistance to an international alliance against FMD to make the world a safer place for livestock production and trade."

The global action called upon against FMD will benefit from the positive experience of a similar FAO initiative, under the name GREP. This Programme was launched in the 1980s with the declared objective of eliminating rinderpest from the world by the year 2010.

EMPRES activities

As part of the Ministerial meeting programme, there was a multimedia presentation of the activities of the Emergency Prevention System (EMPRES) for Transboundary Animal and Plant Pests and Diseases. Through EMPRES, FAO works to control and eliminate progressively epidemic livestock diseases. The call for a global information and early warning system made by the FAO Director-General is in line with the EMPRES strategy. EMPRES, to carry out its programme effectively, employs a four-pronged approach: early warning, early reaction, enabling research and coordination. To date, over 20 countries are now testing TADinfo software developed by EMPRES.

FAO Plenary Hall during the Conference

AVENTINO PHOTOLAB ROME

Rallying support

During the debate session, there were more than 20 contributions from ministers and delegates of participating member countries and organizations, including the Director-General of OIE. This showed the profound interest generated by the meeting, as was duly noted by the chairman, Mr Brinkhorst.

The Syrian Minister of Agriculture proposed that FAO serve as an information ''clearing-house", in collaboration with other international agencies (OIE, WHO) having stakes in the issue, in order to manage the huge scientific information

demands that the total fight against animal diseases such as FMD would generate. Many other speakers shared this view.

The South African Minister of Agriculture, while welcoming this FAO meeting as timely, reported what she referred to as its ''limited outlay of African experience'' and called for a special FAO initiative to document the FMD experience in Africa.

The Belgium representative, Mr Raf Bombeek, who spoke on behalf of the European Union (EU) Presidency, referred to the EU conference on FMD to be held on 12 and 13 December 2001 in Brussels. He announced that the goal of the conference, organized jointly by the United Kingdom, the Netherlands, the EU Commission and Belgium, is to make a global assessment of the situation on FMD, and that more than 20 international speakers are expected to honour the conference. The FAO Director-General is scheduled to deliver the keynote address.

Other speakers at the Ministerial meeting reported on the FMD situation in their respective countries, calling for attention at the regional as well as the national levels, to be coordinated by FAO.

The Spanish representative (Chief Veterinary Officer), who is also chairman of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD), established in 1954 with 33 member countries, thanked the organizers of the Ministerial meeting. He expressed the wish that the experiences of FAO technical units and the individual countries be taken into consideration in the fight to eradicate FMD.

Burkina Faso, Senegal, the Sudan and Swaziland all voiced their concern for the high cost and psychological (emotional) and social consequences connected with the mass slaughter of animals, calling for help from developed countries and a new assessment to determine the risks associated with vaccination and non-vaccination control options.

The Director-General of OIE, Dr Bernard Vallat, in his remarks, recalled how FAO is an OIE privileged partner, supplying expertise to member countries on animal disease control and eradication. He also stated that OIE is determined to implement the recommendations of the OIE/FAO April 2001 Paris Conference, which included:

- the updating of health standards, particularly as they relate to the criteria for ''defining an outbreak'', ''freedom from FMD'' and ''freedom from FMD infection'' status;
- strengthening international activities, through joint OIE/FAO initiatives to control and eradicate animal diseases.

Concluding, Dr Vallat called on OIE member countries for their strong support to ensure the rapid realization of these recommendations and thanked the organizers of the Ministerial meeting for the invitation extended to him.

FMD crises in the United Kingdom and their reflection on Europe

Short history note

The history of FMD in the United Kingdom (UK) dates back to 1839, when it was first detected, with stamping out as a control measure being adopted for the first time in the country in 1892 (Report of the Department Committee on FMD, London, 1952-54).

There was also a substantial outbreak of the disease in 1922, which developed into an epidemic. Over 4 000 outbreaks were recorded in the three years until 1924, and approximately 250 000 animals were slaughtered. During the period 1929-53, FMD was endemic throughout Europe and occurrences were frequent, although most were rapidly contained. FAO estimated that the direct economic losses in Europe as a result of the great epidemic of 1951/2 stood at £ stg 143 million.

In 1967-8, there was a major FMD epidemic in the UK, with a total of 2 364 recorded outbreak cases and over 400 000 animals slaughtered. After the adoption of the Northumberland Report in 1969 (and also the Report of the Committee on Foot-and-Mouth Disease), no outbreak was recorded until 1981. The latter occurred in the Isle of

Wight and was immediately eradicated without spread. The quick eradication was possible because a cattle owner promptly reported to the authorities, already alerted by meteorology-based predictions, a case of suspected FMD in his herd.

The 2001 outbreak

The outbreak recorded on 20 February 2001 was the first since 1981, and developed into epidemic proportions that had wide repercussions across Europe, with cases confirmed in the UK, France and the Netherlands. The disease was detected in an abattoir housing pigs near Brentwood in Essex and laboratory analysis confirmed it as belonging to the Pan-Asia topotype of FMDV, type O (*EMPRES Bulletin* 16/1– 2001).

According to reports from the UK Department for Environment, Food and Rural Affairs (DEFRA), the number of confirmed outbreaks in 2001 as at 30 September stood at 2 030, and since then there have been no new outbreaks. The UK authorities decided to adopt a stamping-out policy to control the spread of the disease. As at 31 October, official records showed that 3 933 000 animals had been slaughtered (including cattle, sheep, pigs, goats and deer).

No new outbreak reported since 30 September 2001. A £74 million Business Recovery Fund has been provided. Estimated compensation costs to farmers for animals slaughtered are £1 116 million, of which £961 million have been paid

To counter the effects of the consequences of the outbreak and give support to farmers who were hit hard and are still suffering, the UK Government launched a number of initiatives, among which is a Business Recovery Fund (BRF). On 18 October 2001, the Government announced an extension of £24 million, bringing the total BRF fund at disposal to £74 million. Estimated compensation costs to farmers for animals slaughtered during the epidemic are £1 116 million, of which £961 million had been paid to farmers as at 23 August 2001.

Following the outbreak, the UK Government constituted three Commissions of Inquiry:

- The "Lessons Learned" Inquiry (FMD), which is expected to make recommendations on ways of handling future animal disease outbreaks.
- The Royal Society (RS) Inquiry into Infectious Diseases in Livestock (IDL), "to review scientific questions relating to the transmission, prevention and control of epidemic outbreaks of infectious disease in livestock in Great Britain". FAO has contributed to the Inquiry, while the RS is due to present its recommendations by summer 2002.
- The Independent Policy Commission on the Future of Farming and Food, established in August. It will report back to the UK Government by 31 December 2001.

Zeroing in on the last and current major epidemic

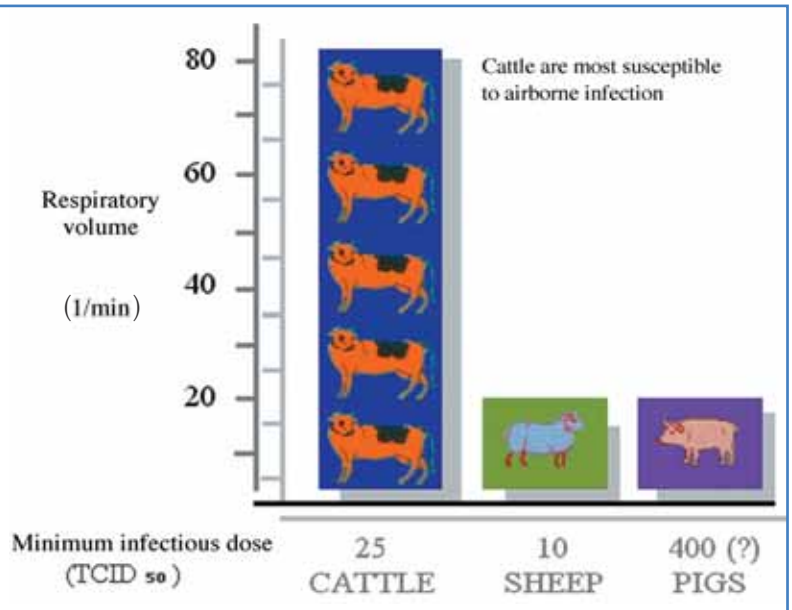
The difference between the two epidemics of 1967 and 2001 lies in a number of variables. The 1967 disease occurrence was a regional epidemic, centred on the Cheshire Plain, which had one of the highest concentrations of livestock in the world at the time. To this fact was attributed the rapid, mainly airborne, spread of the disease. The Cheshire Plain encompasses the Northwest Midlands and North Wales, where 94 percent of the total cases (2 364) were recorded; another 11 neighbouring counties were affected, but with a small number of cases.

In comparison, the current outbreak (2001) has become a national epidemic. While the number of cases reported on any one day has never risen above 50, and is therefore significantly below the peaks in 1967, the geographical dispersal of the disease across the country before the first case was diagnosed has been much more widespread.

The 2001 epidemic was characterized by the "silent" spread of subclinically infected sheep that had been moved through markets to several parts of the country

The explanation for this lies in the different ways in which the disease spread during the two epidemics. According to the Ministry of Agriculture (MAFF), the 1967 epidemic was mainly a cattle epidemic, with fewer movements, over short distances. Moreover, almost all the secondary outbreaks resulted from local spread caused by wind, birds, rodents and other fauna.

Airborne infection by species



TCID: Tissue culture infectious dose

Source: FAO/Good Emergency Management Practices (GEMP)

By contrast, the 2001 epidemic was characterized by the "silent" spread of subclinically infected sheep that had been moved through markets to several parts of the country. Such movements caused at least 92 of the cases in the current outbreak (and, in particular, the vast majority of the initial cases). Of the 1 471 infected premises identified by 25 April 2001, 1 215 had sheep, of which 236 were sheep-only premises.

Defining the source of the outbreak

The source of infection remains to be confirmed and is still being investigated – but the picture of disease spread is clear to the authorities. A farm at Heddon on the Wall, Northumberland with a licence to feed swill to pigs, is suspected. While efforts continue in order to resolve the question, it is likely that "infection spread by airborne plume from the source farm to seven other farms in Tyne and Wear" and further spread across the country through sheep sent to markets at Longtown (Cumbria), Carlisle, etc.

Echoes across Europe

After the news of the UK outbreak, both the European Community and individual member countries took measures to prevent the disease from spreading. Control measures imposed include a ban on the UK livestock export trade (i.e. of all animals susceptible to FMD disease and of associated animal products). A limited resumption of the UK's pigmeat exportation has been agreed, effective 22 October 2001; however, the go-ahead directive is restricted to certain counties of the UK that did not witness any FMD case in the current outbreak, or do not adjoin high risk areas.

Other control measures adopted by various EU countries, within the framework of European legislation, range from strict border controls to the closure of abattoirs and the banning of movement of all farm animals in Ireland. In Spain, it involved the slaughter of more than 500 pigs imported from the UK and the testing of 66 000 animals imported from France.

In France, since 13 April, no new cases have been reported after the initial two confirmed cases in March and, as a consequence, the EU has lifted export bans on French livestock. The French authorities destroyed 20 000 sheep imported from the UK and another 30 000 that had been in contact with UK animals, and are maintaining import bans from the UK, Ireland and Belgium.

In the Netherlands, 26 outbreaks were confirmed as at 13 September and 265 000 animals were killed. The authorities in the country implemented a stamping-out policy associated with vaccination. No new cases have been reported since 23 April.

Sources: www.defra.gov.uk (DEFRA, UK DCS database).
The Journal of the Ministry of Agriculture. London, June 1922.

CONTAGIOUS BOVINE PLEUROPNEUMONIA IN SOUTHERN AFRICA

Conceptualizing the Xhosa cattle-killing episode of 1856/7

Historical context

Contagious bovine pleuropneumonia (CBPP) is an insidious transboundary animal disease that was first diagnosed in Hesse, Germany in 1693. The presence of CBPP was also recorded in the United States, in Brooklyn in 1843, where it probably arrived through a vessel carrying cattle from the UK. The history of the disease spread tells of its presence in Melbourne, Australia (1859) and Tasmania and New Zealand in 1864. Both countries were declared free of the disease by 1923.

CBPP was detected in southern Africa in September 1853, at Mossel Bay, where it probably arrived through a Friesian bull imported from the Netherlands. In January 1856, the disease had spread into Transkei, located in the Eastern Cape of the ''New" South Africa. In April of the same year, the Xhosa peoples of the present-day Kentani district of Transkei started a voluntary slaughter of their cattle. It is this event, at the time unprecedented, that is commonly referred to as the ''Xhosa cattle killing" and is believed to be linked to the presence of an epizootic disease (possible CBPP). The reasons for this unique voluntary action have remained a matter of debate among many experts from a wide and varied field, such as anthropologists, agriculturists, historians and veterinarians.

In the article entitled "The first appearance of bovine pleuropneumonia in southern Africa and some of its consequences" by Robert G. Mares, which appeared in the *Journal of the World Veterinary Association*, a description of the events of 1856/7 is provided. The article reported on the high mortality rate and rapid spread of the disease in southern Africa, from its first appearance at Mossel Bay in 1853. The disease was reported at Uitenhage in March 1854, and spread to Fort Beaufort (April 1854), King William's Town (March 1855) and Butterworth across the Kei River in January 1856. The principal reason that was advanced for the high mortality rate and rapid spread was the fact that the CBPP infection occurred on a ''virgin soil''; i.e. it was the first time the local cattle were in contact with such a disease.

In 1855, *The Veterinarian*, a British veterinary journal, reported on disease outbreaks in the West Indies and at the Cape of Good Hope. In 1856, the journal reported further that the people were said to be ''suffering dreadfully'' from the ''new and unknown disease'', which they were treating with ''bleeding, purging and separation of the diseased flock''.

The young Xhosa girl, Nonggawuse

The tale, as documented by various authors such as J.B. Peires, Mostert and Aubrey Elliot, is told of the young Xhosa girl, by name Nonggawuse, who, in April 1856, reported seeing her ancestors in a dream. She recounted that the ancestors had ordered the Xhosa to kill all their cattle and that, in so doing, they would be sure of freedom from the English. After the cattle killing, new people would arrive in the country and bring cattle along with them. In her prophecy, Nonggawuse revealed that these new people would help them to be victorious over the English people.

These prophecies led to a division in the ranks of the Xhosa, between believers and non-believers. Ultimately, the believers in Nonggawuse's vision carried the day and so they proceeded to kill their cattle. Many African cattle were killed; however, not without

FAO/R. FAIDUTTI/19308

Herd of cattle returning from pasture (Rwanda)

some resistance from the non-believers. This action obviously led to much suffering and privation among the people.

Finding an answer to the episode

The question of the Xhosa cattle killing of 1856/7 remains without a definite answer. It nevertheless suggests an example of the conflict between traditional/religious beliefs and modern ideas. While the episode received frequent mention in historical and anthropological papers and journals at that time, little is observed in the veterinary literature concerning the 1850s period in South Africa.

The importance of the disease was emphasized by the conference on animal diseases in South Africa held in Cape Town in May 1904. Delegates reported both on the presence of the disease in their areas and the difficulty in getting the inhabitants to kill their cattle compulsorily, or voluntarily for the purpose of obtaining material to prepare vaccine. One of the recommendations of the Cape Town conference was that, ''where slaughter was impossible, infected animals should be branded and held in isolation until the disease died out''.

The South African historian J. B. Peires reasoned in his study that ''the form which the movement took, the killing of cattle, was suggested and determined by the lung-sickness epidemic of 1854. The epidemic spread all over Africa without producing the same effect, i.e. there was no mass slaughter of cattle anywhere else.''

Source: Gates, E.C. Draft Report of the Conference on Animal Diseases in South Africa. Cape of Good Hope.

ANIMAL DISEASE INFORMATION SYSTEMS

TADinfo

TADinfo deployment in the world

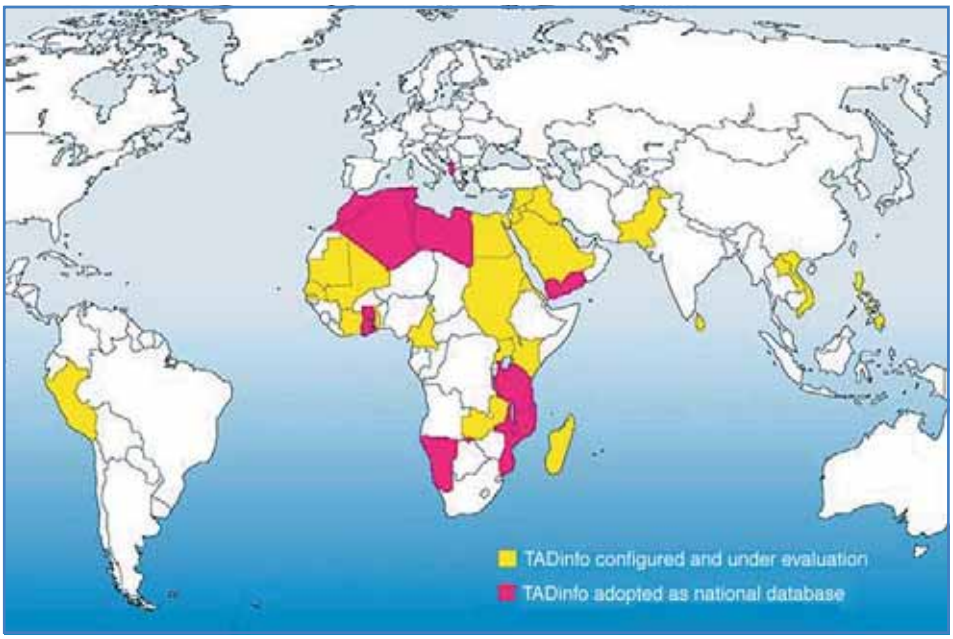
TADinfo software development started in November 1997 and the first version was installed on a trial basis in the United Republic of Tanzania in 1999. Since then, the software has been upgraded and, after five versions, it has been installed in about 38 countries. While many of these countries are still evaluating the suitability of the TADinfo software for use in their specific surveillance systems, the veterinary services of 12 countries have decided to adopt the TADinfo software as an integral and fully functional part of their national animal health information systems (see map for details).

EMPRES is committed to continuing the development, further deployment and support of TADinfo and has recently run initial and refresher training courses in Eritrea, the Syrian Arab Republic, and Tanzania. In addition, TADinfo software versions have recently been customized and deployed in Guinea-Bissau, Mali, the Philippines, Senegal and Uganda.

As detailed in a previous *EMPRES Bulletin*, work is well under way to develop the next generation of TADinfo, which will not rely on expensive software to run and can be used over a local area network. This is an aspect of functionality that has been requested by many users. As a result, it will be possible to input, edit and query data from anywhere on the network and, therefore, in countries that have a high throughput of disease reports, several data entry clerks can work at the same time. This new generation TADinfo will be available during the second quarter of 2002 and its release will also be announced in the *EMPRES Bulletin*.

The ways and means of transferring all the existing data that users may have entered in the Access version to the new Java version are also being explored. It is anticipated that a conversion program will be developed to facilitate seamless transfer between the two versions without data loss.

TADinfo use



Animal health information system in India

Epidemiological software development in India

The Animal Disease Monitoring and Surveillance (ADMAS) project in India has developed into a unique institution charged with epidemiological research. The ADMAS unit is made up of a small and highly dedicated group of individuals involved in the creation and testing of diagnostic kits for large-scale surveillance, software development and disease analysis.

Epitrak is a software program developed by ADMAS, utilizing database, GIS and statistical tools to analyse livestock disease data. It combines input modules for active and passive surveillance with output modules able to generate both tables and maps. Apart from giving standard disease/species/spatial analyses, Epitrak relates disease occurrence to soil and environmental factors. Predictive models are also included in the software. The software has been distributed widely within India and is already in use in some states.

Following a recent visit by an EMPRES epidemiologist, the ADMAS unit has embarked upon the utilization of satellite imagery in its work, and has begun to consider how economic impact data might be generated and used.

The ADMAS team working on Epitrak software

EMPRES/ ROGER PASKIN

Regional networks

Emergency preparedness in the SADC region

From 5 to 9 November 2001, FAO organized a regional workshop on livestock diseases emergency preparedness in the Tanzanian city of Arusha. Twenty epidemiologists and animal disease managers (chief veterinary officers [CVOs] and veterinary representatives) from 11 countries of the Southern African Development Community (SADC) regional organization participated in the workshop. SADC is made up of the following countries: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, the United Republic of Tanzania, Zambia and Zimbabwe.

The Arusha meeting was a follow-up to an earlier one organized by FAO in Pretoria, South Africa, on the theme "Surveillance and Early Warning" under the aegis of the same

technical cooperation programme. The objective of the Arusha workshop was to review the progress of surveillance reporting in the SADC region and to raise awareness of emergency preparedness. Dr H. Schneider, a former CVO in Namibia and currently vice-president of the World Veterinary Association, brought his wide experience to the Arusha meeting. He participated as a facilitator.

The workshop was also a good occasion to demonstrate the EMPRES CD-ROM on Good Emergency Management Practices (GEMP). The Java version of TADinfo was demonstrated, while the papers presented during the workshop will be organized on a CD-ROM for training purposes.

Early warning

Issues such as the efficacy of surveillance and the epidemiologist's place in the disease management process that were earlier addressed during the Pretoria workshop were deliberated upon. This proved to be a good opportunity at which to ascertain the disease manager's point of view and expectations on the role of the epidemiology unit.

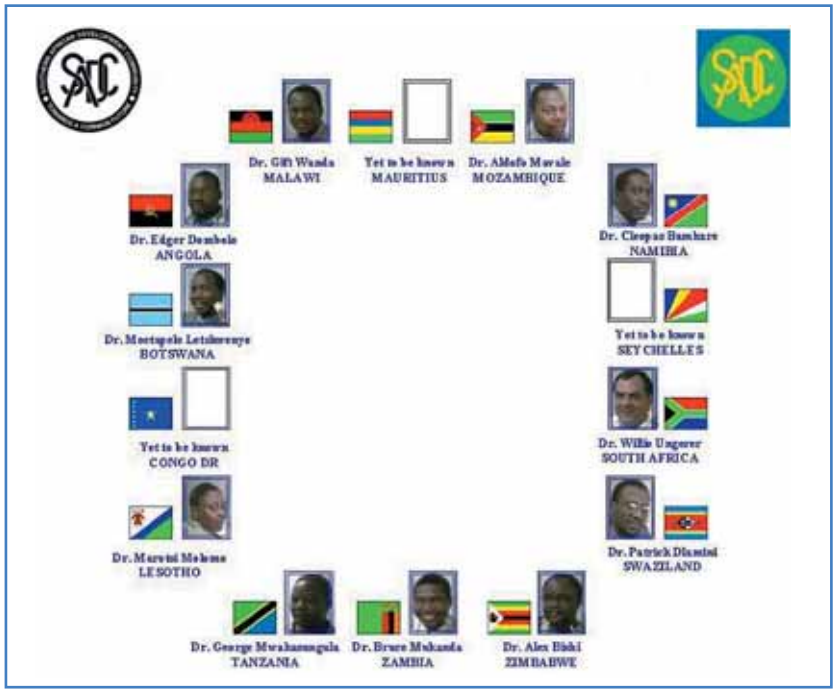
It was observed that most countries have now instituted an epidemiology unit. TADinfo software has also been deployed in a number of countries, while surveillance reporting has been enhanced.

The use of a harmonized standard disease reporting format and the target of monthly disease reporting were also discussed and recommended.

Early reaction

The experiences of Malawi and South Africa in the management of FMD disease emergencies were also presented during the workshop. Evidence-based disease management was illustrated by two examples: first, by the Botswana FMD threat originating from Zimbabwe and second, the United Republic of Tanzania's handling of CBPP occurrence.

The format and contents of a common national epidemic disease contingency plan, as outlined by FAO, were discussed in group meetings, while a simulation exercise offered a practical approach to issues that had been highlighted earlier. The simulation exercise emphasized the need for a pre-organized emergency preparedness plan.



BRUCE MUKANDA

SADC livestock sector national veterinary epidemiologists: the SADC Early Warning Network for Transboundary Animal Diseases

Similarly, the importance of laboratory use in the analysis and confirmation of diseases was stressed, as was the importance of the other stakeholders, for example, private veterinary practitioners.

To enhance the harmonization of animal disease control in the SADC region, agreement was reached both on the use of a common emergency preparedness approach and on the use of a standard contingency plan format in all the SADC countries.

While the FMD threat in the SADC region seems to have stabilized and be under control, the CBPP threat in the United Republic of Tanzania is alarming, and almost the whole country is affected. Currently there are confirmed cases of CBPP in 53 out of 114 districts in the

EMPRES/GUILLAUME GERBIER

Arusha workshop participants

country. With this situation, the Tanzanian epidemiologists have called for the granting of a quarantine status to their country, coupled with the free delivery of vaccines.

The Arusha meeting brings the number of FAO-organized workshops in the SADC region under the regional technical cooperation projects (TCPs) to two, while other projects have been implemented under national TCPs. At the end of the Arusha workshop, a call for help was made to FAO by the participants, who strongly sought a follow-up to this current regional project.

From the foregoing, it is considered pertinent to maintain this regional approach, particularly now that a regional spirit among participants has been ignited and seems to be glowing. If there were any need for proof, the CBPP threat in the United Republic of Tanzania has illustrated the necessity for closer cooperation and the strengthening of the quality of surveillance.

COMMUNICATIONS

Complications arising from the use of recombinant vaccinia vaccines in immunosuppressed people

Some concern about the use of recombinant vaccinia vaccines in immunosuppressed people has been brought to the fore again following the contamination of a woman from Ohio, United States, with the recombinant vaccinia-rabies glycoprotein virus.

Cross-infection in humans

This incident occurred in September 2000 and involved a 28-year-old pregnant woman from Ohio, who was bitten while attempting to remove from her dog's mouth bait containing oral rabies vaccines, meant for racoons. As a result of the bite, the woman sustained mild abrasions on her forearm and a puncture wound that developed into cellulitis of her arm for which she was hospitalized. During her hospitalization, she underwent treatments for necrotic lesions, adenopathy, abscess and a generalized erythroderma with exfoliation. Medical examinations confirmed that the infection was linked to the vaccinia-rabies virus. It took one month of medical treatment before she fully recovered, without any hindrance to her pregnancy. She duly delivered in March 2001.

Another documented incident occurred in May 1984, and involved an asymptomatic HIV-infected United States soldier. Upon enlistment in the military, the patient was administered vaccines which included the following: adenoviruses 4 and 7, measles, bivalent influenza, diphtheria, rubella, trivalent poliomyelitis, tetravalent meningococcus and tetanus. All these vaccines were administered within the first three days of his basic military training, followed by a primary smallpox vaccination at the end of the first week (8 May).

Two and a half weeks after the smallpox vaccination, the patient developed fever, headache, neck stiffness and night sweats. A further one and a half weeks later, after hospitalization for treatment of (cryptococcal) meningitis, the patient was diagnosed to be HIV-positive. While under treatment for meningitis, he developed an ulcer at the (smallpox) vaccination site, with ulcerated lesions nearby. Further complications resulted in pustular lesions on the patient's buttocks and legs, while a skin biopsy revealed acanthosis with degenerative effects of the lower half of the epidermis. Medical examinations showed evidence of vaccinia in the skin lesions. The patient underwent medical treatment for over three months, recovering from some of the infections, such as oral candidiasis and cutaneous anergy. However, the patient eventually, died in December 1985, owing to further complications of his illness caused by T-cell dysfunction.

Managing vaccination

The two incidents recounted above bring to the fore the potential risk of using recombinant vaccinia vaccines.

In the specific case of the oral rabies vaccines, contained in baits, it is considered that continuous training of personnel in the strategic placement of baits to minimize contact with humans and pets is necessary to avoid complications. Such good sensitization efforts are considered of utmost importance in any successful vaccination programme and should embrace both the public and professionals.

Along this line, what would be the adequate strategy for the use of other recombinant vaccinia vaccines, such as the one developed to control rinderpest in Africa, where many people are known to be immunosuppressed as a result of the HIV epidemic?

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NEWS

New head of the Infectious Diseases Group-EMPRES

Enter Juan Lubroth

The FAO Director-General has appointed Dr Juan Lubroth, a United States citizen of Spanish origin, as Senior Officer, Infectious Diseases Group-EMPRES. He succeeds Mark Rweyemamu, and will formally assume his duties in February 2002.

EMPRES/VICENT MARTIN

Juan Lubroth: new head of IDG-EMPRES

Juan comes to FAO by way of the United States Department of Agriculture's Plum Island Animal Disease Center, where he worked as Head of the Reagents and Vaccine Services Unit, Foreign Animal Disease Diagnostic Laboratory, until his FAO appointment. He was born and raised in Spain before going to the United States for his biology and veterinary medical degrees. He was first employed at the University of Georgia (United States) as a wildlife biologist and wildlife veterinarian focusing on infectious diseases and population health. His first stint with the Plum Island institute was as an extern in veterinary pathology and later as veterinary medical officer in the diagnostic section, where he worked on foot-and-mouth disease, vesicular stomatitis, African horsesickness, rinderpest, and classical and African swine fever. He has lived in Haiti, Mexico and Brazil and has worked in field and in laboratory settings extensively throughout Latin America, northern Africa, the Near East and in various Asian countries.

Dr Lubroth has two postgraduate degrees: in medical microbiology (University of Georgia) and a doctorate in epidemiology and public health (Yale University, United States). He also holds a diploma from the American College of Veterinary Preventive Medicine.

New Web site on FMD

A new Web site on FMD has recently been launched. The site can be found at the following address: www.queesaftosa.com, and is hosted by e-campo.com. It contains information on FMD worldwide.

E-campo is a modern portal that specializes in the agricultural industry, where farm owners, professionals, businesses, associations and students all collaborate to ensure an excellent service. It provides up-to-date information on markets, weather, agriculture-related news and information, new technologies, and the latest products and services available. E-campo intends eventually to enter the e-commerce market.

Introduction of new staff

Guillaume Gerbier

Guillaume GERBIER joined the EMPRES team (Early Reaction) in September 2001 as a short-term officer. He graduated as a veterinarian in France and holds a Ph.D. in veterinary

public health. He spent seven years in the French Agency for Food Safety (AFSSA, former CNEVA) studying epidemiology and biostatistics, where the main research fields have been FMD, brucellosis and epidemiosurveillance networks. Within the EMPRES group, he is currently developing computer tools, which will be used as sensitization tools to demonstrate the link between early warning and early reaction for the control of transboundary animal diseases. He is also working on risk evaluation of disease spread in the Near East region.

Rupert Holmes

Rupert HOLMES joined the EMPRES team (Early Warning) in September 2001 as a short-term officer, having spent several years working in Viet Nam and Nepal. He is a UK veterinarian with a special interest in veterinary epidemiology, especially livestock disease surveillance. Part of his work in Viet Nam involved the development of an animal heath information system for which he recommended the adoption of FAO's software for transboundary diseases, TADinfo. This was further adapted and translated into Vietnamese and is currently undergoing widespread testing within the country. He is now involved in early warning within the EMPRES team and is advising on the development of the new version of TADinfo, utilizing his experience as an end user. In addition, he is also jointly responsible for the deployment of TADinfo to member countries and is involved with training in disease surveillance and TADinfo use.

Chidi Uzoma

Chidi UZOMA joined the EMPRES team in September 2001 as a writer for the *EMPRES Bulletin*. He is assisting the *EMPRES Bulletin* editor in compiling articles of topical interest in the field of transboundary animal diseases. He is a Nigerian architect by training and has been writing for a number of publications over the last ten years.

CONTRIBUTIONS FROM FAO REFERENCE LABORATORIES AND COLLABORATING CENTRES

Reports from FAO/OIE World Reference Laboratory for FMD, Pirbright, UK

(1) January to March 2001

COUNTRY	SPECIES	TYPE
Afghanistan	Bovine	Asia 1
Armenia	Bovine	A
Bahrain	Bovine	O
Georgia	Bovine	O, Asia 1
Hong Kong SAR	Porcine	O
Iraq	Bovine	O
Ireland	Ovine	O
Mauritania	Caprine	O
Portugal	Unknown	NVD
Russian Federation	Porcine	O
Saudi Arabia	Bovine	O
Senegal	Bovine	O
Uganda	Bovine	NVD
United Arab Emirates	Bovine	O
United Kingdom	Porcine/Bovine/Ovine/ Caprine	O
Uruguay	Bovine	O

(2) April to June 2001

COUNTRY	SPECIES	TYPE
Argentina	Bovine	A
Bahrain	Bovine/Oryx	O
France	Unknown	O
Hong Kong SAR	Porcine	O
Ireland	Porcine/Ovine/Bovine	NVD
Malaysia	Bovine	O
Oman	Bovine/Caprine	O
Qatar	Bovine	O
Saudi Arabia	Bovine	O
Uganda	Unknown	O
United Kingdom	Bovine/Caprine/Ovine/Porcine	O

NVD: no virus detected

NEWS@RADISCON

Radiscon Regional Animal Disease Surveillance and Control Network

RADISCON phase two project presented to donors

RADISCON, which stands for "Regional Animal Disease Surveillance and Control Network", is an integrated national and international veterinary information system and has 29 participating countries. Recently, it concluded the implementation of its phase one programme, while a project proposal for the second phase has been presented to potential donors.

RADISCON, as a veterinary information system, was conceived to inform, above all, the (national/regional) veterinary authorities about the zoosanitary situations prevailing in their countries, so as to enable them to manage accordingly any eventualities that might arise.

It issues two disease outbreak reports: the RADISCON Disease Outbreak Report (RADDOR) serves national databases, while the Monthly Recapitulation Report (RADM) serves the regional database, and can also be used to provide useful information to OIE.

RADISCON phase one

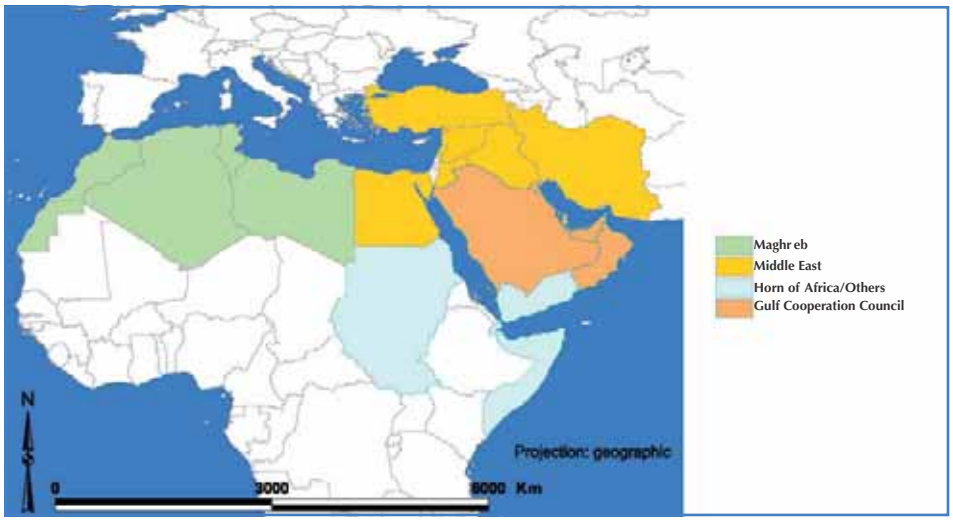
The RADISCON phase one project became operational in June 1996, with a planned duration of five years and an estimated budget of US$1 400 000. In the project activities, an allowance of US$250 000 was made for a pilot project on sheep pox eradication, to be implemented in the four Maghreb countries. Through the RADISCON phase one project, four major clusters in the region, linked by trade, were identified, with different geographical and epidemiological situations: the Maghreb and Sahel; the Middle East; the Gulf Cooperation Council (GCC); and the Horn of Africa.

Employing a practical approach, the programme focused on the surveillance and control of the most important diseases identified in each cluster.

The diseases identified by the project in the three clusters of the Middle East, the GCC and the Horn of Africa were FMD, rinderpest, peste des petits ruminants and brucellosis. Peste des petits ruminants, sheep pox and brucellosis were identified in the Maghreb and Sahel cluster.

The Middle East cluster comprises the following countries: Egypt, Iraq, the Islamic

Radiscon II clusters



Republic of Iran, Israel, Jordan, Lebanon, Palestine, the Syrian Arab Republic and Turkey. The Maghreb and Sahel cluster is made up of: Algeria, Chad, the Libyan Arab Jamahiriya, Mali, Mauritania, Morocco, the Niger and Tunisia. The Gulf Cooperation Council cluster comprises: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates; and the Horn of Africa cluster: Djibouti, Eritrea, Ethiopia, Somalia, the Sudan and Yemen.

The RADISCON phase one project emphasized surveillance. The specific objectives of the programme were, among others, to furnish the national veterinary services with equipment, ensure personnel training and encourage exchange of information among the 29 participating countries. Thus, computers (and software) were purchased and distributed, including some other computers donated by FAO. Over 500 people from the 29 countries received training in animal disease surveillance systems data collection and processing.

The essence of the personnel training was to enhance the participants' knowledge in the application of appropriate epidemiological methods for the analysis and investigation of animal disease occurrence. The training also served to initiate participants into database management and the use of epidemiological software, such as Handi-status, Epi-info, Epi-map and the TADinfo software developed by FAO.

RADISCON phase two

The RADISCON phase two project is intended to strengthen and build on the programme achievements obtained under phase one. The number of countries divided into four clusters has been reduced from 29 to 21 in this new project proposal; the countries of the Sahel region are not included in the second RADISCON project because they are part of another programme, the Pan African Programme for the Control of Epizootics (PACE).

The estimated budget for the three-year project is US$2 000 000; in addition, about US$24 714 900 will be the contribution in kind by the 21 participating countries. The phase two project will essentially contribute to increasing both the volume and safety of animal production and trade, through the strengthening of regional collaboration in risk-based surveillance of major diseases.

In synthesis, the phase two project hopes to achieve five principal objectives:

- harmonize disease data collection, processing and GIS-based analysis;
- consolidate networking in and among the participating countries;
- introduce the concept of risk-based surveillance and early warning;
- enhance the transparency and mutual confidence in disease information;
- develop standardized decision-support systems that will guarantee coordinated disease control by all the countries.

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