REPORT

# EXECUTIVE COMMITTEE

## OF THE EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE

**Sixty-fourth Session**

**BOUILLON**

**Belgium**

**30 and 31 March**

**2000**

Food and Agriculture Organization of the United Nations

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# EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2000

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## INTRODUCTION

The Executive Committee of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD) held its Sixty-fourth Session at Rochehaut, Bouillon, on 30 and 31 March 2000.

**Members of the Committee present:**

Dr R. Marabelli, Italy, Chairman
Dr L. Celeda, Czech Republic, First Vice-Chairman
Dr W. Zwingmann, Germany, Second Vice-Chairman
Dr E. Liven, Norway
Dr T. Balint, Hungary
Dr D. Panagiotatos, Greece
Dr L. Hallet, Belgium

**Observers**

**Chairman of the Research Group**
Dr K. De Clercq, CODA-CERVA-VAR, Ukkel, Belgium

**WRL**
Dr A.I. Donaldson, Head of Laboratory, Pirbright, UK

**EC**
Dr B. van Goethem, Head E2 unit , EC, Brussels Belgium
Dr Alf-Eckbert Füssel, E2 Unit, EC, Brussels, Belgium

**OIE**
Dr J.E. Pearson, Paris, France

**FAO**
Dr Y. Cheneau, Chief, Animal Health Service, AGA, Rome, Italy

**Belgium**
Dr J.P. Vermeersch, Administration de la Santé animale et de la Qualité des produits animaux (DG5), Ministère des Classes Moyennes et de l'Agriculture
Dr J. Dufey, Administration de la Santé animale et de la Qualité des produits animaux Ministère des Classes Moyennes et de l'Agriculture

**Turkey**
Dr S. Aktas, FMD Institute/SAP Enst. Ankara

**Federation of Russia**
Dr V.M. Avilov, Chief, Main Veterinary Department
Ministry of Agriculture and Food
Prof. A.A. Gusev, Director, ARRIAH, Vladimir

**Secretariat**
Dr Y. Leforban, Secretary, EUFMD, FAO, Rome
Dr J. Ryan, Associate Professional Officer, EUFMD, FAO, Rome
Ms J. Raftery, Administrative Assistant, EUFMD, FAO, Rome

On behalf of the Belgian Government, Dr L. Hallet welcomed the participants . He said that it was an honour and a great pleasure for his Government to host the 64th Session of the Executive Committee of the European Commission for the Control of Foot-and-Mouth Disease. Following the example of Dr Panagiotatos who had organized the 63rd Session of the Committee in a quiet picturesque corner of Greece, as a venue for the meeting Dr Hallet had chosen Rochehaut, a charming country area in the Province of Luxembourg, far from Brussels. He hoped that the Committee would appreciate his choice and that the hotel, which had been chosen for the meeting, would prove to be both suitable for and conducive to fruitful discussions.

Belgium, situated as it is at the crossroads of Europe, has always been very concerned about the control of FMD. It is now ten years since the EU decided to open the frontiers to establish the "grand marché". At the same time it was decided to stop systematic vaccination of cattle. Belgium had not been in favour of this decision.

Ten years have passed; the incidents, which have occurred during this period, have been limited. Nevertheless, now more than ever, it is important to remain vigilant in order to prevent the reappearance of an epizootic. This threat remains permanent.

In Belgium we always ask ourselves: "do we have the means to combat FMD in case of an outbreak? particularly in respect of the capacity to destroy the carcasses?"; for this reason we rely heavily on the work of this Commission and in particular on the dynamism of our Secretary, Dr Leforban, and his collaborators whom I wish to thank for all their work; the action they carry out in the countries at risk is of paramount importance.

He concluded by wishing the participants an enjoyable stay in the Belgian Ardennes and expressed the hope that the weather would improve and the rain would not last too long.

Before presenting the Agenda, the Chairman, Dr Marabelli, expressed his pleasure at being in Belgium. He thanked Dr Hallet and the Belgian Government for having agreed to organize and host the meeting and provide interpretation facilities in the two working languages of the Commission (English/French). He welcomed the Committee members, the representatives of FAO, EC and OIE, the Chairman of the Research Group, the representative of the WRL, and the observers from Belgium, Turkey, and the Federation of Russia (Appendix 14). He also welcomed the secretariat.

The Chairman informed the Committee and the observers that the working documents had been sent out by DHL. He underlined the heavy agenda facing the meeting and he invited the Committee to adopt the Agenda.

**Item 1 – Adoption of the Agenda**
The following Agenda was proposed to and adopted by the meeting:

**Item 1. Adoption of the Agenda.**
**Item 2. FMD situation**
-FMD situation in Europe and in other regions
-Update of the situation in North Africa
-Update from the WRL
**Item 3. Report on the FMD situation and control programme in Turkey:**
-Report of Turkey
-Update from the WRL
-FAO sponsored activities in Turkey and Iran
-FMD control measures sponsored by EU
**Item 4. Situation in CIS countries:**
-Report of Russia
-Report of the Tripartite Group Meeting of 14 February 2000 at FAO HQ in Rome
-Letter of Agreement (LOA) between FAO and ARRIAH, Vladimir: review of the final technical and financial reports for 1999 and of the proposal for the new LOA for 2000
**Item 5. Report on the activities of the Research Group**
-Report of the regional Workshop on 3ABC Elisa, Brescia, 18 to 21 January 2000
-Report of the Working Group on the European Pharmacopoeia
-Session of the Research Group in Borovets, Bulgaria, 5-8 September 2000
**Item 6. Financial matters-**
-Accounts 1999 (as at 31 December 1999) and provisional budgets 2000 and 2001
-Report on the FAO/EC meeting held in Rome on 25 February 2000 on the utilisation of Trust Fund MTF/INT/OO3/EEC (TFEU970089129)
**Item 7. Any other business:**
-follow up of the proposal of the 63rd Session of the Executive Committee regarding reinforcementof the surveillance of exotic diseases in Balkan countries,
-34th Session of the Commission and 65th Session of the Executive Committee (dates/venue)
-other
**Item 8. Adoption of the draft report.**
-Cosing remarks

**Item 2 - FMD situation**

FMD situation in Europe and in other regions

Dr. John Ryan presented a paper and maps (Appendix 1) on the situation of FMD in Europe and other regions in 1999 and for the first quarter of 2000. In his presentation he outlined that no outbreaks of foot-and-mouth disease (FMD) had occurred in Europe since the end of November 1996.

He continued by reporting that up to 31 December 1999, 61 countries had officially reported outbreaks of FMD to the OIE, WRL or FAO. Serotype O was reported in 50 countries, A in 17 countries, Asia 1 in 6 countries, SAT 1 in 5 countries, SAT 2 in 6 countries, SAT 3 in 1 country and there were no reported outbreaks of type C in 1999. He explained that due to the delays involved in receiving official reports, he had limited

information to offer for 2000, as only 8 countries had officially reported outbreaks. Up to 30 March 2000 outbreaks of FMD serotype O had occurred in Cambodia, Malaysia, Japan, South Korea, Taiwan, Province of China, and Turkey and outbreaks of FMD serotype A had occurred in Iraq and Peru.

FMD remained endemic throughout the Middle East in 1999 with type O outbreaks occurring in all countries. He reported that another antigenically distinct type A virus (A/Iran/99) affected Iran and Turkey in 1999 and that this virus was significantly different to the A/Iran/96 virus and the A/Mahmatli vaccine strain. Iran and Turkey were also affected by outbreaks of Asia 1 for the first time since 1991 in 1999. He also stated that there were official reports of FMD in 1999 from the following CIS countries Georgia (A), Kazakhstan (O), Kyrgyzstan (O) and Turkmenistan(O). He continued by reporting that Turkey had outbreaks of type O in January 2000, and that type A was isolated by the WRL in February 2000 from samples received from northern Iraq. The virus in Iraq was analagous to the A/Iran/96 topotype.

He reported that FMD remained endemic in 1999 throughout much of West, Central and East Africa with serotype O predominating in West Africa and with a large variety of serotypes affecting East Africa including O, A, SAT 1 and SAT2. In southern Africa, Zimbabwe reported an outbreak of the Serotype SAT 3 within its FMD Control Zone. This was the only report of this serotype world-wide in 1999, but Zimbabwe also reported outbreaks of SAT 1. He also stated that many countries in West and sub-Saharan Africa did not report the serotype of FMD outbreaks.

FMD also remained endemic in much of Eastern, Southern and Southeast Asia in 1999 with serotype O occurring in all countries in the region. Serotype A affected Bangladesh, India, Malaysia, Myanmar, Nepal, Pakistan and Thailand in 1999, while serotype Asia 1 affected India, Laos, Malaysia and Myanmar. China resumed official reporting to the OIE after a lapse of some years and reported Serotype O in cattle and pigs in the provinces of Fujian, Hainan and Tibet in 1999. Taiwan, Province of China, reported type O outbreaks in February and March 2000. There was one outbreak in cattle and two outbreaks in goats in early 2000. The strain was significantly different to O/Taiwan/97 pig adapted strain. In March 2000, both Japan and Republic of Korea reported outbreaks of FMD type O in cattle. This was a very unfortunate event as Japan had been free of FMD since 1908 and South Korea had been free of the disease since 1934.

Regarding South America, he reported that Argentina, Chile, Paraguay and Uruguay remained FMD free, while Peru reported its first outbreak (type A) since April 1997 in 1999 and was the first country in South America to report outbreaks in January 2000, the serotype was again type A. Bolivia, Brazil, Colombia and Ecuador reported type O outbreaks in 1999. Bolivia, Brazil, Colombia, Peru and Venezuela reported outbreaks of type A in 1999.

Update of the situation in North Africa

Dr Leforban presented the final report of the 1999 epizootic in North Africa and proposals for a regional programme for the control of FMD in the Maghreb countries (Appendix 2). This presentation was based on information and proposals generated at an

FAO regional meeting held in Tunis on 17-18 January 2000. This meeting was organised by FAO to discuss the second phase of the FAO RADISCON (Regional Animal Diseases Surveillance and Control Wokshop) and the regional approach to the control of FMD in the Maghreb countries. Four countries, Algeria, Morocco, Tunisia and Lybia were represented and they strongly advocated a Regional Project for FMD control in the region. FAO is currently considering their request and a regional program for FMD control is under preparation which will be submitted to EU for funding.

This program will include annual vaccination of cattle for 3 years in all 4 countries of the Mediterranean Maghreb and the reinforcement of surveillance measures and diagnosis capabilities. At the end of the three year period the possibility to stop preventive vaccination in certain countries of the west of the region could be considered.

A Technical Co-operation Project (TCP) is currently being implemented in Algeria. As part of this TCP, an international expert visited the country to help them in developing their capacity to respond to disease emergencies.Assistance has also been given to equip a P3 laboratory in Tizi Ouzou and to establish two surveillance stations with laboratories in the south of the country. Dr. Leforban also attended a workshop on FMD surveillance organised in Algiers in the framework of this TCP in November 1999.

Update from the WRL

Dr. Donaldson reported on the work carried out at the WRL in 1999-2000, and particularly on the characterisation of FMD isolates ( Appendix 3). He reported that Lebanon submitted samples from 1999 to the WRL in January 2000 that were positive for FMD type O. He continued by reporting that samples from Cambodia and Taiwan, Province of China, tested positive for FMD type O in February 2000, and that in the same month, samples from Iraq tested positive for FMD type A and that the virus isolated was analogous to the A/Iran/96 topotype. Samples from Malaysia tested positive for FMD type O in March.

Dr. Donaldson proceeded to inform the meeting that the virus responsible for the outbreaks on Kinmen island – Taiwan Province of China – in 1999 was analogous to the India-90 lineage of the South Asian topotype of FMD type O. This virus topotype was responsible for many outbreaks over the last decade, starting in India in 1990 and spreading eastward to Malaysia by 1995 and westward to affect Bulgaria, Greece and Turkey by 1996. This topotype was responsible for many outbreaks across the Middle East from 1995 to 1999 - including the episode in Iraq in 1999 where it demonstrated high mortality in young lambs and a low virulence for cattle - and then re-emerged in South East Asia in 1999 causing outbreaks in Taiwan, Province of China, China, Thailand and Vietnam. Continuing this trend the topotype was also responsible for the outbreaks in Cambodia and Malaysia in 2000. Based on this wide distribution, Dr. Donaldson considered this to have been a pandemic strain of FMD type O.

He continued by supplying details of the very recent outbreaks in Japan and South Korea as reported by the OIE on 23 and 24 March. In Japan there was an outbreak of FMD type O in Miyazki city, Miyazaki Prefecture,affecting feeder cattle. All 10 animals on the farm were affected and subsequently destroyed. Control measures

included intensive surveillance and movement controls. In South Korea, there was an outbreak of FMD type O in Papyung county, Paju city, Kyunggi Province, affecting all 12 milking cows and 3 calves on the farm. All the affected animals were destroyed.

***Discussion***

In response to a question from Dr. Pearson about the current distribution of the pig-adapted type O strain that had such a large impact on Taiwan in 1997, Dr. Donaldson replied that this strain did not dissappear and that it continued to cause outbreaks in Vietnam and Cambodia in 1999. He continued by outlining that there were currently 3 different topotypes of type O circulating in South-East Asia: the pig-adapted type O from Taiwan in 1997, the India-90 lineage South Asian
Topotype - the pandemic strain – and another strain that was affecting cattle in Vietnam and other regions.

In response to Dr. Hallet's question on the role of small ruminants in the epidemiology of FMD in North Africa, Dr. Leforban stated that progress had been made in better understanding how the virus circulates. He reported that serological surveys using the NSP ELISA test had demonstrated clearly in Morocco that the virus does circulate sub-clinically in small ruminants after outbreaks but only in a limited area around clinical cases in cattle. He further stated that the significance of this sub-clinical circulation of virus was not clear as there is no historical case documented where this has led to the re-occurrence of outbreaks.

Continuing this point Dr. Donaldson reported that preliminary studies in the WRL indicated that the infection may be self-limiting in sheep and reported that experiences in Greece and in Uruguay would appear to support that hypothesis. He also cautioned that further studies were required and that it would be extremely dangerous to act on the basis of these preliminary results.

Dr. De Clercq added that there were further dangers with extrapolating from the current evidence due to the fact that the impact of FMD can be much more severe in sheep flocks during the lambing season, and added that the vaccination programmes in the Maghreb countries may wish to take this danger into account.

Dr. Donaldson commented further on Dr. Leforban's presentation by urging the Commission to support better co-operation on FMD control in the Maghreb through a regional approach. He also expressed reservations about that the fact that the regional plan appeared to focus too heavily on preventative vaccination, and ignored the epidemiological evidence that all recent outbreaks were due to introductions of virus through the importation of live animals. He suggested that much greater emphasis should be put on movement controls to prevent virus introduction.

Dr. De Clercq stressed the need for more active clinical surveillance as part of the plan. He also suggested greater serological surveillance due to the high prevalence of sheep pox in the region and the risks of confusing FMD and Sheep Pox on clinical examination.

In response to Dr. Füssel's question, Dr. Donaldson commented that a possible reason for such wide spread of the South Asian topotype was the significant exportation of buffalo meat from India to South East Asia and the Gulf States. He also regretted that there was incomplete submission of samples from many other countries in the region especially the CIS countries of Central Asia.

Dr. Cheneau asked the Russian delegation if they had any insight on the situation in the Central Asian republics and more specifically why samples were not being submitted from these countries to the WRL. Dr. Gusev replied that it was difficult to get official information from these countries and that they do not submit samples regularly to ARRIAH, thus all the information that they get from these countries is of an informal nature. He also stated that it was not as difficult to get samples from the Caucasian countries, and that strain characterisation by nucleotide sequencing at ARRIAH indicated that the type A virus which had affected Georgia in 1999 was analagous to A/Iran/96.

Dr. Celeda noted that much of the epidemiological information from the Caucasian countries was based on serological samples and not on the submission of samples from lesions or probangs.

*Conclusions and Recommendations*

1. **The Commission noted the deteriorating FMD situation in Asia and recommended that all member countries should learn from the recent experiences of Japan and the Republic of Korea with type O and of Iran and Turkey with types A and Asia 1 and strengthen their preparedness and awareness of the risks of FMD.**

2. **Regional co-operation is essential for improving the FMD status of North Africa which is considered as an important protection zone for Europe. Therefore, the Commission encourages the establishment of a regional commission for disease control in the region.**

3. **The Committee recommended that the regional FMD project for Maghreb should be supported.**

4. **More research is needed to clarify the role of small ruminants in maintaining the circulation of virus and to clarify the optimal vaccination strategy in small ruminants in North Africa.**

5. **The Commission noted that many countries with FMD do not submit samples to the WRL for virus typing. The Commission strongly recommends that all countries including the CIS countries should submit samples to the WRL for sequencing so that a more accurate picture of the evolution and circulation of virus strains can be obtained.**

**Item 3 - Report on the FMD situation and control programme in Turkey**

Report of Turkey

Dr Aktas reported on the current situation in Turkey where type O, both type A's (A/Iran/96 and A/Iran/99) and Asia 1 were all reported in 1999 (Appendix 4). There have been 10 outbreaks of type O in 2000 so far, but because of the very severe winter the overall number of outbreaks are low. It might be expected that Turkey will experience further outbreaks of type A and Asia 1 later this year when the weather improves.

The overall levels of vaccination coverage in Turkey were low in 1999 as the SAP Institute was not in production for 7 months due to renovations when new air conditioning and air filtration was installed. This was made possible due to the fact that farmers now must pay for the FMD vaccine and this extra income stream can be used by SAP for improvements.

Update from the WRL

Dr. Donaldson presented the results of the WRL work on samples from the region in 1999 (Appendix 5). He reported that a new antigenically distinct type A (A/Iran/99) had emerged in Iran in 1999 and had spread to Turkey. He also noted that the previous strain - A/Iran/96 - was still circulating in the region and was the cause of outbreaks in Northern Iraq in 2000. He also reported that the Asia 1 strain that was reintroduced to the region in 2000 was most closely related to Asia 1 strains circulating in Pakistan in 1998. He finished by stressing that this situation in Turkey represented the greatest threat to Europe.

FAO-sponsored activities in Turkey and Iran

Dr Ryan reported on the FAO Technical Co-operation Project for reinforcement of FMD control in Turkey and Iran ( Appendix 6) . The project includes the following components:

- international expertise to assist the FMD institutes in Ankara and in Teheran,
- partnership and co-operation between the two institutes and governments in FMD surveillance, vaccine production and overall disease control,
- training in international centres of excellence,
- provision of equipment and reagents.

The overall objective of the project is the strengthening of the Institutes to react promptly to the introduction of new FMD strains and to reinforce their surveillance systems.

The project has progressed well so far and the 4-week mission of the International Consultant was very successful in assessing the current situation in both countries and developing the necessary co-operation between both parties. The mission also resulted in a list of strategic priorities for both countries to pursue:

-improving the quality of the nationally manufactured FMD vaccine by:

-ensuring that viral strains relevant to the current and evolving field situation are used;
-ensuring vaccine innocuity;
-ensuring vaccine potency of at least 3 PD50 by challenge testing in cattle;the installation -of independent quality assurance testing as soon as possible;
-accelerating the introduction of oil adjuvanted FMD vaccine

-increasing the availability of FMD vaccines of adequate quality
-increasing active epidemiological surveillance
-extension of the ongoing animal identification programme
-strengthening of measures for the control of animal movement

***Discussion***

In response to a question from Dr. Leforban about control of FMD vaccine in Turkey, Dr. Aktas explained that the move to independent testing of the final vaccine was almost completed and that this testing would take place in the Bornova facility, Izmir, by the end of 2000.

In response to a question from Dr. Ryan, Dr. Aktas outlined the vaccination strategy for 2000. The western zone including Thrace and the 7 Marmara Region Provinces is to have biannual vaccination of large and small ruminants with bivalent vaccines against O and A (A/Ankara/96). The mountainous Black Sea provinces where there is little movement and there have not been any outbreaks for many years will be subject to strategic vaccination with monovalent type O along major roads and around cities with markets and abattoirs. The rest of Anatolia will be vaccinated with monovalent vaccine of type O and ring vaccination against A or other exotic strains will be carried out in case of an outbreak due to these types. Only cattle will be vaccinated in the rest of Anatolia.

In response to the statement by Dr. Ryan that there was a 6 fold price difference between meat in Afghanistan and Istanbul, Dr. Aktas added that the price differential across the border between Iran and Turkey was at least 3 fold and that therefore it was very difficult to prevent the movement of live animals. The Turkish Government is considering subsidising the slaughter of animals in Eastern Anatolia as a measure designed to reduce the movement of live animals westward.

In response to a question from Dr. Liven, Dr. Aktas explained that although the number of reported outbreaks appeared to be low in 1999, it would be dangerous to reach any conclusions based on this fact, because the numbers fluctuate greatly from year to year. In response to Dr. Liven's further question on the extent of coverage of epidemiological surveillance, Dr. Aktas reported that the coverage was not as comprehensive as they would like because in certain areas – particularly in the east of the country - there was a shortage of veterinary staff.

Dr. Füssel noted that there was currently in existence a comprehensive serological surveillance system in Turkey for Rinderpest supported by the IAEA and wondered if this mechanism could be used for FMD surveillance also. Dr. Aktas replied that it should be possible to get meaningful results using the NSP ELISA but that they still are waiting for reagents for this test.

Dr. Cheneau congratulated the Turkish Government on the smooth running of the TCP so far and the excellent co-operation in evidence between the countries so far. He enquired as to how many doses of vaccine from Vetal – the private company - or foreign manufacturers were used in 1999, and cautioned Turkey to always ensure the quality of imported vaccines. Dr. Aktas replied that less than one million doses were used last year and that all vaccines used in Turkey are tested for innocuity and sterility.

In response to Dr. Celeda's inquiry as to the process of importing vaccines to Turkey, Dr. Aktas explained that the importer must seek permission from GDPC and that they have guidelines for this process that controls the serotypes, potency etc. The suppliers are also responsible for informing the local provincial director on the use of the vaccine in that province.

Dr. Hallet enquired as to the status of the EC arrangements for vaccine quality testing. Dr. Füessel replied that although there were proposals to eliminate a Community Co-ordinating Institute for Vaccine Quality testing, he believed that there was a change of direction and that proposals for a Community Co-ordinating Institute for Vaccine Quality testing were included in new draft FMD legislation.

Dr. Panagiotatos welcomed the interest shown by FAO in the problems of FMD in Turkey and Iran and stressed the crucial role that international organisations play in helping national veterinary services solve disease problems. He continued by expressing his disappointment that the TCP project was not specific enough and focussed enough to achieve tangible objectives. He felt that with the limited resources available and the significant improvements needed in both countries, more focus on simpler tangible objectives would produce better results.

Dr. Ryan responded by highlighting that TCP projects must satisfy internal FAO criteria on project design and funding which precludes more specific and focussed interventions. He also added that the purpose of TCP's was not to solve problems for countries but to help them help themselves by filling critical gaps in information, training, expertise and equipment.

Dr. De Clercq regretted the lack of comprehensive Quality Assurance systems in both country's vaccine production plants and commented that with some efforts and little cost considerable progress could be made. He also stressed that with the improvements in Quality Assurance in commercial manufacturers, final product testing was of lesser importance than the auditing and accreditation of a manufacturer's QA system. He suggested this as one method to address the chronic shortage of sufficient animals for potency testing by challenge. He also suggested that within the context of a robust QA system and where correlation had been established that serology was a good replacement for challenge in potency testing.

Dr. Aktas replied that two recent missions –from USDA, and from FAO (Dr. T Garland) - to the SAP Institute, highlighted the lack of a robust QA in the final reports and recommendations and that progress is expected on this matter shortly.

Dr. Panagiotatos felt that there was a disjointed approach to the problems of FMD in Turkey, Iran and the Caucasian countries with different organisations implementing different projects in an apparently haphazard manner. Dr. Leforban disagreed with this opinion and stated that all the organisations involved – and particularly EUFMD - kept in very close contact exchanging reports and seeking the opinion of each other before embarking on new courses of action.

Dr. Marabelli stressed the need for better identification and control of animal movements on the ground. He considered that confidence in the vaccine being used was of critical importance and that all vaccines used in the region should be of excellent quality. A critical part of this was the control of vaccines produced by private manufacturers. In closing he recognised the great efforts and progress made by Turkey recently and wanted to send them a positive signal that the international community fully supported their efforts and would provide any help and assistance that they could.

Dr. Füssel stated that he considered Iran to be a very strategic country for FMD control. He also commented on remarks from Dr. Ryan that indicated that the Iranian veterinary service appeared to be highly competent and committed to controlling FMD but that they suffered from their international isolation. He stressed that EC funding would be extremely difficult to obtain for interventions so far from European territory; therefore he very much welcomed the efforts by FAO to assist Iran. He continued by outlining that the promise of increased funding for Turkey through the General Directorate for Protection and Control (GDPC) for enlargement now seemed unlikely, but that his unit was actively pursuing the matter.

Considering the threat to Europe due to the situation in Turkey as stressed by Dr Donaldson, Dr. Cheneau asked what were Greece's plans in response to this risk. Dr. Panagiotatos stated that Greece performs regular thorough risk analyses and based on this assessment has strengthened its defences by implementing permanent epidemiological surveillance schemes in areas at risk.

**Conclusions and recommendations**

1. **The Committee noted with satisfaction the FAO initiative in Iran and Turkey which contributes to the improvement of surveillance measures and the quality of the vaccines and thus to the reduction of the risk for Europe associated with the situation in the region.**

2. **The Committee strongly recommends that Turkey and Iran implement the recommendations of the international consultant on all aspects of FMD control as soon as possible.**

3. **The Committee notes that the situation in Turkey still poses the greatest risk to FMD being introduced into Europe and that member countries should take appropriate action to negate this risk.**

4. **The activities of EUFMD should continue to be of the highest priority to this region especially through the EC/EUFMD Trust Fund**

5. **The work of Turkey's new national FMD commission is encouraged and EUFMD is ready to provide expertise at all times.**

**Item 4 - Situation in CIS countries:**

Report of ARRIAH, Russia

Dr Avilov first thanked FAO and EC for having accepted to support the Buffer Zone (BZ). He then provided an update of the situation in CIS and of the implementation of the LOA between FAO and ARRIAH ( Appendix 7) . He stated that thanks to the project no major FMD outbreak had been recorded in Caucase in 1999. Only one outbreak, due to type A, had been observed in 1999 in Georgia; this had been rapidly put under control. The sequencing of the virus carried out in ARRIAH demonstrated that the strain was close to A/Iran/96 and to A/Armenia/98

FMD remains a problem for Russia and CIS. Disease was endemic in USSR in the sixties but thanks to the national program and the strong measures taken it could be properly controlled. Due to the geographical situation the risk of introduction persisted and therefore a buffer zone was established in Caucase and along the border with China. Only sporadic cases occurred between 1986 and 1991. After the political changes in USSR in 1991, due to the lack of resources, the vaccination has progressively been abandoned in CIS countries with the exception of Russia. Russia continued to vaccinate in the south at its border with Caucase countries. 15 million doses of vaccine had been used in 1999.

After 1996 the number of outbreaks increased dangerously in Caucase and Asiatic republics. This deterioration was due to the lack of immunisation associated with the opening of the borders with neighbouring countries, smuggling of animals and conflictual situations in many countries in Caucase. Another risk is associated with the important importation of meat which represents 50 % of the consumption in Russia and up to 80 % in certain CIS countries. This risk of introduction through meat has been confirmed in Russia in 1995 with the introduction of FMD virus through the importation of pork from China.

In 1999, type 0 outbreaks had been observed in Kazakhstan (1 outbreak reported) Kyrghyzstan (1 outbreak reported), Turkmenistan (6 outbreaks reported). Disease is also suspected to be present in Tadjikistan and Uzbekistan. He explained that outbreaks in these regions usually cover one full region and not individual farms or villages. The situation in Kazakhstan is also a big concern for Russia even if only one outbreak was reported, the situation is considered as endemic.

He then commented on the results obtained through the LOA. Experts of ARRIAH have visited the countries and contributed to a better control of FMD in the region. Serosurveillance has been carried out in the three Caucase countries. 1,186 sera were tested and using 3ABC ELISA they demonstrated that virus was circulating in the region and especially in Armenia and therefore the risk of FMD persists.

Dr Gusev informed the Committee that another mission of ARRIAH experts to Caucase is being fielded very soon to decide on vaccination areas. He stated that these missions were very difficult due to the unstable political situation in the region and the total absence of resources of national veterinary services and a lack of basic public infrastructure and logistics.

Dr Avilov requested that support to the buffer zone be continued in 2000. The quantity of vaccine needed for the three countries of Caucase represents 18 million doses equivalent to $ 6 million which is more than the annual budget allocated for the control of all animal diseases in the Russian Federation .

Dr Avilov continued by saying that Russia is perfectly aware of the situation in Caucase and that a general vaccination in the southern border was essential to protect themselves. As an additional measure they have also prohibited the contact of sheep flocks with other flocks during their transfer to summer pastures and to avoid this they are now transported by truck. They are also doing a census of livestock in the region to facilitate vaccination and serosurveillance.

Report of the OIE/FAO/EC Tripartite Group meeting in Rome on 14 February 2000

Dr Leforban reported on the Tripartite Group meeting held in Rome on 14 February (Appendix 8). He stated that the report provided by ARRIAH on the activities carried out in connection with the objectives and requirements stipulated in the LOA signed jointly by FAO and ARRIAH in 1999 was satisfactory.

In line with the recommendation of the previous Tripartite Group meeting held on 1 September 1999 in Rome, a letter had been sent by Dr Marabelli – Chairman EUFMD - to the Ministers for Agriculture with copies to the three CVO's in Caucasus asking them to let the Tripartite Group know how vaccine provided by ARRIAH had been used and to report on national activities carried out in their countries in respect of FMD control.

The Secretary of the Commission informed the Committee that the letter had been sent in November 1999 and he provided the Committee with a summary of the answers that had been received. The answers were far from being comprehensive and it was rather difficult to understand what activities were being carried out under the FMD national programs and the link between national programs and FAO/EC supported activities.

The conclusions and recommendations of the last Tripartite meeting held in Rome on 14 February 2000 are as follows:

*1 - ARRIAH should strictly follow the LOA procedure for reporting. The final technical and financial reports should contain a detailed description of the field activities in Caucasia*

*2 - As the activities foreseen under the LOA signed between ARRIAH and FAO for 1999 have been completed by ARRIAH, this LOA should be closed in advance and a new LOA for 2000 should be prepared as soon as possible. This should allow for vaccine delivery to Caucase in time for vaccination of animals before they are moved to summer pastures.*
*3 - The collaborative study initiated between ARRIAH and the IZSLE, Brescia, Italy, for detection of 3 ABC ELISA is encouraged and the meeting recommended that US$ 30 000 be allocated for this research and purchase of reagents by ARRIAH.*
*4 - Caucasian countries should be encouraged to provide more information on the FMD situation and control measures and to better integrate the activities carried out through the project within their national FMD programs.*
*5 - On the basis of the achievements obtained so far, the 64th Session of the Executive Committee of EUFMD to be held in Bouillon, Belgium on 30-31 March will discuss how to pursue further activities in the region. A Representative of Russia / ARRIAH should be invited to attend as an observer.*

Letter of Agreement between FAO and ARRIAH, Vladimir:
Regarding the implementation of the LOA for 1999, the Secretary of the Commission explained that:

- a payment of US$100 000 had been made following approval of the interim technical report by the Tripartite Group meeting of 14 February 2000
- since the meeting of 14 February, the Secretary had received the final technical and financial reports in the format and with the information requested; these reports had been circulated together with the working documents for endorsement by the Committee.
- the last payment of $ 40 000 under this LOA was in progress and the LOA for 1999 could then be closed and a new LOA for 2000 could be raised and signed by ARRIAH and FAO if this was recommended by the Committee and agreed by EC.
- a copy of the draft of the new LOA for 2000 had been circulated to the participants for information. The LOA for 2000 contains the same measures and activities as those included in the LOA for 1999, i.e.:

  - provision of vaccine and the coordination of vaccination campaigns,
  - reinforcement of epidemiological surveillance of FMD in the region,
  - improvement of reporting systems to ARRIAH and to international organizations

***Discussion***

In response to a question from Dr Zwingmann about the vaccination campaign in Azerbaijan, Dr Avilov confirmed that the quantity of vaccine was not sufficient due to lack of resources and he agreed on the need for better coordination between the national program and internationally supported activities.

In response to Dr Liven's questions on the role of field veterinarians in vaccination campaigns and on the measures taken to control outbreaks, Dr Avilov replied that since the

collapse of USSR the veterinary services in the Caucase countries were isolated with scarce resources and limited links with the Russian Veterinary Services but the new project had created a good atmosphere for reinforcing cooperation. In respect of control measures in the case of FMD, he stated that due to lack of resources to purchase the vaccine required, the buffer zone around the outbreaks had not been established properly as foreseen under the legislation.

In response to a question from Dr Leforban on the serosurveillance program carried out in Russia by ARRIAH, Pf Gusev answered that this consisted only of monitoring of vaccination and was limited to zones around Institutes and in the south due to the lack of reagents.

Dr Cheneau stated that the question related to the risk for Europe should be addressed and he suggested that this should be included under the Terms of Reference of the next European Expert mission foreseen in the region

Dr Marabelli concluded by saying that even if the number of animals vaccinated under the project was limited the project should be considered as a model of integration of national and international activities with the participation of experts from the regional reference laboratory. Due to this positive output he was in favor of continuing the project in 2000 with only minor modifications in the program. He also suggested that a three-man mission led by the Secretary should visit Caucase to assess the situation at the field/national level and evaluate the impact of the project. The Committee agreed and the Russian delegation stated that if requested they were ready to make arrangements for the mission.

***Conclusions and Recommendations***

1. **the Committee recommended that the activities supported in 1999 should be continued in 2000 and that a new LOA for 2000 should be signed between FAO and ARRIAH after agreement on funding by EC under the FAO/EC Trust Funds**

2. **the Committee recommended that a mission be organised in the Caucase in June 2000 to assess the situation on the spot and particularly the integration of the internationally supported project within the national FMD programs. The mission should be organised jointly with EC and include the Secretary of the EUFMD and FMD experts (preferably one Russian speaking).**

3. **a qualitative analysis of the risk of introduction of FMD into Russia and to Europe from Caucasus was carried out by a member of the mission who visited the region in 1999. The Committee recommended that this analysis of the risk should be pursued/continued by the fothcoming mission.**

4. **the Committee endorsed the conclusions and recommendations of the meeting of the Tripartite Group of 14 February 2000. .**

5. **material and isolates from Caucasia and CIS should be sent by ARRIAH to the WRL, Pirbright, for comparison with other strains isolated in the region (Turkey, Iran).**

6. **the EUFMD and Tripartite Group should continue to monitor the activities of ARRIAH in the region. Prompt reporting to International Organizations of any FMD case by the national authorities and by ARRIAH in the region is strongly recommended.**

**Item 5 - Report on the activities of the Research Group**

Report of the regional Workshop on 3ABC Elisa, Brescia, 18 to 21 January 2000

Dr De Clercq recalled to the meeting the principle of the ELISA for detection of antibodies to non-structural proteins, NSP ELISA and LPBE ELISAs and the reciprocal advantages of each test. He then reported on the workshop ( WS) organised at the IZSLE, Brescia, Italy, in January 2000 for the Balkan countries (Appendix 9). The workshop was organised jointly by the EUFMD secretariat and by the IZSLE, Brescia, Italy and the WRL, Pirbright, UK , it was sponsored by the EC. Two FMD laboratory experts from each of the Balkan countries - Bulgaria, Greece and Turkey - attended as trainees. The tests which had been developed at the IZSLE and at the WRL were compared using a set of sera provided by the organising Institutes ( 52 sera) and other sera brought by the participants ( 228 sera). Both tests performed were equally good and it was agreed that NSP ELISA should become an essential tool for serosurveillance in the Balkans. Following the completion of the WS, steps for the transfer of the 3ABC ELISA to the National Laboratories of Bulgaria, Greece, and Turkey, and guidelines for the utilisation of FMD ELISA's (LPBE versus NSP ELISA) for surveillance were proposed.

***Discussion***

Dr Füssel reminded the Committee that high expectation had been placed on NSP ELISA in EU and under the new FMD legislation, if emergency vaccination is practised, all animals should be tested individually.

He then questioned the need for additional validation of the 3ABC test. Dr De Clercq stated that no other FMD test had been so well validated as the 3ABC test developed at Brescia. It is the intention of the RG to prepare a review of the work already done in this field which will be presented at the meeting to be held in Bulgaria in September.

Dr. Hallet asked whether by taking advantage of the new tool available could we now expect not to have to destroy all animals vaccinated but not infected in the event of an outbreak.Dr. De Clercq replied that this will largely depend on the recognition of this possibility by international organizations and particularly by OIE.

Dr. Donaldson reported that there is a comparative study in progress organized under the leadership of IAEA and involving 7 institutes in South America, South Africa and South Asia for the evaluation of the test.

The Secretary of the Commission reported that he had discussed with the experts of the IZSLE in Brescia the possibility of returning to Albania to collect samples in the villages which were infected in 1996 in cooperation with National Veterinary Services and the National Veterinary Institute in Albania. As the animals were marked with a puncture on the ear they think that it would be possible to retrieve the animals which were present and possibly infected at the time of the outbreak in 1996 and thus contribute to the evaluation of the duration of persistence of 3 ABC antibodies after infection. He stated that this work should be considered as a research activity to evaluate the persistance of 3ABC antibodies and should not interfere with a possible request of Albania for FMD freedom by OIE

Dr Leforban reported that 3 ABC ELISA has been extensively used in Argentine for testing more than 10 000 sera to support their application for being recognised by the OIE International Committee as a free country without vaccination in May 2000, and that a certain percentage of their cattle were found to be false positives with 3ABC test, all being negative with EITB. He said that even if the status of cattle – regularly vaccinated for several years – and the test used were different from the European conditions, this should be taken into consideration.

Report of the Working Group on the European Pharmacopoeia

Dr De Clercq presented the report of the Working Group established under the Research Group of the Standing Technical Committee of EUFMD to prepare proposals for modification of the current FMD Monograph of the European Pharmacopoeia (EP). ( Appendix 10)

The proposed amendments to theFMD monograph of the European Pharmacopoeia (EP) have the following objectives:

-to reduce the number of animals for testing vaccine and limit the utilisation of the challenge test – the group considered that for detection of residual infectivity, the tests on animals are less sensitive than in vitro tests on cell culture.
-to integrate the concept of GMP, validation procedures and GLP in the EP FMD monograph
-to make proposals for testing of vaccine in species other than cattle, especially in pigs.
-to make a distinction between the tests for licensing and those for batch release

He explained that controversy arose in respect of increasing the potency requirement from 3PD 50 to 6 PD 50: members of the Group agreed that vaccines with 6 PD 50 should be used for emergency vaccination but representatives of producers were not in favour of changing it in the EP monograph for all vaccines. Dr Cheneau explained that when calling for tenders for emergency vaccines, FAO always requests 6 PD 50 vaccines. Dr De Clercq stated that too strong an emphasis is put on potency vis-à-vis other factors which condition the efficiency of the vaccine in the field such as storage conditions, respect of the cold chain, and appropriate route and doses.

Dr Donaldson proposed that the concentration of 146S (in ug/ml) should be stated on the labels of bottles of vaccine. He further urged that the direct potency testing of vaccines in animals should be abandoned and replaced by indirect serological tests using sera from vaccinated cattle at 3 weeks post vaccination. This would be appropriate for all species, including pigs.

Dr De Clercq informed the Committee that he had approached Professor P.P. Pastoret, Member of the EMEA Committee to discuss the procedure to be followed for submission to the Secretariat of the European Pharmacopoeia and for EC marketing authorisation. The proposals will also be submitted to the OIE Standards Commission for information. Dr Pearson indicated that this was very timely as the Standards Commission is also in the process of reviewing the relevant chapter of the Manual.

Session of the Research Group in Borovets, Bulgaria, 5-8 September 2000
Dr De Clercq informed the Committee about the Session of the Group scheduled to be held in Bulgaria from 5 to 8 September 2000. He circulated the provisional list of the agenda items for the Session and asked the Committee whether they had any questions or other items to be considered by the Group.

He also explained that as agreed by the 63rd Session, a workshop on analysis of the risk of FMD in Europe will be organised prior to the Session. This analysis will be mainly based on expert opinions, the Session of the RG being a particularly suitable forum to get European and international FMD experts together and results will be submitted and discussed by the Session of the Research Group.

***Conclusions and Recommendations***

1. **Serosurveillance is an essential component of FMD Control and the NSP test is a highly valuable tool despite its limitations. The utilisation of the 3 ABC test should be encouraged in the Balkans and in Caucase.**

2. **The following conclusions and recommendations of the Workshop in Brescia together with the guidelines for utilisation of the 3 ABC ELISA under the conditions in the Balkan countries were endorsed by the Committee:**

   **-Regular serosurveillance in the Balkans is encouraged. A sampling rate should be decided on a statistical basis.**
   **-The sera, highly antibody positive, should be tested for NSP antibodies for evidence of circulating FMD virus.**
   **-In an interim period both LPBE and NSP tests should be used for serosurveys.**
   **-The preliminary results obtained from the use of the NSP test in the Balkan region should be presented to the next Workshop for the Balkans planned for the end of 2000 or in early 2001.**

3. **The Committee supported the proposal for collection of samples in villages in Albania which had been infected in 1996 to evaluate the delay of persistence of 3 ABC antibodies under the coordination of the IZSLE.**

4. **The Committee expressed its recognition of the excellent work carried out by the Working Group on EP and endorsed the conclusions and recommendations of the Group**

5. **The Committee endorsed the proposals for modification of the FMD Monograph of the European Pharmacopoeia (EP) as proposed by the Working Group and encouraged the Chairman of the RG to put forward these proposals to the Secretary of the EP following the proposed procedure.**

6. **The Committee recommended that vaccines for emergency use have a potency of at least 6 $PD_{50}$.**

7. **The meeting supported the idea of organising a risk analysis workshop at the next EUFMD Research Group meeting prior to the Session.**

The Chairman congratulated and thanked the Chairman of the RG for the important and very useful work completed by the RG during this period

**Item 6 - Financial matters: accounts 1999; budgets 2000 and 2001**

Provisional Accounts as at 31 December 1999
Ms. Joan Raftery presented the provisional accounts as at 31 December 1999 (Appendix 11) for the Trust Funds monitored by the Commission (AA970089122,AA970089127, EU970089129 and TEMP/INT/974/MSC TFAA970099064) prepared by the Central Accounting, Reporting and Control Service, Finance Division, FAO.

She stated that the accounts were provisional; the interest had not been calculated and therefore had not been included in the balance.

The Committee's attention was drawn to Statement 2, outstanding contributions at 31.12.1999. The Chairman expressed satisfaction at the up-to-date situation of the contributions, which showed very few arrears. The secretariat stated that member countries would be reminded to pay as stipulated in the Constitution i.e." .. within 30 days of the receipt of the communication of the Director-General or as of the first day of the calendar year to which they relate...".

The accounts for TF's AA970089122/AA970089127/EU970089129 (Statements 3 and 4 respectively) were accepted as presented.

Regarding Statement 5, TEMP/INT/974/MISC, the Secretary informed the Committee that this temporary account represented the contribution of OIE to the joint FAO/OIE/EC mission to Caucasus organized by FAO in 1999 and he suggested that the balance of this account should be used for the next mission to Caucasus and then closure of the account should be considered. This proposal was accepted.

Budgets for 2000 and 2001
TFAA970089122

The Budget for 2000 and proposed budget for 2001 were presented. The Committee was informed that in line with the recommendation of the Thirty-third Session under Admin Support Personnel an amount of US$7,800 had been earmarked for temporary assistance in case of necessity.

The Committee was reminded that the 65th Session of the Executive Committee and the Thirty-fourth Session of the Commission , scheduled to be held on 16-17 November 2000 and 21-23 March 2001 respectively , should be requested to approve the Commission's budgets for the following two years i.e. for 2002 and 2003 in addition to the year 2001.

TFEU970089129 and TFAA970089127

Following presentation of the budgets for 2000, and in reply to a query from one of the Committee members, the Secretary explained the purpose of the proposed workshop budgeted for the year 2000 under TFAA970089122 and TFAA970089127. Inter alia, he mentioned the need for training in simulation exercises. Financial support of the equivalent of Pounds Sterling 820 was provided to Lithuania for supply of FMD ELISA reagents, The countries which participated in the Workshop on 3 ABC ELISA in Brescia (Bulgaria, Greece, Turkey) will receive reagents from Pirbright and from IZSLE, Brescia. The cost for these reagents – total, approximately $ 9,000 – will be met from TFAA970089127 as agreed by the 63rd Session..

The Committee agreed that:

- $ 10,000 from TFEU970089129 should be used for the 3ABC ELISA study in Albania carried out jointly between the Albanian Veterinary Services and the IZSLE, Brescia
- $ 30,000 from TFEU970089129 should be used for purchase of the 3ABC ELISA kit for ARRIAH as proposed by the Tripartite Group meeting of 14 February 2000.

The Committee **adopted and approved** the accounts and budgets as presented.

Report on the FAO/EC meeting of 25 February 2000 on utilisation of Trust Funds

The Secretary then reported on the FAO/EC meeting convened on 25 February to discuss the future utilisation of the FAO/EC Trust Fund. A copy of the report of this meeting had been circulated to the participants ( Appendix 12).

The following was agreed during this meeting:

*1) There was no clear procedure so far, either in FAO or in EC on how the FAO/EC TF should be used. This absence of clear procedures created difficulties in the past, in both organisations, and it was agreed that clarification was needed for the future.*

*2) The future activities carried out by EUFMD under the financial support of EC will be executed in the framework of a four-year renewable project. The initial project will cover the period 1 January 2000 to 31 December 2003 and the provisional budget is being set at*
*US$ 1,000,000.*

*3) The balance of TFEU970089129 as at 31 December 1999 (US$593,346) will be considered as being additional to the maximum amount of US$1,000,000 which EC has agreed to pay under the four-year period as foreseen under para 2)*

*4) The project is monitored by the Secretariat of EUFMD. It will undertake activities oriented toward FMD control and prevention which are classified under two categories:*

- *emergency activities related to the outbreaks of FMD which threaten Europe*
- *routine activities which are oriented to reinforce the control measures in Europe and the surrounding countries.*

*5) Full reimbursement to the TF up to the value of US$ 1 million by EC will be made on an annual basis after receipt by EC of the annual technical and financial reports of EUFMD on the activities covered by the TF during the previous year.*

*6) If exceptional expenses related to emergency activities are paid for under the Trust Fund and deplete the fund to a critical level within any given year, then total or partial reimbursement can be envisaged immediately after such expenditure on presentation of a technical and financial report related to the activity undertaken.*

*7) The technical reports as prepared by the Secretariat of EUFMD for the Sessions of the Executive Committee of the EUFMD Commission (held at least once a year ) and to the General Session of the EUFMD Commission (held every two years) will be accepted by EC as official reports in the framework of the current project.*

*8) The financial reports provided by FAO will comprise the standard financial statement provided to donors as presented in the reports of the Sessions of the Executive Committee and at the Sessions of the Commission. In addition, the financial transactions report, showing transaction details of the expenditures for the EC/EUFMD account for the year, will be annexed to the financial reports.*

*9) FAO/EUFMD will inform EC of any contract with third parties (through letters of agreement, contracts, sub-contracts) in the framework of the project. The contractual document should be approved by EC prior to signature.*

***Conclusions and recommendations:***

1- **The Committee aknowledged the paramount importance of the FAO/EC Trust Fund for operational activities to control FMD in emergency situations. This major role has been amply demonstrated on many occasions in the past.**

2- **The Committee recognised the efforts made on both sides to obtain an agreement on the utilisation of the FAO/EC funds.**

3- **The Committee endorsed the conclusions of the meeting of 25 February 2000 held at FAO headquarters in Rome and agreed on the four-year project with the objectives and activities described.**

**4- The Committee recommended that the details of the FAO/EC agreement be finalised between the Secretariat and EC and thereafter be circulated to the members of the Committee for information.**

**Item 7 - Any other business**

Follow up of the proposal from the 63rd Session regarding reinforcement of the surveillance of exotic diseases in Balkan countries.

The 63rd Session of the Committee concluded and recommended:

*The Committee is in favour of the principle of paying attention to diseases other than FMD*
*EUFMD has certain specific and comparative advantages compared with other international organizations.*
*However, the extension of its activities should be carefully analysed and no action should be taken before the 64th Session. Proposals should be discussed and agreed between EUFMD and FAO. Both legal and operational aspects should be covered by these discussions.*
*A decision should be taken at the 64th Session.*

Further to this recommendation, Dr Cheneau presented information on FAO activities in respect of prevention and control of exotic diseases in Europe. (Appendix 13). He underlined existing activities undertaken by the FAO Animal Health Service (AGAH) and particularly by the EMPRES priority program on prevention of exotic diseases in Europe. He stated that AGAH was serving all FAO member countries without exclusion and European countries can benefit from FAO expertise and support for prevention and control of exotic diseases as well as other FAO member countries. The request for assistance must be addressed to FAO by individual countries or groups of countries on the occasion of the FAO Conference or Council and/or directly through a letter to the Director General.

In respect of research activities, the FAO Regional Office for Europe is in charge of the Secretariat of ESCORENA (European System of Cooperative Research Networks in Agriculture). Within the system a new network can be established for the prevention of exotic diseases in Europe if so requested by member countries. The activities of this network should then be monitored jointly by the Regional Office for Europe and AGAH, and particularly the EMPRES program. Extra-budgetary funding for these activities should be found.

FAO also keeps close contacts with EC and OIE and a joint FAO/EC/OIE activity can also be considered in this domain along the lines of the activities on FMD carried out by EUFMD in the Balkans and in the Caucase. The establishment of a specific Trust Fund for these activities (Prevention of Exotic Diseases in Europe) could be considered. Extra-budgetary funding for these activities should be found. FAO also keeps close contacts with EC and OIE and a joint FAO/EC/OIE activity could also be considered in this domain along the lines of the activities on Foot-and-Mouth Disease carried out by

EUFMD in the Balkans and in the Caucase. The establishment of a specific Trust Fund for these activities (Prevention of Exotic Diseases in Europe) could be considered. Extra-budgetary resources should be also identified in this case.

**Discussion**

Dr Panagiotatos thanked Dr Cheneau for his well balanced presentation of possible options and routes to address this issue. He was happy to see that the issue had not been rejected . He informed the Committee on the proposal of the Greek Veterinary Service; this issue will be on the Agenda of the next meeting of CVOs of Balkan countries. He suggested that it should also be included on the agenda of the next Tripartite Group Meeting and the Sixty-fifth Session of the Committee should be provided with more concrete proposals in this respect.

Dr Marabelli considered that the main goal of the EUFMD Commission should be FMD but he felt that EUFMD could possibly also consider animals susceptible to FMD when they are affected by other diseases without overlapping the prerogatives of the other international organisations (FAO, OIE, EC) which have a much larger competence.

Dr Van Goethem, Head, Animal Health Unit, explained to the Committee the new organisation of veterinary activities within EC. One and a half years ago there was only one veterinary unit under the General Directorate for Agriculture ( DG VI). Considering the increasing importance given to Public Health, the Veterinary Service was split into three separate divisions: Public Health, Animal Health and International Affairs. Then the Commission resigned and new restructuration was decided and all Veterinary activities were transferred to the Consumer and Health General Directorate. Within the Directorate for Feed and Foods, three units were created: Plant health, Animal Health and International affairs. EC continues to give high priority to Animal Health and despite the new organisation they keep permanent relations with Agriculture, Production and Trade Directorates.

Dr Liven regretted that all the attention of governments is focused exclusively on consumer protection forgetting that quality starts at the beginning of the chain i.e. at the level of the stable. It is important to let decision makers know that quality of food products depends primarly on animal health and veterinary activities relate directly to consumer protection.

Dr Marabelli was of the opinion that the new organisation of EC veterinary activities under one Directorate may be beneficial in the long run; the time when all attention was placed on Public Health has gone. The present organisation returns to a better balance between Animal and Public Health. He agreed with the concern of Dr Liven and stated that the question of the place of Animal Health and how Animal Health interferes with Public Health should be addressed to OIE and OECD. Animal welfare could be a link with consumers to promote animal health.

Dr De Clercq recalled the role played by livestock in developing and less advanced countries in Europe where food security is directly dependant on animal health and the death of animals may lead to the death of the village.

Dr Liven considered that better co-operation between OIE and Codex Alimentarius should be encouraged. Taking as an example antibiotic resistance in food in Norway, he said that not enough attention is paid to the drugs used for animals.

Dr Cheneau explained that the Animal Health Service in FAO is developing its interest towards Public Health matters taking on board zoonosis and antibiotic resistance which is a way to be become more attractive to funders

While supporting all recent initiatives of EUFMD and EC for reducing the risk of introduction of FMD in Europe, Dr Panagiotatos reminded the Committee that the combat against the disease in the Balkan region was the initial focus of EUFMD and this objective should not be changed too much.

Dr Marabelli concluded by saying that collaboration with EC had obtained good results in recent years and was essential to EUFMD. The co-operation in the Balkans and Caucasus region had very positive outcomes and should be continued. The 2 million doses of vaccine given to North Africa from the EU bank in 1999 was also considered as a wise decision to prevent FMD from becoming endemic in the region. In future they should be encouraged to maintain their own antigen stocks.

Dr Van Goethem recalled that EC plays a completely transparent role towards member states which are permanently informed of its proposals or decisions.

Personnel matters

The Secretary informed the Committee that Dr Ryan's contract had been renewed by the Irish Government up to 30 October 2000. A request has been adressed to the Irish Government for an additional extension at least up to the 34 th session of the Commission in 2001 He invited member countries to put forward names of other suitable candidates for the post of APO with the Commission.

The Committee was informed that despite the recommendation of the 63rd Session and for administrative reasons, the Secretary's contract had been extended for one year only i.e. up to 31 December 2000. The Committee recommended that for the future the Secretary's contracts should be extended on a two-yearly basis.

Forthcoming meetings:

The next Tripartite meeting for the Balkans will be held in Ankara, Turkey, during the second half of October 2000.

Another Tripartite Group meeting for CIS could be held after the mission to Caucasus. The venue will be decided at a later stage.

65th Session of the Executive Committee: Dr Zwingman offered host facilities for the 65th Session on 16 and 17 November at Lever Kusen-Mohnheim,Germany.

The date for the 34 th Session of the Commission was discussed and after consultation with FAO it was finally agreed that the Session will be held between 21 and 23 March 2001

**Item 8 – Adoption of the draft report**

The draft report was adopted subject to agreed amendments.

**Closing remarks**

Dr Marabelli said that the meeting had been very successful and positive. He extended thanks to the Research Group for their scientific work and advice to the Commission, the WRL for its important contribution to the monitoring of the epizootics through the molecular epidemiology, to the secretariat for the timely preparation of the documentation and draft report for the Session, to the interpreters for their excellent work during the meeting, and to the participants for their active participation.

He underlined the importance of pursuing the activities initiated in the Caucacus and he extended thanks for their presentation to Dr Avilov and Dr Gusev from the Federation of Russia, to Dr Sinan Aktas from Turkey and to the observers from OIE, EC, and FAO. He expressed the wish that the strong and fruitful cooperation between EUFMD, OIE and EC will be pursued.

On behalf of the participants he expressed his appreciation to Dr Hallet and to the Belgian authorities for the excellent facilities provided for the meeting and the arrangements for internal travel. The outstanding location of the Session in a touristic rural area of Belgium, the choice of the auberge with its exceptional service and cuisine, contributed to the excellent atmosphere and positive outcome of the Session. He thanked Dr Hallet and Ms Hallet, the Veterinary Service and the Government of Belgium for their efforts and generous hospitality.

Dr Hallet wished the Delegates and observers a pleasant time for the rest of their stay and a safe journey home to those leaving at the end of the Session .

# FMD Situation in Europe and other Regions in 1999/2000

John Ryan, EUFMD Secretariat

## INTRODUCTION

No outbreaks of Foot-and-Mouth Disease (FMD) have occurred in Europe since the end of November 1996, when one outbreak due to type O was reported in the village of Malko Sharkovo, Bulgaria at the border with Turkey.

However the threat of introduction of FMD into Europe from Turkey, the Middle East, the Trans-Caucasian countries and North Africa persists. The virus continues to be present in the Middle East, Turkey and sporadic cases are still reported from the Caucasian region.

Only two member countries, Turkey and Israel reported outbreaks of FMD in 1999. Turkey alone has reported outbreaks of FMD in 2000.

Globally, 60 countries officially reported outbreaks of FMD to the OIE, WRL or FAO in 1999. Forty one countries reported outbreaks of only one serotype - predominately type O - and 19 countries reported outbreaks of 2 or more different serotypes. Serotype O was reported in 49 countries, A in 17 countries, Asia 1 in 6 countries, SAT 1 in 5 countries, SAT 2 in 6 countries, SAT 3 in 1 country and there were no reported outbreaks of type C in 1999.

The following section gives the full description of the FMD situation in 1999 and is accompanied by maps. However, because the number of official reports for 2000 up to the time of the meeting is low the section following the 1999 report will contain descriptions of the new outbreaks reported in 2000 to the time of the meeting.

## EUROPE 1999/2000

In August the EU lifted the ban on imports of live animals from Bulgaria which was imposed three years ago at the time of the last outbreak in 1996. Bulgaria regained its OIE FMD free status in October 1997.

The Former Yugoslav Republic of Macedonia was declared officially free of FMD without vaccination by OIE. It was the only country to gain this official status in 1999 and this increased the number of countries on the list from 52 to 53.

## TURKEY 1999/2000

See Item 3.

## CIS COUNTRIES 1999/2000

See Item 4.

## MIDDLE EAST 1999

FMD type O outbreaks were reported from Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates and Yemen.

FMD type A outbreaks were reported from Georgia, Iran and Turkey. The WRL has reported that a new type A strain (A/Iran/99) has been identified in Iran. Its characterisation by nucleotide sequencing indicated a significant difference in the sequence of the gene coding for the structural protein - VP1 - in comparison with previous isolates, including A/ Iran/96. All but one of the type A outbreaks in Turkey were located close to the borders with Iran and Georgia and also were significantly different from both A/Iran/96 and the standard vaccine strain ( A Mahmatli) used in Turkey. ARRIAH, Vladimir, reported that the A virus responsible for the outbreaks in Georgia was analogous to A/Iran/96.

FMD type Asia 1 outbreaks were reported in Iran and Turkey.

## AFRICA 1999

See Item 2: Update on the Situation in North Africa.

FMD type O outbreaks were reported from Algeria, Burundi, Côte d'Ivoire, Ethiopia, Gambia, Guinea, Kenya, Mali, Morocco, Sudan, Tunisia and Uganda.

FMD type A outbreaks were reported from Kenya and Mali.

FMD type SAT1 outbreaks were reported from Burundi, Kenya, Tanzania, Uganda and Zimbabwe.

FMD type SAT 2 outbreaks were reported from Burundi, Kenya, Mali, Tanzania, Uganda & Zambia.

FMD type SAT 3 occurred in Zimbabwe.

In addition to the above, outbreaks of FMD were reported from Cameroon, Chad, Ghana, Mauritania and Senegal where no serotype has been identified.

## ASIA 1999

FMD type O outbreaks were reported from Bangladesh, Bhutan, Cambodia, China, Hong Kong, India, Laos, Malaysia, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, Taiwan Province of China, Thailand and Vietnam.

China resumed reporting disease outbreaks to OIE after some years of silence. A new strain of FMD type O was reported to be spreading across mainland China in both cattle and pigs. It has been officially reported from the Provinces of Fujian, Hainan and Tibet. The disease is under control according to officials in Beijing who denied that the disease caused a widespread epidemic. The FMD situation is monitored

by the Lanzhou Veterinary Research Institute. Pork prices fell by 60% in central Provinces and Russia has banned imports from China.

FMD type A outbreaks were reported from Bangladesh, India, Malaysia, Myanmar, Nepal, Pakistan and Thailand.

FMD type Asia 1 outbreaks were reported from India, Laos, Malaysia and Myanmar.

**SOUTH AMERICA 1999**

FMD type O outbreaks were reported from Bolivia, Brazil, Columbia and Ecuador.

FMD type A outbreaks were reported from Bolivia, Columbia Peru and Venezuela. FMD (type A) returned to Peru after an absence of 27 months (April 1997). The disease was detected in the Province of Sullana and resulted in the slaughter of 161 animals towards the end of July. Emergency vaccination has been carried out in Sullana and in the nearby Ayabaca province. Peru's Veterinary authorities have stepped up their campaign against FMD in recent years. Measures have included tighter control over vaccine quality and the number of animal vaccinated in each county in each campaign. However the Government has been unable to stop illegal import of cattle from Ecuador and Bolivia. Cattle smuggled from Ecuador are thought to be the cause of this latest outbreak.

**OUTBREAKS IN 2000 TO DATE**

The following is a description of the significant outbreaks of FMD in 2000 to the time of the meeting.

Information from the WRL in February 2000, indicated that samples received from Iraq were positive for FMD virus type A. On further characterisation by nucleotide sequencing, it was reported that this virus was closely-related to the Iran 96 topotype.

An outbreak of FMD virus type O was reported to the OIE in late January by the Malaysian authorities. The outbreak occurred in Peninsular Malaysia in the state of Selangor and affected small cattle holdings and a nearby commercial piggery. There were 6 cases out of 1000 susceptible cattle and 768 cases out of 24 000 susceptible pigs. Quarantine measures and modified stamping out were used to control the outbreak.

Panaftosa reported an outbreak of FMD type A in Peru in their weekly report for the 3rd week of 2000. There were no further details except the location of the outbreak which was in central Peru near the Pacific coast.

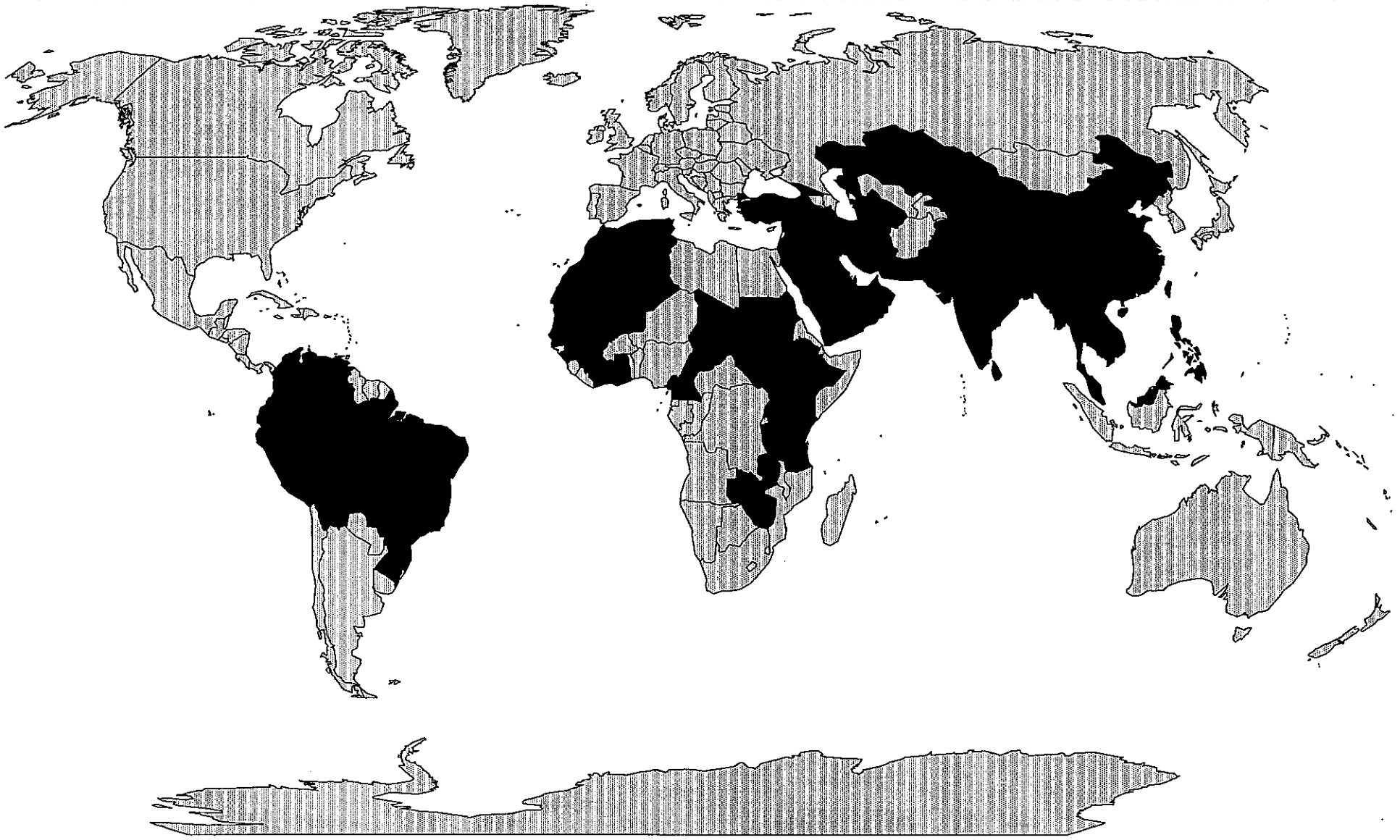
On the 4th February 2000 Taiwan Province of China reported 3 outbreaks of FMD type O - analogous to O/Taiwan/99 - in cattle to OIE. The outbreaks occurred in Yunlin and Chiayi prefectures. There were 79 cases out of a susceptible population of 265, and 3 calves died. The control measures instigated were stamping out, destruction of milk,

strict hygienic control and quarantine measures around the farms and the instigation of a nation-wide vaccination campaign.

This report was followed two weeks later by a report on the 18th February from Taiwan province of China of an outbreak of FMD type O - analagous to O/Taiwan/99 -in goats in Changhwa prefecture. Young kids only were affected and 22 affected animals died. The number of susceptible animals was 270 and all surviving animals were stamped out. The fact that only kids were affected could be explained by the fact that all animals over 3 months old were vaccinated on 26th January 2000. The same measures as previously were implemented with a strengthening of the mass vaccination campaign.

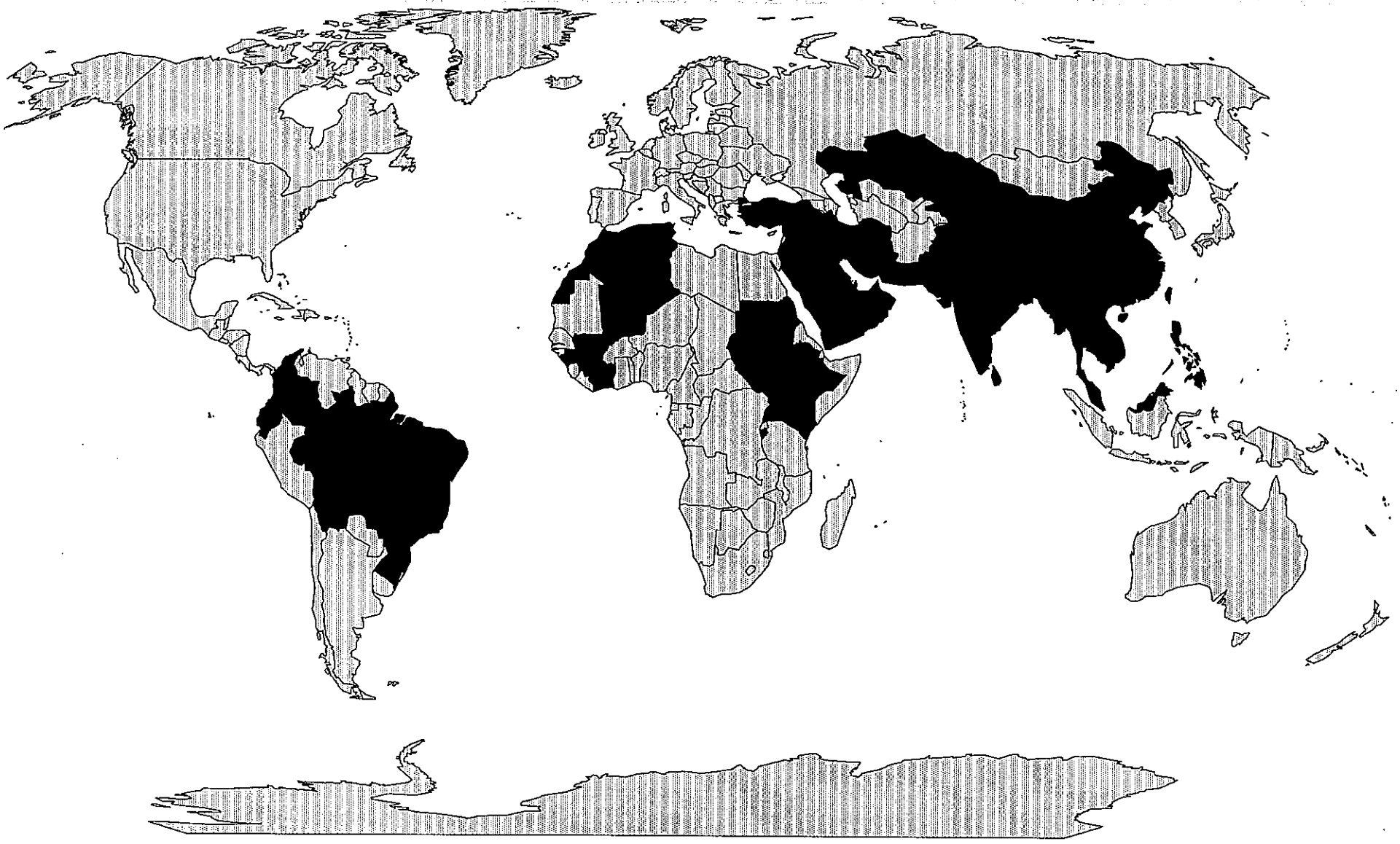
This report was followed two weeks later by another report of FMD type O/Taiwan/99 in goats in Kaoshiung prefecture. The history again was of large numbers of young kids dying during the previous week. There were 49 deaths out of a susceptible population of 295. There were no clinical signs in adult goats and vaccination had taken place on the farm on the 18th February.

# FMD outbreaks 1999



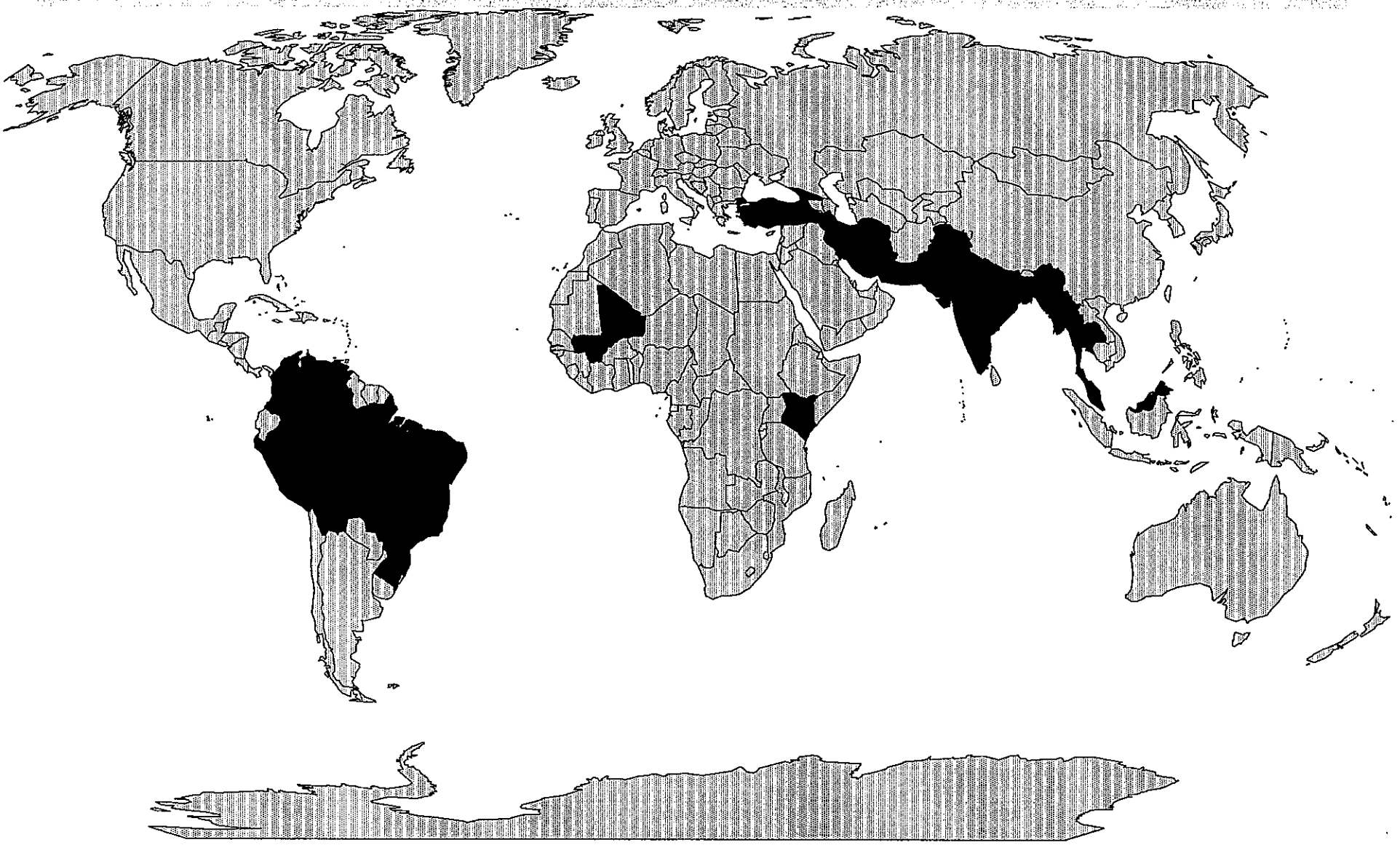
All serotypes as officially reported (OIE,WRL,FAO)

# FMD Type O outbreaks 1999



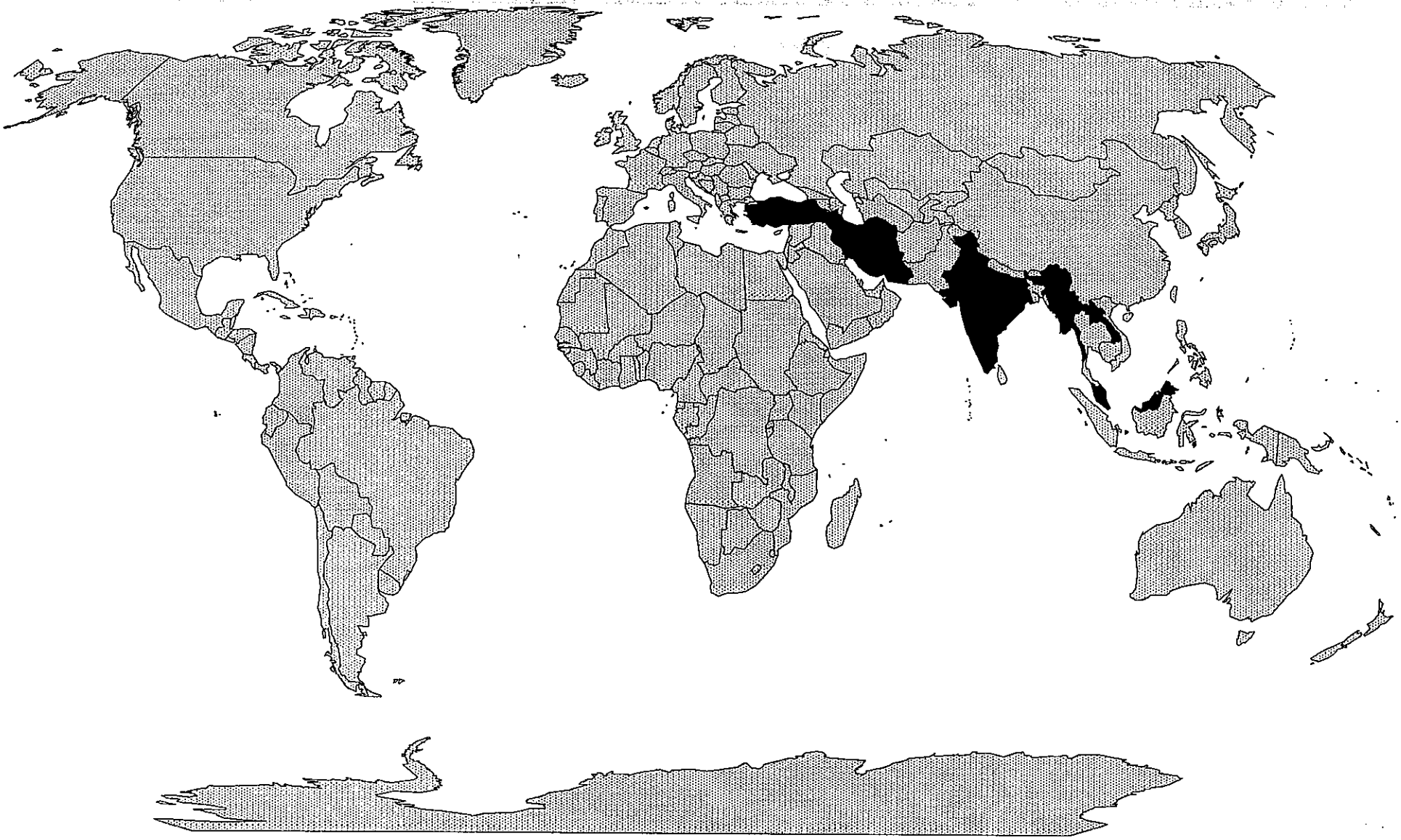
FMD Type O as officially reported (OIE,WRL,FAO)

# FMD Type A outbreaks 1999



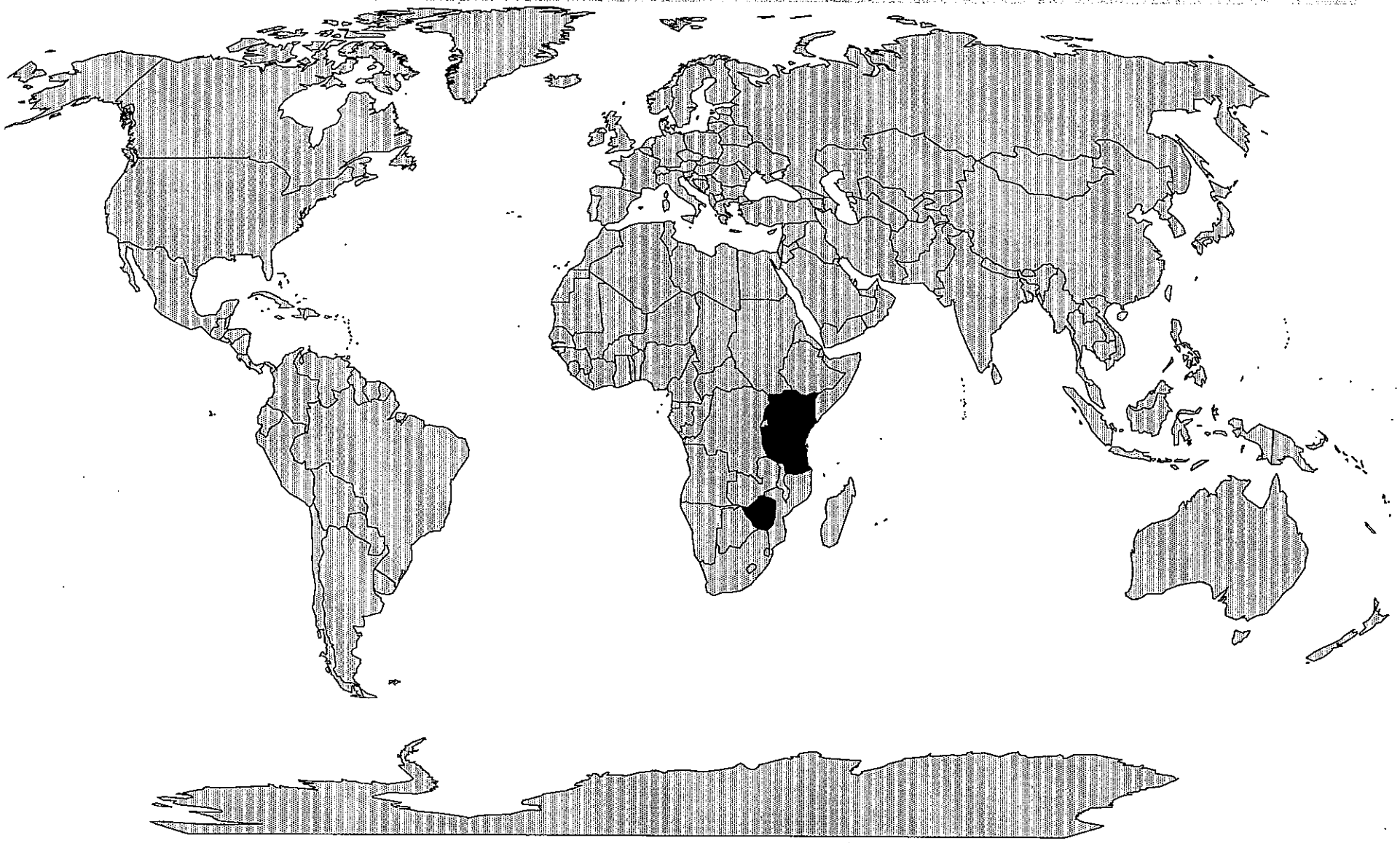
FMD Type A as officially reported (OIE,WRL,FAO)

# FMD Type Asia 1 outbreaks 1999



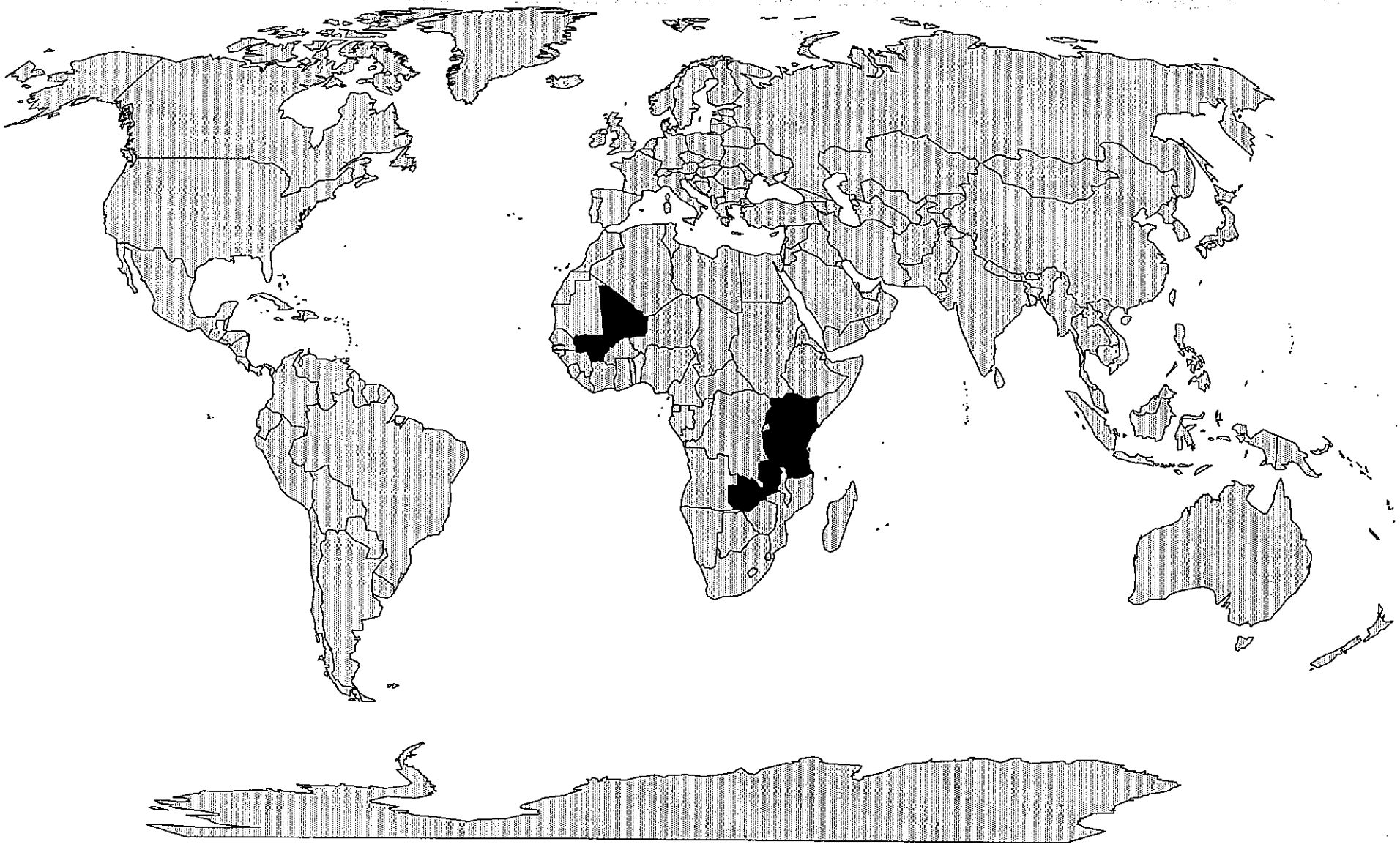
FMD Type Asia 1 as officially reported (OIE,WRL,FAO)

# FMD Type SAT1 outbreaks 1999



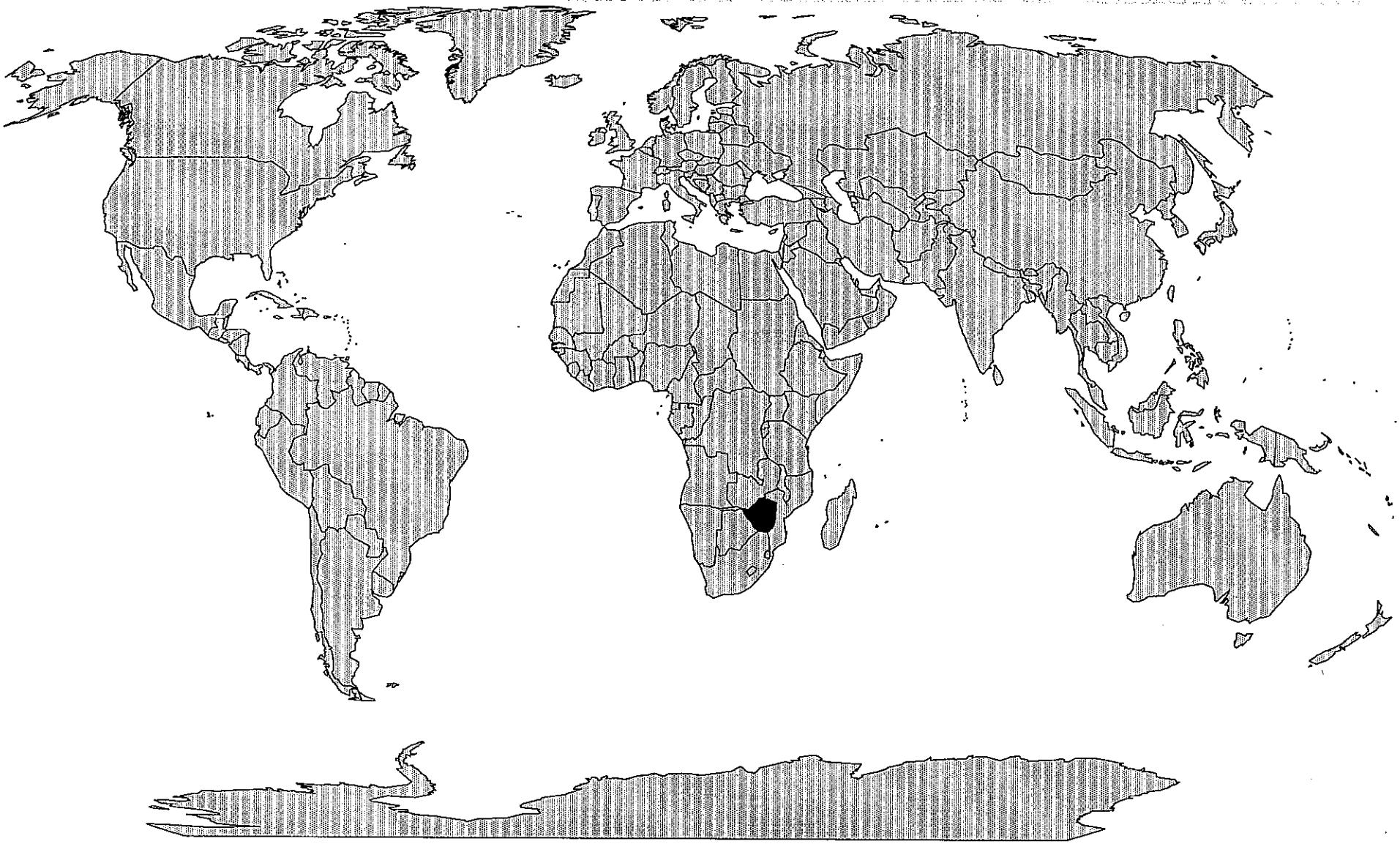
FMD Type SAT 1 as officially reported (OIE,WRL,FAO)

# FMD Type SAT2 outbreaks 1999

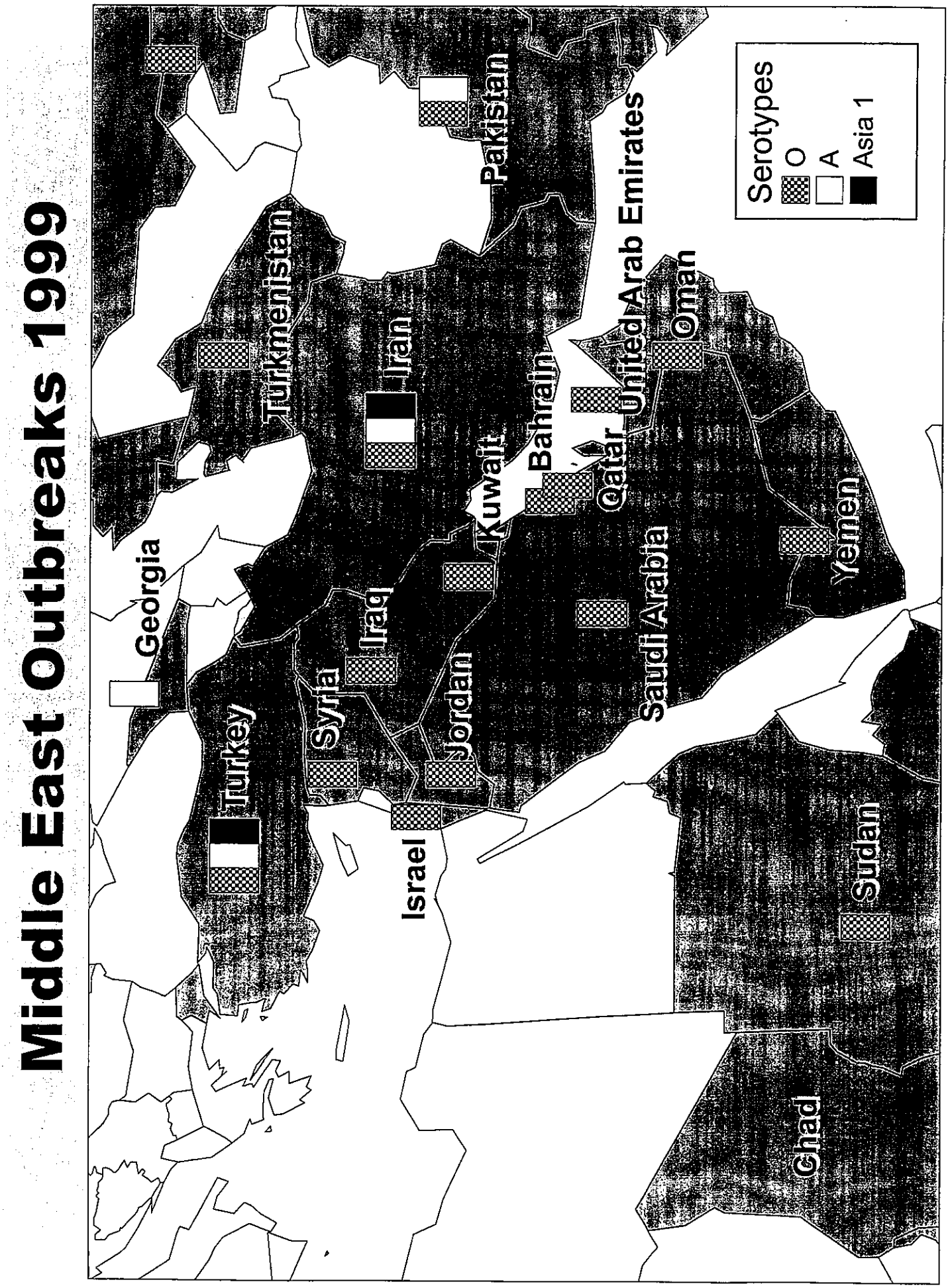


FMD Type SAT2 as officially reported (OIE,WRL,FAO)

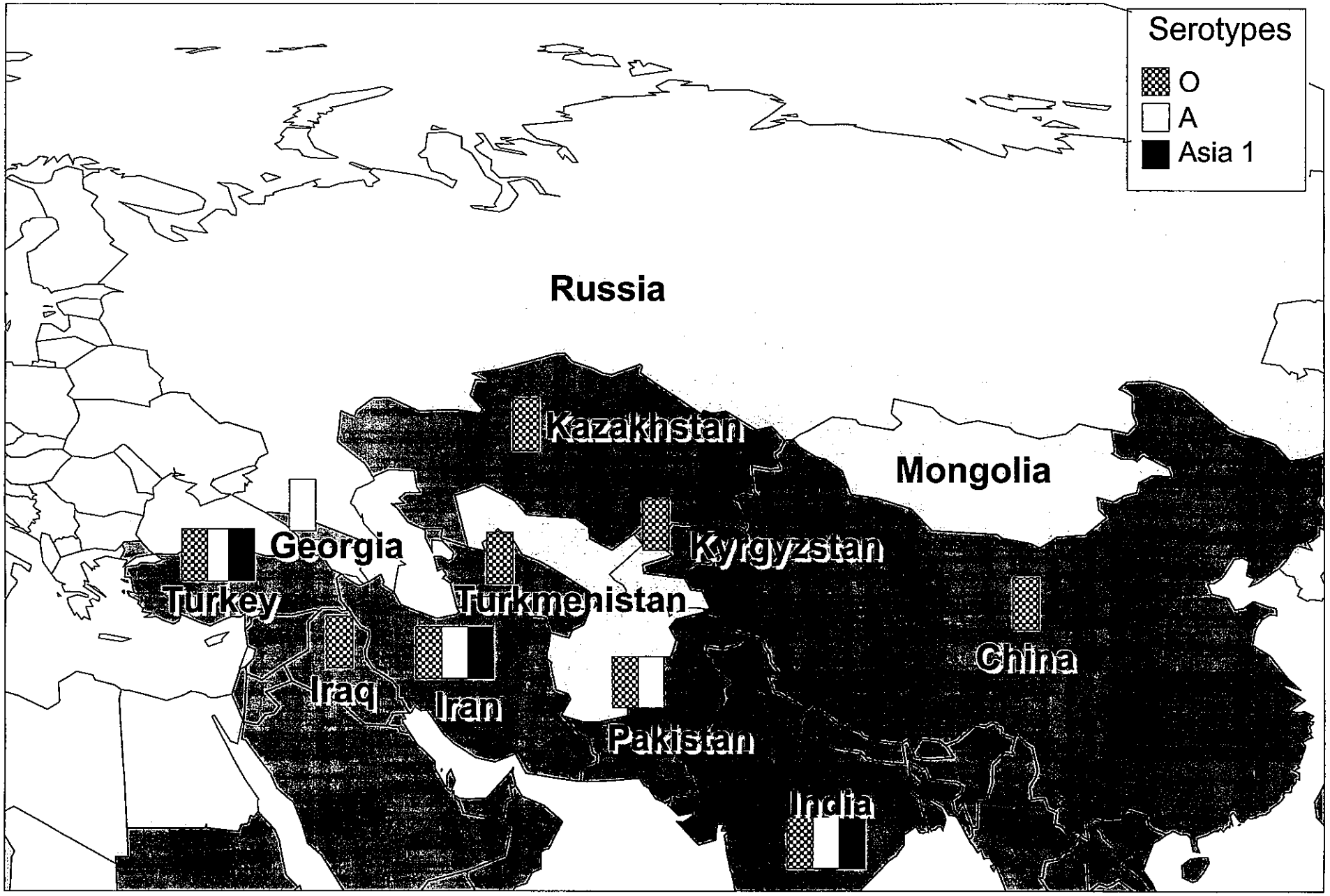
# FMD Type SAT3 outbreaks 1999



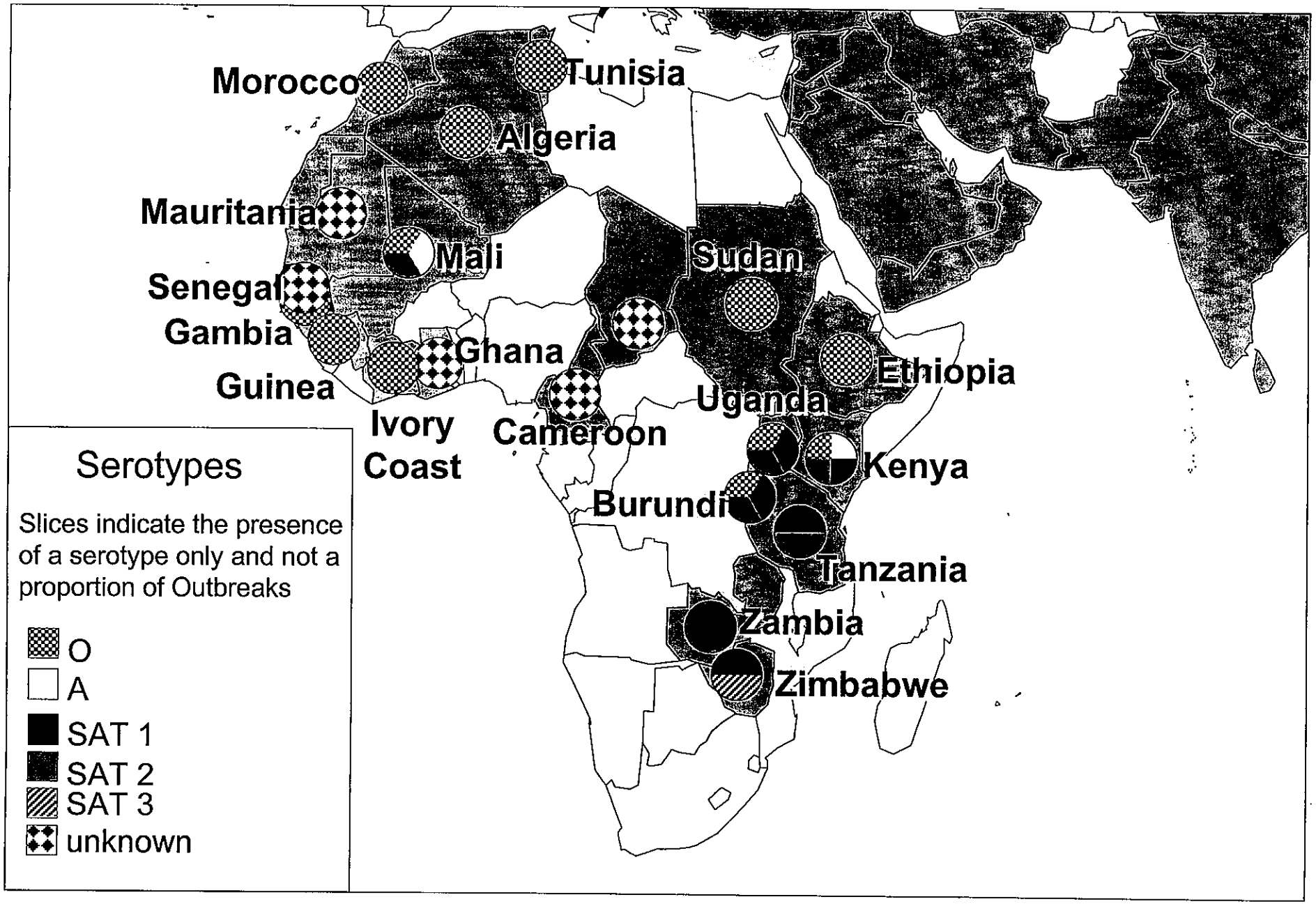
FMD Type SAT3 as officially reported (OIE,WRL,FAO)


Middle East Outbreaks 1999
Georgia
Turkey
Turkmenistan
Syria
Iraq
Iran
Pakistan
Israel
Jordan
Kuwait
Bahrain
Qatar
United Arab Emirates
Oman
Saudi Arabia
Yemen
Sudan
Chad
Serotypes
O
A
Asia 1

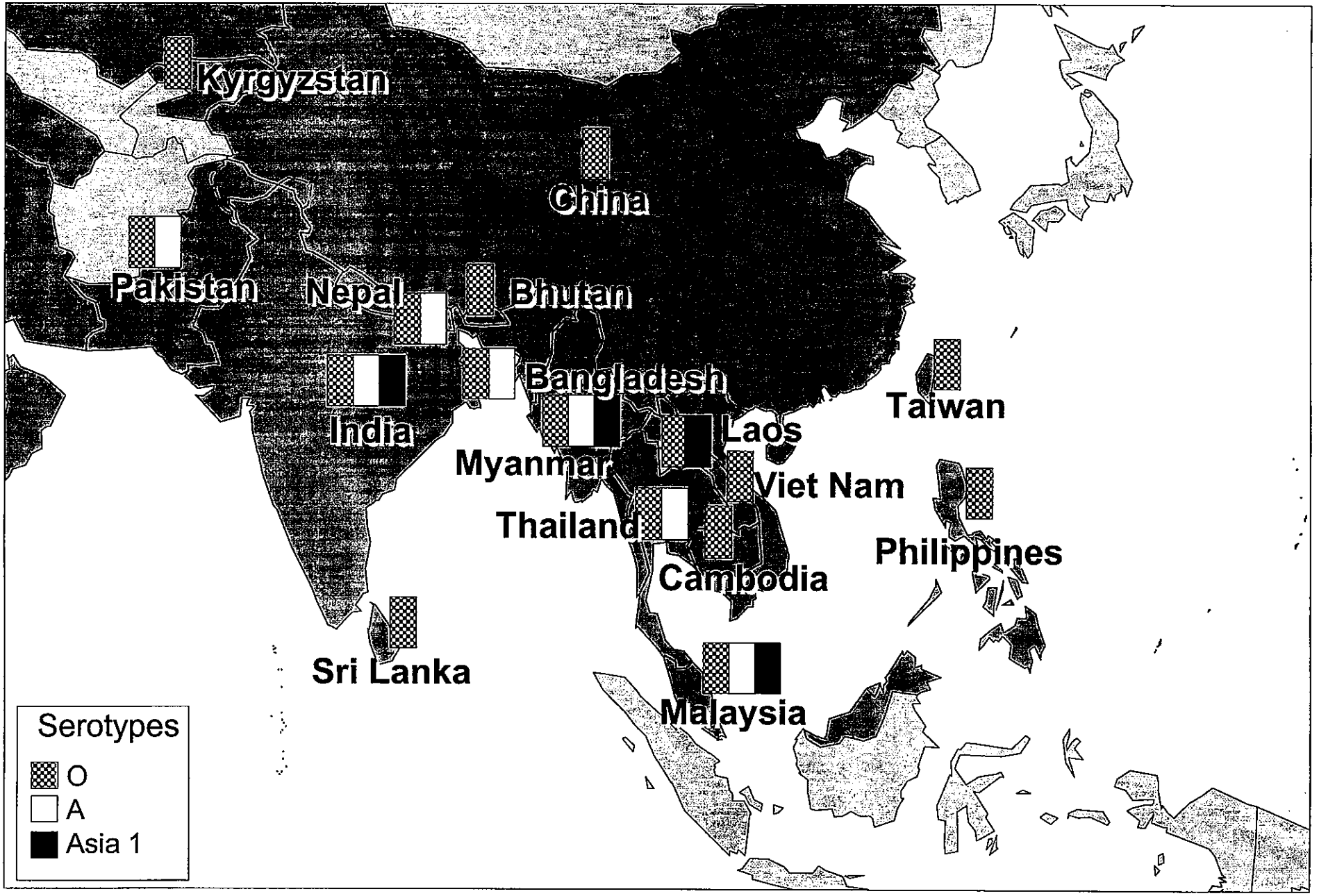
# FMD in West Asia and CIS Countries 1999



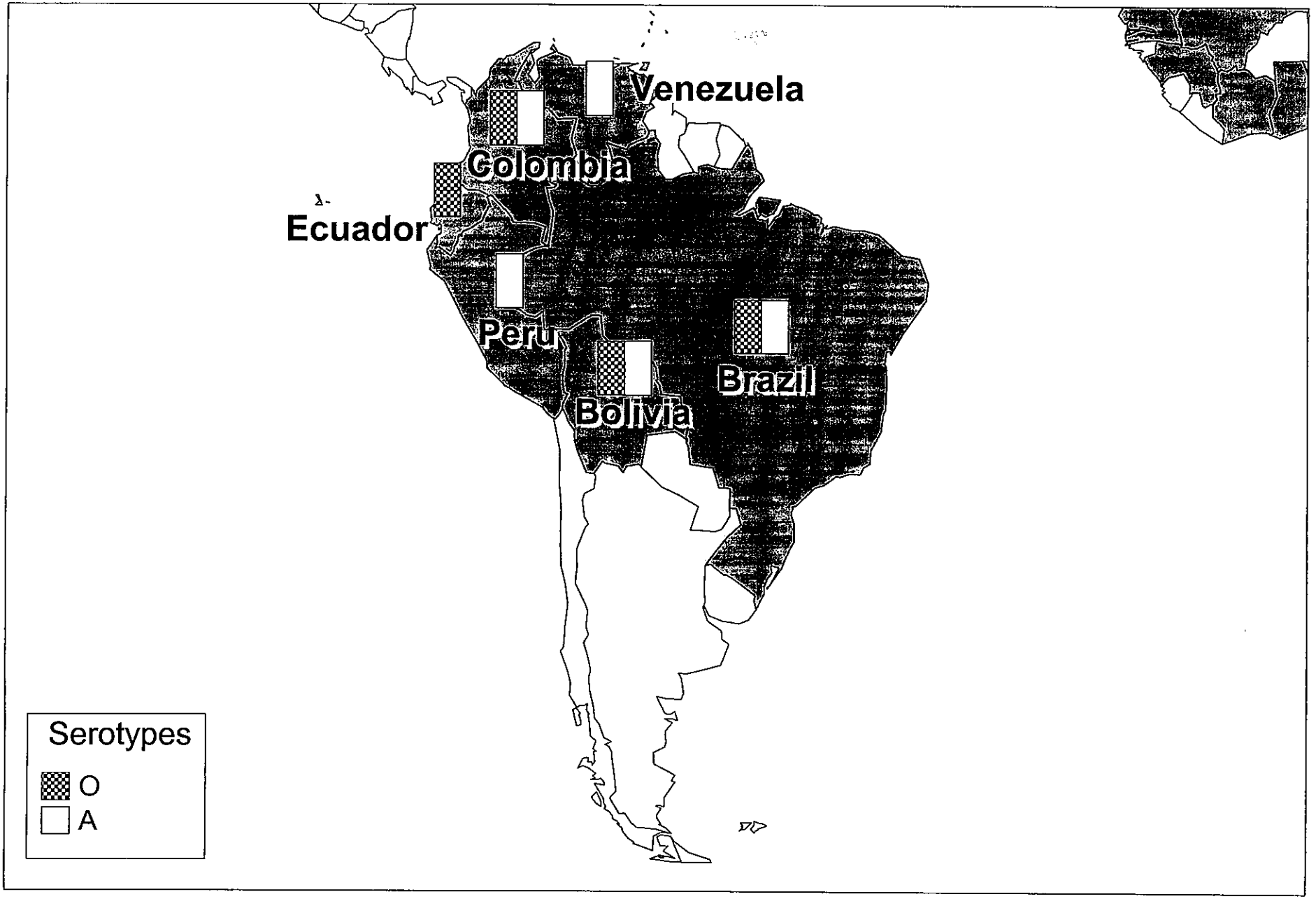
# FMD in Africa 1999



# FMD in Asia 1999



# FMD in South America 1999



# OIE Status as of 23 March 2000

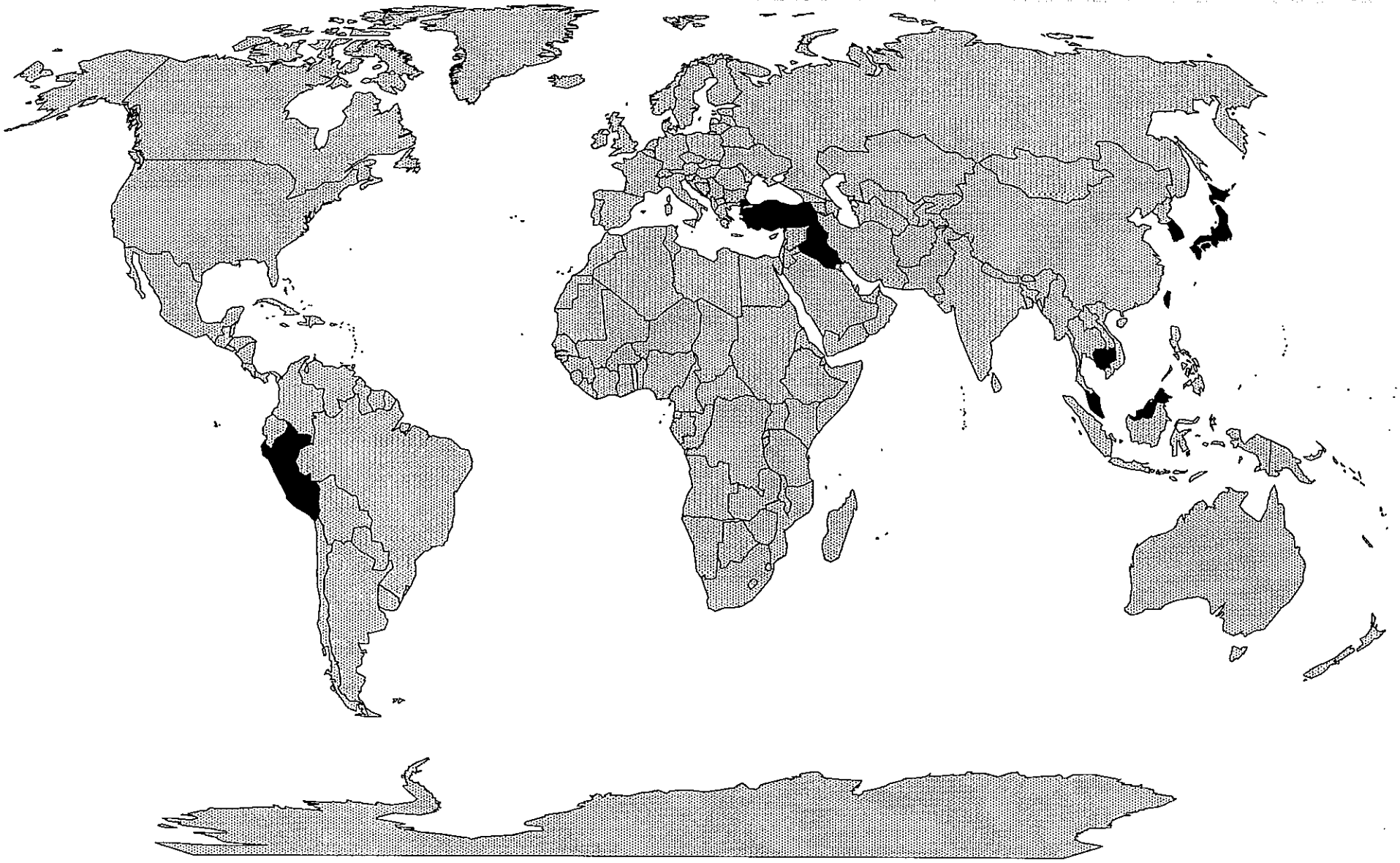
= Free without Vaccination (53)

= Free Zone with Vaccination (1)

= Free with Vaccination (2)

= Free Zone without Vaccination (4)

# FMD outbreaks 2000 to 27 March 2000



All serotypes as officially reported to OIE,WRL,FAO

**Appendix 2**

# Assessment of the epidemic of 1999 and perspectives for the control of foot-and-mouth disease in the Maghreb:

## Report of the FAO meeting held in Tunis on 17 and 18 February, 2000

The aim of the meeting was to prepare the second phase of the RADISCON (Regional Animal Disease Surveillance and Control Network) project and to prepare a regional project for the control of foot-and-mouth disease. The 4 Mediterranean Maghreb countries were represented: Algeria, Morocco, Tunisia and Libya.

The animal population in the Maghreb is 5 million large ruminants and approximately 50 million small ruminants.

Animal population in the Maghreb countries:

| Countries | Number of cattle | Number of Small Ruminants |
|---|---|---|
| **Morocco** | 2 800 000 | 21 million |
| **Algeria** | 1 300 000 | 16 -18 million |
| **Tunisia** | 443 000 | 6 -7 million |
| **Libya** | 160 000 | 9,8 million |

### Report of Algeria

165 outbreaks of foot-and-mouth disease were recorded in Algeria during the epidemic of 1999. The first outbreak was observed on February 20 and the last on April 4, 1999. A total of 179 holdings, corresponding to 4,046 animals, were affected. 90 % of the cases were butchers' cattle. Among those, 1,591 were destroyed and 1,356 were slaughtered.

3 outbreaks were observed in small ruminants, two in the east and one in the west. Obvious clinical cases were observed in the outbreak in the west and 30 of the 40 animals present presented clinical signs. Collection of material from mouth lesions was carried out.

A vaccination campaign was immediately undertaken, initially as a ring vaccination, then extended to all the cattle of Algeria. Vaccine O1 Manisa was used. A total of 1,262,416 bovines were primo-vaccinated. This corresponds to 104,89 % of the estimated livestock what indicates an obvious undervaluation of the statistics of the cattle population. 59,55 % of the primo-vaccinated cattle received a second vaccination between 1 and 3 months after the first injection. In addition 911,500 head of sheep and 56,876 head of goats were vaccinated around the ovine outbreaks. A total of 135 million dinars, the equivalent of US$ 2 million, was spent on the acquisition of vaccine. The compensation corresponded to 72 million dinars - approximately US$ 1 million

The difficulties encountered were due to the Eid period , the inexperience of young veterinarians, the vastness of the territory and especially the difficulty of getting the necessary vaccine to vaccinate countrywide.

A campaign of annual revaccination of cattle is currently in progress since the beginning of January and by the beginning of February 41,36 % of the cattle population had been vaccinated.

In the short term, the objective of Algeria is to reinforce the FMD surveillance and to vaccinate the cattle population for a period of at least three years.
Two observation stations for the monitoring of foot-and-mouth disease and other exotic diseases will be set up in the south of Algeria, one in Adrar and the other in Tamanraset. Adrar is the obligatory passage of all movements of animals coming from Mali and important dairy farms are located in the zone. Some will remain unvaccinated and will be used as sentinels. These two stations will be equipped to be able to carry out serological tests.

A Technical Co-operation Project of FAO (TCP) is currently in progress.
It will provide for:

- the organisaton of two workshops for the veterinary surgeons of the public sector of the South and the East of the country. Two other workshops are planned for Willayates of the West and of the Centre.
- the laboratory of Tizi-Ouzou to be equipped to the level P3 for the diagnosis of foot-and-mouth disease. Staff training is envisaged with the CISA Madrid. This laboratory will be able to then carry out detection of the antigens and the antibodies of foot-and-mouth disease including the Non-Structural Proteins(NSP) test, and it is also envisaged that it will carry out PCR.
- a decentralisation of serology of foot-and-mouth disease to the regional laboratories in particular in the South is also envisaged.

**Report of Morocco**

A total of 11 outbreaks were observed only in cattle in 1999. They correspond to 153 bovines present of which 32 presented the disease. They were all slaughtered and the thirty-two sick animals were destroyed. The origin of the outbreaks in the centre of the country was undoubtedly the movement of sheep, during the Eid period.
A generalised vaccination of all the bovines was undertaken starting from the end of February 1999 which was completed on May 10, 1999. It is estimated that a total of more than 2 700 000 bovines were vaccinated in a population of approximately 2 800 000.

790,000 sheep and goats were also vaccinated in the provinces of the north of Morocco as a conservative measure. This corresponds to 89 % of the livestock of the area concerned.

The strategy of Morocco is to vaccinate cattle for at least three years with a vaccination coverage of 80 % of the estimated population. Serology will be carried out to estimate the level of vaccine coverage and serological monitoring will be carried out in small ruminants to verify that the virus does not circulate.

**Report of Tunisia**

The representative of Tunisia explained the link between the two outbreaks of foot-and-mouth disease in Tunisia in 1999. He considered that the infected small ruminants of the first outbreaks were the cause of the second outbreak. Tunisia intends to continue preventive vaccination of all

the susceptible population - large and small ruminants - for at least 3 years and will undoubtedly continue afterwards because of the particular risk involved.

**Report of Libya**

The representative of Libya did not provide precise information on the situation of foot-and-mouth disease in his country. The last reported outbreak was 1994 and the country does not have a laboratory for FMD diagnosis. The cattle population - estimated at approximately 160,000 - is vaccinated annually against foot-and-mouth disease. The sheep - 9,8 million - have recently been identified by an ear tag, but they are not vaccinated against FMD.

**Regional project for the control of foot-and-mouth disease for the Maghreb**

Following this meeting, a project document will be prepared by FAO. This document will be presented to the countries concerned before being proposed for funding. The goal of this project is to ensure co-ordination of the activities for the control of foot-and-mouth disease similar to the model of the program for the eradication of sheep pox currently in progress in the region. This project will be submitted for funding particularly to the EU.
The broad outline of the project appears below:

General situation and objective
Contrary to the countries of the Middle East, the Maghreb is free from foot-and-mouth disease and incursions of the virus occur from time to time (every 10 years). The objective of the project is to improve the FMD situation and FMD monitoring during the next 3 years and to envisage stopping vaccination in certain countries after this period.

Regional coordination
FAO will coordinate the project

Extension of the program
Four countries (taking into account epidemiology, Libya should definitely be associated.)

Vaccination Measures
Annual vaccination of cattle of more than 6 months for at least 3 years with a vaccine of type O meeting the standards of OIE and the European Pharmacopoeia, of 6 PD 50 minimum.
Vaccination of small ruminants in the areas and zones at risk
Shortening of vaccination campaigns and harmonisation of vaccination periods between the countries.

Emergency stock
Need to establish a regional bank of vaccine or antigen.
Location, financing and method of use yet to be to determined.
Will have to contain types O, A and SAT 2 which exists in the neighbouring countries
1 million doses of each type.
Currently Morocco reformulates the FMD vaccine starting from bulk antigen.

Active surveillance
Verify that there are no viruses circulating.

Verify the vaccine coverage (seromonitoring)

Research Topic Regional
- regional surveillance network (see RADISCON)
- co-operation between the Institutes of research of the Maghreb countries
- role of the small ruminants and vaccination in small ruminants
- role of small ruminants in the 1999 epidemic
- validation under the conditions of the Maghreb of the 3 ABC test
- comparison between oil vaccines and Al OH 3 vaccines in the various species
- development of a simulation model of the episodes of FMD and decision-making aid for the Maghreb.

Sensitising of the partners, contingency plans and updating of legislative measures

Medium-term prospects: after 3 years
Stop vaccination in Algeria and in Morocco and consider reinforcement of vaccination in Tunisia and Libya.

Appendix 3

# OIE/FAO World Reference Laboratory for Foot and Mouth Disease*
# CUMULATIVE REPORT FOR JANUARY - DECEMBER, 1999

| COUNTRY | No. of samples | FMD virus serotypes | | | | | | | SVDV (a) | NVD (b) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | O | A | C | SAT1 | SAT2 | SAT3 | ASIA 1 | | |
| AFGHANISTAN | 24 | - | - | - | - | - | - | - | - | 24 |
| ALGERIA | 4 | 4 | - | - | - | - | - | - | - | - |
| BAHRAIN | 7 | 5 | - | - | - | - | - | - | - | 2 |
| BANGLADESH | 5 | 4 | 2 | - | - | - | - | - | - | - |
| BOTSWANA | 8 | - | - | - | - | - | - | - | - | 8 |
| BURKINA FASO | 5 | - | - | - | - | - | - | - | - | 5 |
| BURUNDI | 7 | 1 | - | - | 3 | 3 | - | - | - | - |
| CAMBODIA | 7 | 7 | - | - | - | - | - | - | - | - |
| COTE D'IVOIRE | 28 | 5 | - | - | - | - | - | - | - | 23 |
| GAMBIA | 14 | 2 | - | - | - | - | - | - | - | 12 |
| GUINEA | 13 | 5 | - | - | - | - | - | - | - | 8 |
| HONG KONG | 25 | 23 | - | - | - | - | - | - | - | 2 |
| INDIA | 15 | 14 | - | - | - | - | - | - | - | 1 |
| IRAN | 63 | 45 | 3 | - | - | - | - | 3 | - | 12 |
| IRAQ | 29 | 19 | - | - | - | - | - | - | - | 10 |
| ISRAEL | 5 | 5 | - | - | - | - | - | - | - | - |
| ITALY | 9 | - | - | - | - | - | - | - | 9 | - |
| JORDAN | 5 | 3 | - | - | - | - | - | - | - | 2 |
| KENYA | 9 | 3 | - | - | - | 5 | - | - | - | 1 |
| KUWAIT | 2 | - | - | - | - | - | - | - | - | 2 |
| MALAYSIA | 9 | 8 | - | - | - | - | - | 1 | - | - |
| MAURITANIA | 23 | - | - | - | - | - | - | - | - | 23 |
| MOROCCO | 12 | 8 | - | - | - | - | - | - | - | 4 |
| NEPAL | 9 | 6 | - | - | - | - | - | - | - | 3 |
| NEW CALEDONIA | 5 | - | - | - | - | - | - | - | - | 5 |
| PHILIPPINES | 10 | 6 | - | - | - | - | - | - | - | 4 |
| QATAR | 3 | 1 | - | - | - | - | - | - | - | 2 |
| SAUDI ARABIA | 7 | 5 | - | - | - | - | - | - | - | 2 |
| SPAIN | 5 | - | - | - | - | - | - | - | 1 | 4 |
| SUDAN | 5 | 4 | - | - | - | - | - | - | - | 1 |
| SYRIA | 1 | 1 | - | - | - | - | - | - | - | - |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TAIWAN PROVINCE OF CHINA | 3 | 3 | - | - | - | - | - | - | - | - |

| COUNTRY | No. of samples | FMD virus serotypes | | | | | | | SVDV (a) | NVD (b) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | O | A | C | SAT1 | SAT2 | SAT3 | ASIA 1 | | |
| TANZANIA | 64 | - | - | - | 37 | 1 | - | - | - | 26 |
| TUNISIA | 5 | 5 | - | - | - | - | - | - | - | - |
| TURKEY | 10 | 4 | 3 | - | 2 | - | - | 3 | - | - |
| UGANDA | 10 | - | - | - | 2 | - | - | - | - | 8 |
| UNITED ARAB EMIRATES | 9 | 5 | - | - | - | - | - | - | - | 4 |
| VIETNAM | 30 | 29 | - | - | - | - | - | - | - | 1 |
| YEMEN | 6 | 5 | - | - | - | - | - | - | - | 1 |
| ZAMBIA | 2 | - | - | - | - | 2 | - | - | - | - |
| TOTAL | 512 | 235 | 8 | - | 42 | 11 | - | 7 | 10 | 200 |

- Institute for Animal Health, Pirbright Laboratory, Woking, Surrey GU24 ONF, U.K.

(a) swine vesicular disease virus

(b) no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus detected

_ one sample from Bangladesh contained a mixture of foot-and-mouth disease virus types O and A

211 out of 270 positive samples tested as original suspension were typed by enzyme linked immunosorbent assay (78%) and the remainder (22%) were typed as tissue culture

OIE/FAO World Reference Laboratory for Foot and Mouth Disease*

**CUMULATIVE REPORT FOR JANUARY - MARCH, 2000**

| COUNTRY | No. of samples | FMD virus serotypes | | | | | | | SVDV (a) | NVD (b) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | O | A | C | SAT1 | SAT2 | SAT3 | ASIA 1 | | |
| CAMBODIA | 13 | 7 | - | - | - | - | - | - | - | 6 |
| IRAQ | 25 | - | 2 | - | - | - | - | - | - | 23 |
| ITALY | 6 | - | - | - | - | - | - | - | 6 | - |
| LAOS | 3 | 3 | - | - | - | - | - | - | - | - |
| LEBANON | 7 | 4 | - | - | - | - | - | - | - | 3 |
| MALAYSIA | 4 | 3 | - | - | - | - | - | - | - | 1 |
| REPUBLIC OF KOREA | 3 | 3 | - | - | - | - | - | - | - | - |
| TAIWAN PROVINCE OF CHINA | 1 | 1 | - | - | - | - | - | - | - | - |
| THAILAND | 12 | 5 | 6 | - | - | - | - | 1 | - | - |
| TOTAL | 74 | 26 | 8 | - | - | - | - | 1 | 6 | 33 |

* Institute for Animal Health, Pirbright Laboratory, Woking, Surrey GU24 ONF, United Kingdom.

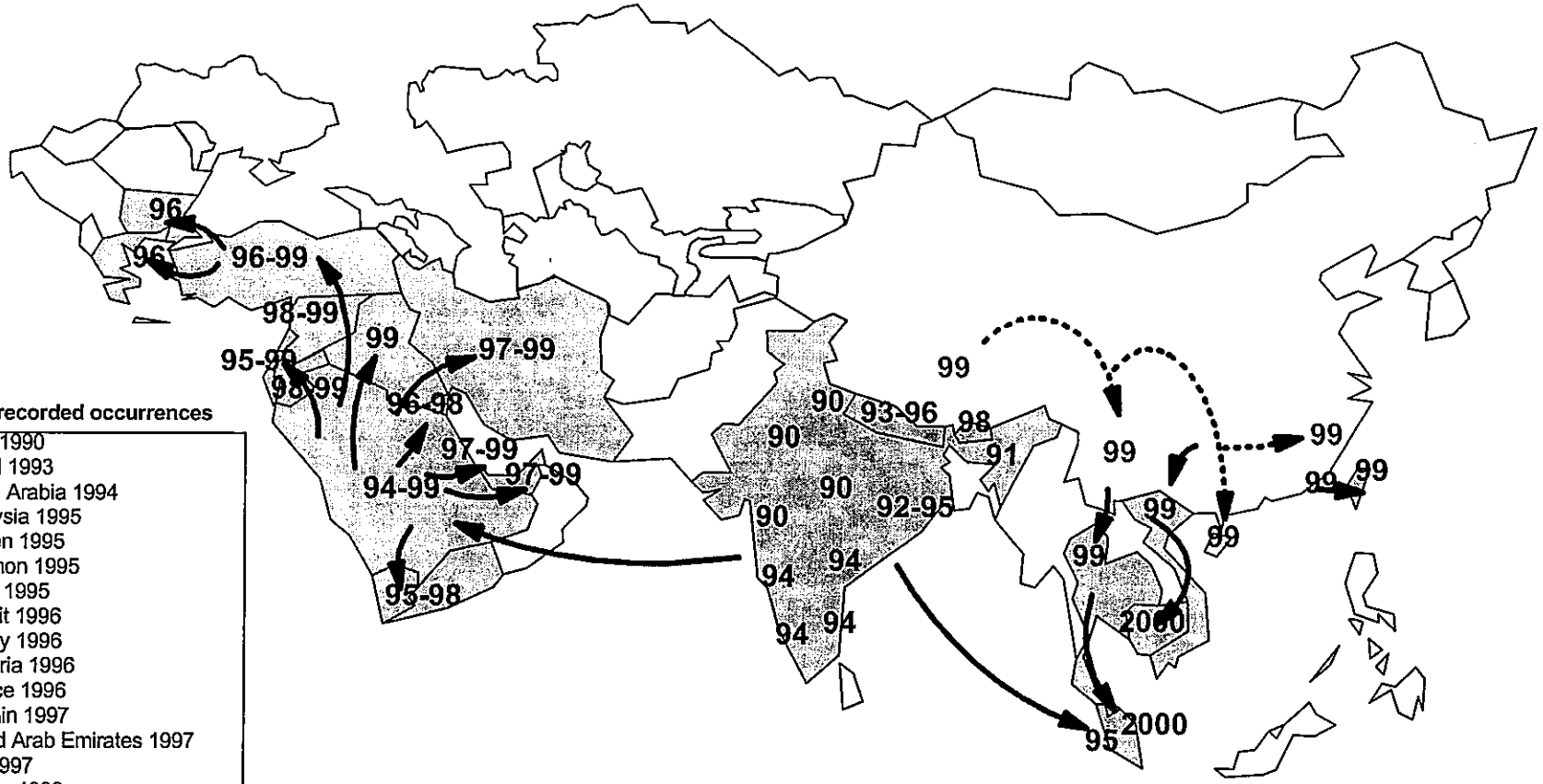
(a) Swine vesicular disease virus

(b) no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus detected

19 out of 21 positive samples tested as original suspension were typed by either enzyme linked immunosorbent assay or RT-PCR (90%) and the remainder (10%) were typed as tissue culture

NPF, 9th April 2000

# Conjectured spread of the India-90 lineage of the South Asian topotype of FMDV-O




**First recorded occurrences**

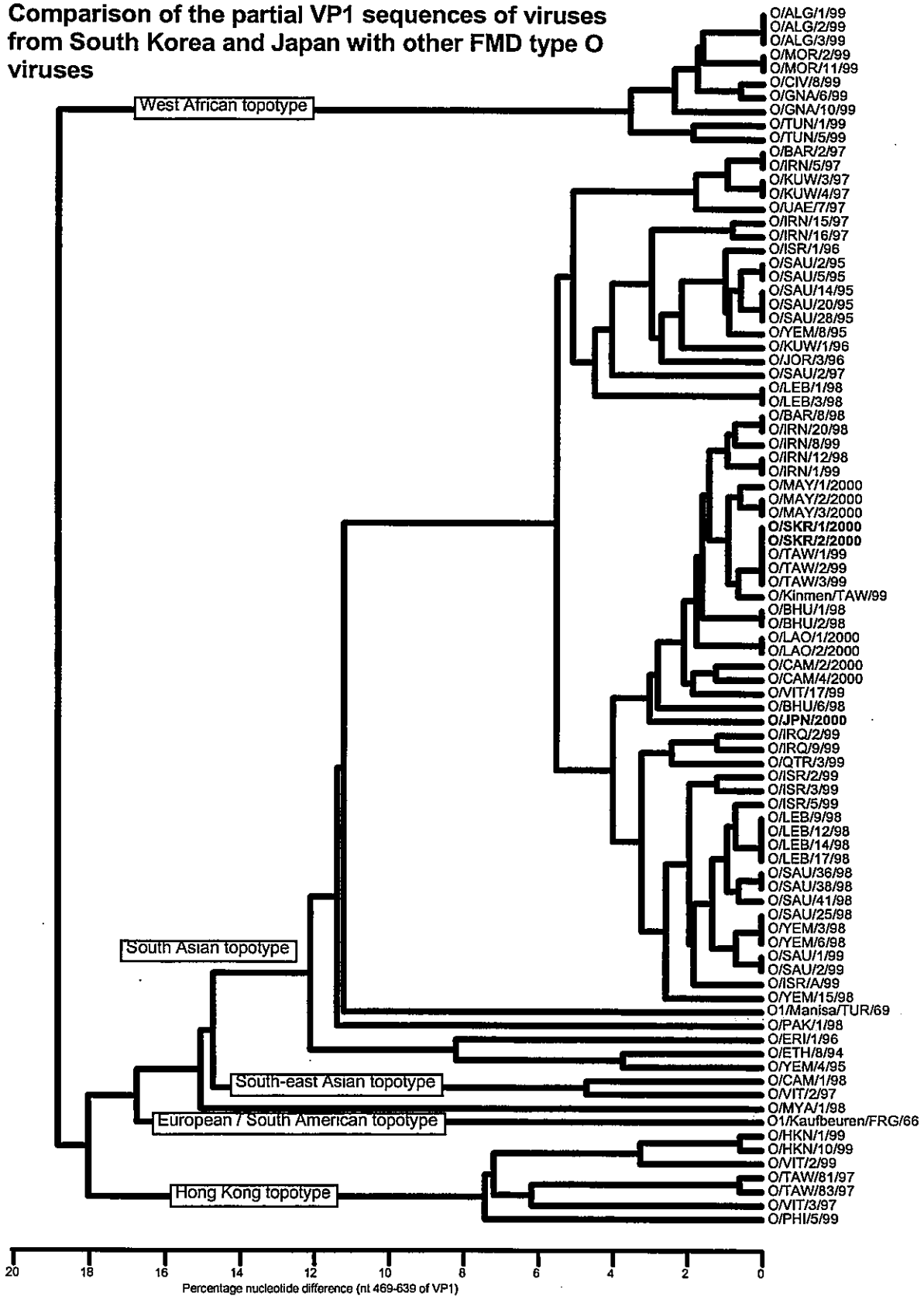
| |
|---|
| India 1990 |
| Nepal 1993 |
| Saudi Arabia 1994 |
| Malaysia 1995 |
| Yemen 1995 |
| Lebanon 1995 |
| Israel 1995 |
| Kuwait 1996 |
| Turkey 1996 |
| Bulgaria 1996 |
| Greece 1996 |
| Bahrain 1997 |
| United Arab Emirates 1997 |
| Iran 1997 |
| Bhutan 1998 |
| Jordan 1998 |
| Syria 1998 |
| Taiwan Province of China 1999 |
| Qatar 1999 |
| Iraq 1999 |
| Thailand 1999 |
| Vietnam 1999 |
| Cambodia 2000 |

**99** Virus isolated and sequenced by WRLFMD (Pirbright) or IVRI (India)

99 Virus isolated in China (sequence not available)

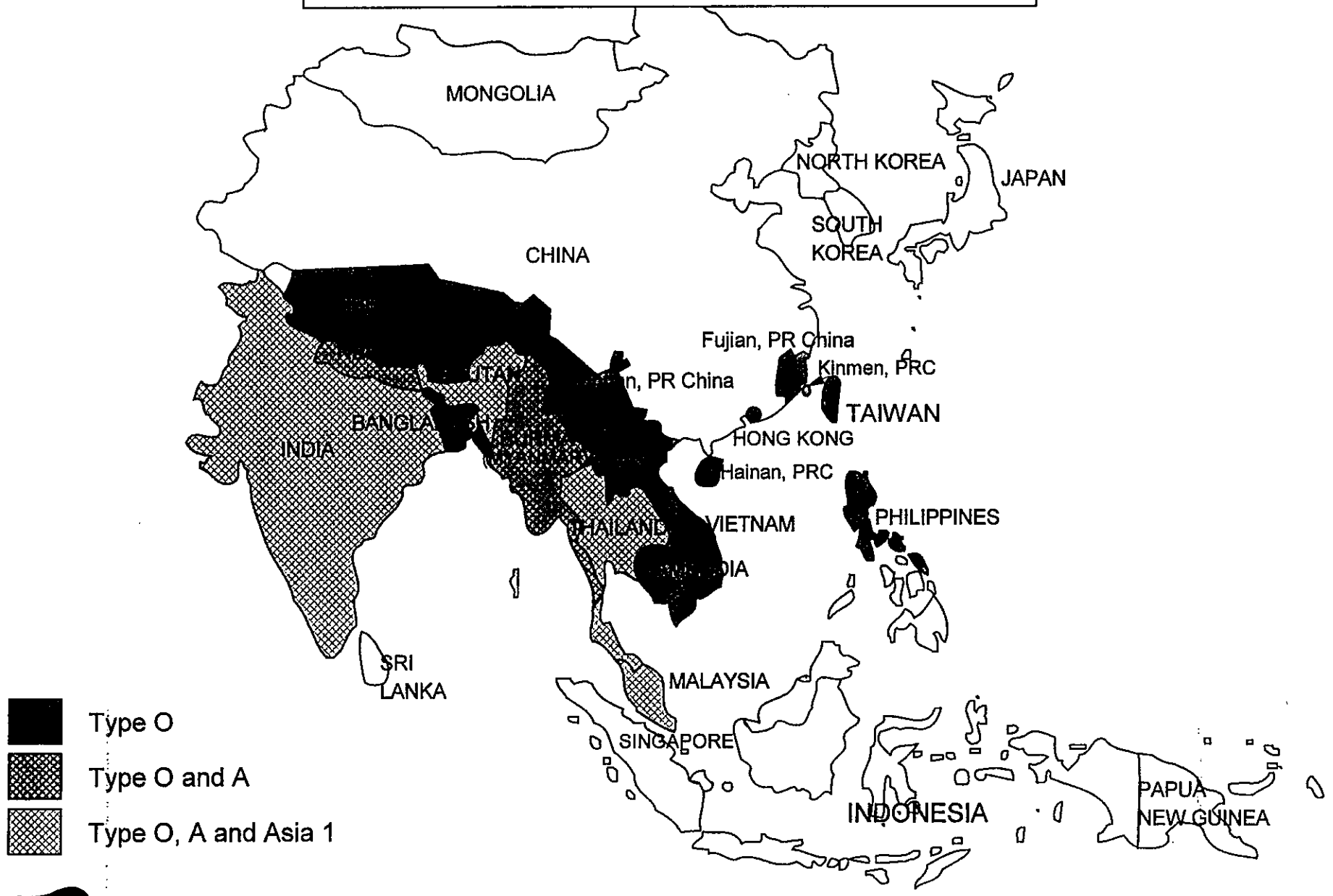
IAH
Pirbright Laboratory

**Comparison of the partial VP1 sequences of viruses from South Korea and Japan with other FMD type O viruses**




N.J. Knowles, P.R. Davies, A.R. Samuel and T. Kanno, 3 April 2000

# FMD in South East Asia 1998 - 1999



**Appendix 4**

## FMD SITUATION IN TURKEY

Foot-and-Mouth Disease (FMD) has been one of the most important disease causing significant economic losses in Turkish livestock sector. Together with these direct losses, export restrictions on several agricultural products cause additional losses to the Turkish economy.

FMD type **O is the most common serotype** in Turkey, which has been causing major outbreaks every year. The sequence data available shows that type O viruses isolated from Turkey belongs to a genotype which is also present throughout the Middle East to India and North Africa for at least the past 30 years. The data supports the idea that there is a constant virus exchange between these countries. **Type A is the second serotype** that has been regularly isolated from outbreaks, although this type disappears from the field time to time (e.g. August 1990-April 1991 and December 1993-February 1995). Molecular epidemiogical analysis showed that there is a constant change of the type A strains in Turkey and the new strains replaced the previous strains. The last two introductions from Iran (1996 and 1999) were also antigenically different compared to the Turkish vaccine strain A/Mahmatlı. In addition to these two strains a **third serotype, Asia 1**, was also discovered first in Iran than in Turkey in 1999. All these development shows that more importance has to be given to this region to prevent the spread of the disease further to the West.

During the last twelve months in 1999 **3** serotypes **(O, A and Asia 1)** of FMDV caused totally **57** outbreaks in Turkey (Table 1). Type O was responsible for most of these outbreaks. Type A was not reported in the first half of 1999. Type Asia 1 was reported in October.

Table 1: FMD outbreaks in 1999.

| Serotypes | Months | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. '99 | Feb. '99 | Mar. '99 | Apr. '99 | May '99 | June '99 | July '99 | Aug. '99 | Sep. '99 | Oct. '99 | Nov. '99 | Dec. '99 | |
| O | 6 | 3 | 4 | 3 | 4 | 4 | 3 | 2 | 3 | 3 | 5 | 5 | 45 |
| A | - | - | - | - | - | 2 | - | 1 | 1 | 2 | - | 1 | 7 |
| ASIA 1 | - | - | - | - | - | - | - | - | - | 3 | 2 | - | 5 |
| **TOTAL** | 6 | 3 | 4 | 3 | 4 | 6 | 3 | 3 | 4 | 8 | 7 | 6 | 57 |

The number of animals infected with type A FMDV and number of susceptible animals to infection in these outbreaks are given in Table 2.

Table 2: A type FMDV cases in 1999.

| Months | No of outbreaks | Province | Species | Number of animals in outbreaks | | |
|---|---|---|---|---|---|---|
| | | | | Susceptible | Infected | Deaths |
| June/99 | 1 | Ardahan | Bovine | 500 | 15 | - |
| | 1 | Iğdır | Bovine | 78 | 23 | 3 |
| August/ 99 | 1 | Ağrı | Bovine | 500 | 1 | - |
| September/99 | 1 | Samsun | Bovine | 171 | 4 | - |
| October/99 | 1 | Bursa | Bovine | 11 | 3 | - |
| | 1 | Kütahya | Bovine | 165 | 17 | - |
| December/99 | 1 | Erzurum | Bovine | 500 | 15 | 7 |
| **TOTAL** | 7 | | | **1925** | **78** | **10** |

The number of animals infected with type Asia 1 FMDV and number of susceptible animals to infection in these outbreaks are given in Table 3.

Table 3: Asia 1 Type FMDV cases in 1999.

| Months | No of outbreaks | Province | Species | Number of animals in outbreaks | | |
|---|---|---|---|---|---|---|
| | | | | Susceptible | Infected | Deaths |
| October/99 | 2 | Ağrı | Bovine | 1050 | 33 | 4 |
| | 1 | Tokat | Bovine | 350 | 6 | - |
| November/99 | 2 | Ankara | Bovine | 298 | 28 | - |
| **TOTAL** | **5** | | Bovine | **1698** | **67** | **4** |

Thrace Region of Turkey is composed of 5 provinces (Edirne, Kırklareli, Tekirdağ, European parts of Istanbul and Çanakkale) separated from Anatolia with Bosphorus. FMD susceptible animal population is about 1.421.339 in this region (468.160 large ruminants and 953.179 small ruminants). No FMD outbreak was reported since Autumn/1996 in this Region. To maintain the disease free situation, strict measures are being implemented and regular disease surveillance is carried out. Every year all cattle are vaccinated two times and sheep and goats once with bivalent (A Mahmatlı 65 and O Manisa 69) FMD vaccine.

Following A Iran 96 outbreaks in Turkey, at the beginning of the last year, an emergency vaccination programme was applied by the aid of EU in Thrace. 311.472 large ruminants and 636.550 small ruminants were vaccinated with monovalent A Iran 96 FMD vaccine for that purpose. A serosurvey was conducted to examine the efficacy of the vaccination campaign by General Directorate of Protection and Control (GDPC), The Ministry of Agriculture and Rural Affairs (MARA), in Turkey and EUFMD Committee. Triplicate serum samples (prevaccination, 28 and 90 days post vaccination) were tested at Şap Enstitüsü, Ankara. The results showed that the seroprevalence was 67.16% for large ruminants and 42.39% for small ruminants.

The vaccine production at the FMD Institute (SAP Institute) for 1999 is given in Table 4. The production is still going on at the Institute. Low production figures are due to the long interval given for the construction of air conditioning and air filtration system of the production unit.

Table 4: Vaccine production in 1999

| Vaccine strain | **Amount produced (cattle doses)** |
|---|---|
| O Manisa | 9.650.000 |
| A Mahmatlı 65 | 3.200.000 |
| A Ankara 98 (Iran 96) | 750.000 |
| Asia 1 | 1.400.000 |
| **Total** | **15.000.000** |

A serosurvey has been planned by GDPC and Şap Enstitüsü to examine the antibody levels of the livestock after the second round of vaccination (Autumn campaign) in 1999. But, according to information that we received from Pirbright IAH, which is mentioning the difference of the type A field virus from the vaccine strain, the protection level of A Ankara 98-vaccine strain will not be high enough. So this working plan is postponed to next campaign.

The frequent variations in the A type virus cause serious problems in the control of the disease by vaccination. The laboratory tests indicate that the conventional vaccines are far from the capability to protect the susceptible population from the new A type FMD.

The major efforts of veterinary services in Turkey have been directed towards control of foot-and-mouth disease by vaccination of cattle, sheep and goats annually. Cattle, sheep and goats were vaccinated two times with bivalent vaccine in Thrace, only cattle were vaccinated two times with bivalent vaccine in Anatolia In 1999. The vaccination figures for 1999 is shown in Table 5.

Table 5: Vaccination figures for 1999

| **Region** | | **Animal Population** | | **Vaccination** | |
|---|---|---|---|---|---|
| | | Large rum. | Small rum. | Large rum. | Small rum. |
| THRACE | EDİRNE | 112.234 | 237.586 | 240.186 | 53.623 |
| | TEKİRDAĞ | 95.180 | 168.650 | 125.584 | 39.473 |
| | KIRKLARELİ | 90.200 | 266.800 | 147.387 | 129.505 |
| | İSTANBUL | 80.507 | 91.680 | 86.779 | 36.407 |
| | ÇANAKKALE | 106.258 | 632.500 | 84.625 | 136.455 |
| | Subtotal | **484.379** | **1.397.198** | **684.561** | **395.463** |
| Buffer Zone | | 877.869 | 1.700.154 | 927.151 | 253.373 |
| Remainig zone | | 9.502.515 | 32.286.201 | 6.279.681 | 2.899.243 |
| **TOTAL** | | **10.864.763** | **35.383.553** | **7.891.393** | **3.548.079** |

Turkey has increased its efforts to control FMD in recent years. To increase the farmer participation in disease control programs, it was decided to charge farmers for FMD vaccines in 1995. This increased the budget of FMD Institute significantly and some major investments have been realised since than. The budget of FMD Institute since 1996 and some major investments are shown in the tables (Tables 6 and 7).

Table 6: Total budget and investment budget of FMD Institute

| YEAR | TOTAL BUDGET(USD) | INVESTMENT(USD) |
|---|---|---|
| 1995 | 1.800.000 | |
| 1996 | 2.524.000 | 500.000 |
| 1997 | 2.950.000 | 565.000 |
| 1998 | 3.400.000 | 1.200.000 |
| 1999 | 3.260.000 | 720.000 |

Table 7: Major investments in FMD Institute in recent years

| INVESTMENT | YEAR | TOTAL COST(USD) |
|---|---|---|
| Air conditioning and air filtration of the production unit | 1998-1999 | 1.000.000 |
| Air conditioning and air filtration of the isolation and small animal unit | 1997 | 140.000 |
| Equipment and systems for oil adjuvanted vaccine production | 1999 | 375.000 |
| Molecular epidemiology lab. | 1999 | 150.000 |
| Small vaccine bottling system | 1996 | 180.000 |
| Automation of 37°, 26°, 4° C water sytems in the production unit | 1998-1999 | 200.000 |
| Walk in –20°C | 1998 | 80.000 |
| New incinerator | 1997 | 60.000 |
| New pure steam generator | 1997 | 40.000 |

As can be seen from the tables Turkey has been investing significant amounts of money to increase the quantity and the quality of FMD vaccines, which will in turn, contribute for the control of FMD in Turkey.

Turkey will continue to invest in FMD Institute to improve the conditions further. Air conditioning and filtration systems and refurbishment of the diagnosis and control sections, production of oil adjuvanted vaccine, repairment of the waste treatment system and filtration and concentration of FMD antigens for the vaccine production can be mentioned in this context. European Union may contribute to the efforts of Turkey through the installation of filtration and concentration system.

In addition a national FMD commission has been established to review the control policies and form the basis of a new control programme in 1999. Commission is composed of six members (3 from GDPC and 3 from the Institute, Şap Enstitüsü). It is decided to invite observer from related private company to the commission. As a result a new control programme was formed for the year 2000. In the present situation the vaccination programme in Turkey will be as follows:

**1. Thrace and Marmara Region:**
Biannual vaccination of all ruminants with a bivalent vaccine (A and O types) in Thrace region (Edirne, Tekirdağ, Kırklareli, İstanbul and Çanakkale) and provinces surrounding the Marmara Sea (Balıkesir, Bursa, Yalova, Kocaeli, Sakarya, Bilecik, Bolu, Anatolian parts of İstanbul and Çanakkale).

**2. Black Sea Region:**
Biannual Strategic vaccination of large ruminants with a monovalent vaccine (O type) in Artvin, Giresun, Gümüşhane, Kastamonu, Ordu, Rize, samsun, Sinop, Trabzon, Zonguldak and Bartın Provinces. Disease is not reported for many years in this Region.

**3. In the other regions:**
Biannual vaccination of all large ruminants with a monovalent vaccine (O type) in the remaining region.

In the case of type A or other exotic type outbreaks additional ring vaccination with a monovalent vaccine.

Vaccination campaign will be completed within two months in all Provinces.

The Minister of Agriculture and Rural affairs starts the spring vaccination campaign in February for public awareness.

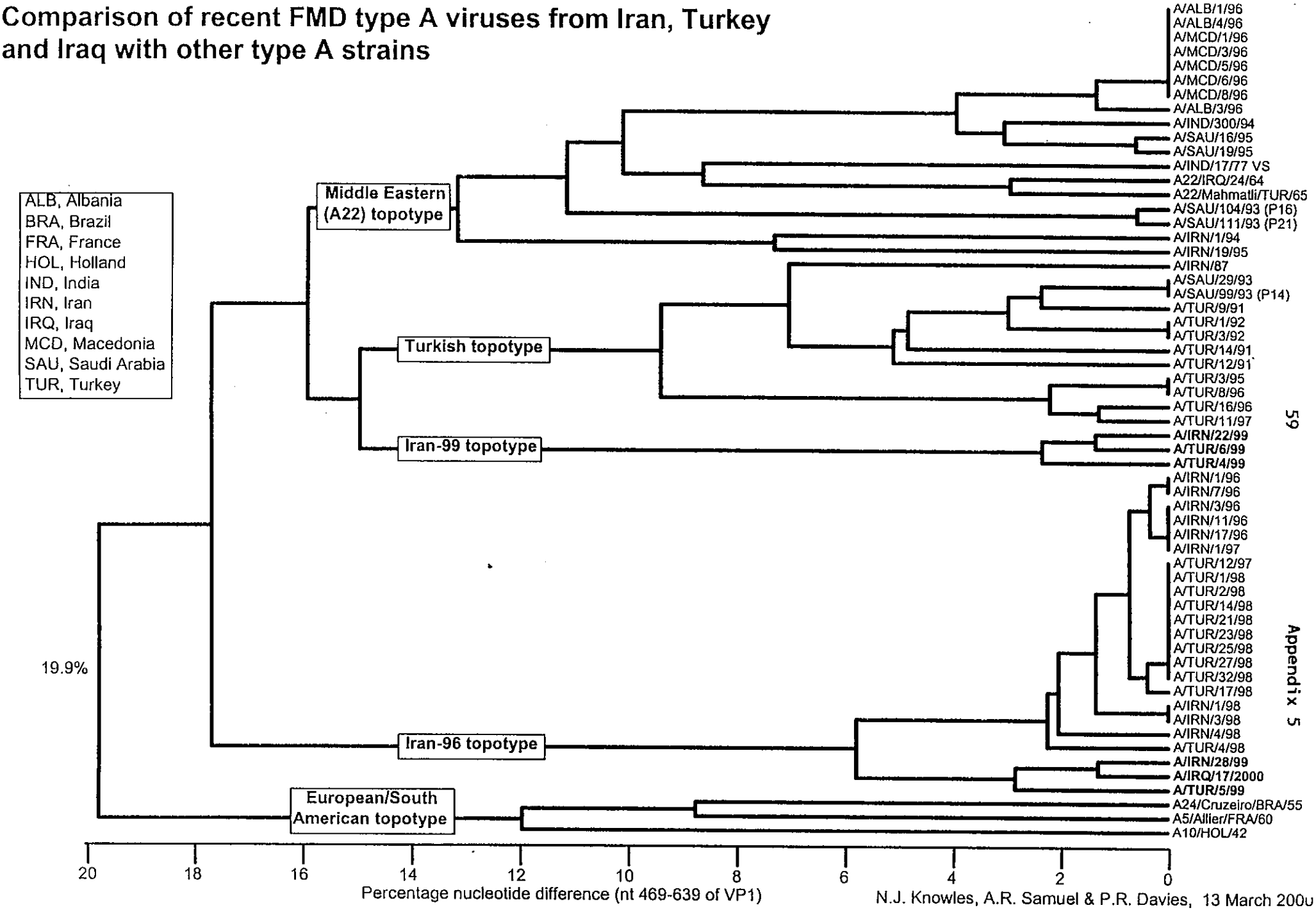
Active surveillance in the field especially Kars, Ardahan, Iğdır, Ağrı, Van, Hakkari and Şırnak Provinces.

Evaluation of the vaccination campaign efficiency.

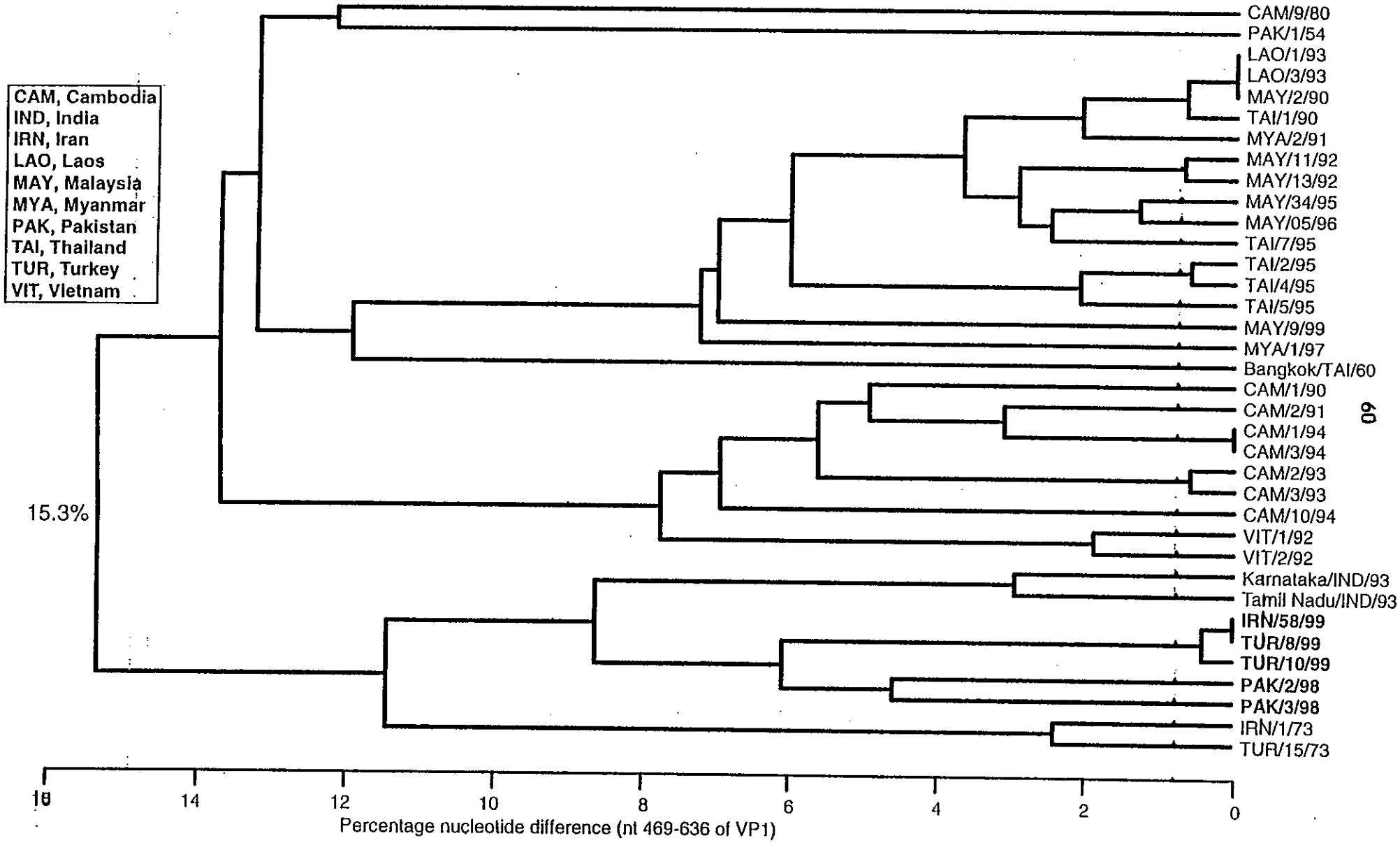
It is clear that Asia 1 type and variations in A type FMD is a potential risk for Turkey and also for Europe. TURKEY should be considered a high risk area regarding the transmission of the disease to Europe. By the way, the following actions might be supported to solve the problem:

- European Union may contribute to the efforts of Turkey through the installation of filtration and concentration system.
- Direct assistance for FMD vaccine production in Turkey.
- Quality assurance and quality control of the vaccine produced in Turkey.
- Improvement of Road Inspection Posts
- Improvement of Border Inspection Posts
- Improvement of Animal Markets
- Identification of Cattle

# Comparison of recent FMD type A viruses from Iran, Turkey and Iraq with other type A strains



# Recent FMD type Asia 1 viruses from Iran and Turkey are most closely related to viruses from Pakistan




N.J. Knowles and A.R. Samuel, 13 November 1999

**Appendix 6**

## FAO Sponsored activities in Turkey and Iran:

## FAO TECHNICAL CO-OPERATION PROJECT TCP / INT / 8992 : STRENGTHENING THE CONTROL OF FOOT-AND-MOUTH DISEASE: EMERGENCY PREPAREDNESS

### INTRODUCTION

The appearance in Iran in 1996 and in Turkey in Dec. 1997 of a new type A FMD virus (A/Iran/96) that was antigenically distinct from existing vaccine strains and from previous type A viruses in the region, caused great alarm in the international community. EUFMD and its member countries were particularly alarmed by the threat of rapid spread of the virus from Turkey to the rest of Europe where the entire populations of cattle, small ruminants and pigs were fully susceptible to the virus after years of freedom from the disease without vaccination.

Various measures were put in place to protect Europe in 1998, including a vaccination campaign in Thrace against the new virus type, and an international expert in FMD Control was sent to the region to report on the disease control situation in both I.R. Iran and Turkey and suggest ways to improve the control of FMD in both countries. The result of his mission was a proposal for a TCP (Technical Co-operation Project) between FAO and both countries.

After some initial concerns from the TCP unit in FAO that the proposed project did not meet the criteria for Emergency TCP's, an amended project was finally agreed in late 1999 after yet another new antigenically distinct type A virus emerged and serotype Asia 1 re-invaded both countries after a lapse of many years.

### MAIN ELEMENTS OF THE TCP

#### Co-operation

The most important aspect of this TCP is its catalytic role in developing a good professional relationship between the veterinary services of both countries. It is hoped that the strong co-operation and good personal relationships required during this TCP will be continued into the future and that this co-operation will form the basis of any future FMD control initiatives in the region.

#### Inputs by FAO

Aside from the technical services provided by the Secretariat of EUFMD and their colleagues in the Animal Health Division, FAO is contributing US$355 000 towards the various activities outlined in the work plan. A large proportion of this budget - 51% - will be spent on acquiring equipment and reagents for the diagnostic laboratories and vaccine production plants in both countries. The other major budget components are Training; Expert Missions; a letter of agreement with the World Reference Laboratory and Travel .

#### Work Plan

The summary of the activities is outlined below:

- Community Awareness activities for FMD and the National Control Programs
- 3 Meetings of the National Project Co-ordinators to develop the co-operation and ensure smooth running of the project.

- 2 visits by two FMD experts from each country to offer advice and participate in training workshops.
- A 4 week mission by an international expert in FMD to catalyse the start of the project and advise on the key areas for improvement over the course of the TCP.
- Procurement of Equipment and Reagents for both countries as prioritised by the International Consultant.
- Training in FMD virus diagnosis, typing, serological tests (including antibodies to the non-structural viral proteins) and virus characterisation techniques for 1 scientist from each country at the World Reference Laboratory, Pirbright, UK for one 1 month
- Training in FMD Vaccine Quality Control, Vaccine Quality Assurance and Good Manufacturing Practice (GMP) and quantification of FMD antigen for 1 scientist from each country at the ID-DLO, the Netherlands for one month.
- Two 2 week technical workshops and training sessions will be held one in each country to formally exchange expertise and training in specific tests and techniques. These workshops will help disseminate the knowledge learned on the training sessions above and will leverage off the combined expertise attending.
- Two backstopping missions from FAO HQ.
- A Research programme will be conducted under the guidance of the WRL.

**Outputs**

The objective of this TCP is to improve the overall FMD situation in both countries through the provision of emergency assistance to control the spread of the new FMD viruses, the strengthening of the technical capability for monitoring FMD occurrences in the region (an essential pre-requisite for rapid and effective control) and the introduction of means for the overall future control of FMD, with benefits accruing to the progressive control of other serious communicable diseases of animals in the region. The specific expected outputs are:

- control over the spread of type Asia 1 virus in the region;
- enhanced interregional communication and collaboration with respect to transboundary movement of FMD and other epidemic diseases;
- improved knowledge of the movement of animals within the countries and between the two countries;
- intensified field surveillance activity and improved reporting systems;
- improved capability for laboratory diagnosis and characterisation of the virus;
- strengthened capacity and capability for serological testing and seromonitoring;
- improved vaccine quality, potency and relevance to circulating field viruses;
- improved control strategies and vaccination campaigns;
- heightened community awareness of, and involvement in, FMD control and emergency preparedness;

**PROGRESS TO DATE**

**Mission of the International Expert**

The mission assessed the current FMD situation in each country and the capabilities of the National Veterinary Services to mount successful control campaigns for the disease. Based on a thorough examination of the FMD situation, the National Veterinary Service's Control Plan, the Epidemiology system, the National Diagnostic Laboratories and the National Vaccine

Production Institutes, the mission finalised details of the TCP such as the topics to be covered in the International Study Tour and the training workshops, the individuals that would most benefit from the study tours and training workshops, the organisation of the joint research project and also the lists of equipment and reagents that are needed most urgently in each country.

In addition to those details, the co-operation and good professional relationships hoped for in the TCP began most promisingly with everyone benefiting from the excellent hospitality, openness and professionalism of both National Veterinary Services. Many opportunities for the exchange of reagents, epidemiological information and professional visits were identified and commitment were made to actively pursue these outside the terms of the TCP.

Finally, the mission addressed the specific weaknesses in each country's FMD control situation.

## Main Problems with Disease Control

### Animal Movement

There is extensive movement of live animals - sometimes illegally - both internally and across the international borders of both countries.

This is compounded by the fact that both the countries themselves and neighbouring countries are endemic for FMD.

The main reasons for these movements are cultural and historic traditions of animal movement, nomadic and transhumantic movements and most importantly due to large price differentials for meat in the region. This is most notable between Afghanistan where the price of meat can be up to 5 times lower than in Turkey.

While such large price gradients exist between Istanbul and countries such as Afghanistan and Pakistan, it will be extremely difficult to stop animal movements.

While officially forbidden, animal movements will necessarily be illegal. There is a large recognition of this problem in both countries and efforts are under way in both countries to mitigate the effects of this illegal animal movement.

Control of Animal Movements between the two countries is an area with great scope for improved collaboration during the course of this TCP.

### Vaccination

Although the problems with vaccination in the two countries are not the same, there are common problems that need addressing.

*Vaccination Campaigns*

Vaccination campaigns in both countries are limited by lack of sufficient quantity of locally produced vaccine to cover the entire national herd of susceptible animals against the currently circulating types. Therefore strategic vaccination is the only available option.

Good plans for strategic vaccination are available in both countries and will be improved in the future as a result of the greater epidemiological information that will be made available through improvements in epidemiological surveillance systems and laboratory diagnosis and strain characterisation resulting from this TCP.

*Vaccine Relevance*

The relevance of the FMD vaccine to circulating field strains is difficult to achieve in the region due to the continual emergence of antigenically distinct new type A viruses and the constant introductions of new viruses with live animals arriving from the East.

Including many valances in the vaccine and constantly monitoring the circulating field viruses is difficult and puts pressure on limited resources.

The capability to accurately diagnose and characterise circulating field strains is currently present in Turkey and will be introduced to Iran during this TCP.

*Vaccine Quality*

In both countries, there are question marks over the potency of the locally produced vaccine.

In both countries plans are at an advanced stage in transferring the final control of the vaccine from the producing institute to an independent quality control laboratory. In Turkey, responsibility for QC will soon be transferred from the SAP Institute to a newly constructed vaccine control facility in Bornova. In IR Iran, responsibility will soon be transferred from the Razi Institute to the Central Veterinary Laboratory.

In neither country does vaccine production comply with the principles of GMP and modern Quality Assurance systems.

A persistent problem in both countries is the availability of susceptible cattle for potency testing by challenge.

**Strategic Priorities for the Control of FMD in IR Iran**

To concentrate on evaluating, and if necessary improving, the quality of the nationally manufactured FMD vaccine in respect of:

- incorporation in the vaccine of viral strains relevant to the current and evolving field situation
- assurance of vaccine innocuity
- assurance of vaccine potency by challenge testing in cattle, and by adopting the acceptance criterion of a minimum of 3 cattle $PD_{50}$ per valency per cattle dose.

To prioritise the national vaccination campaign to make best use of the currently available vaccine in the following order of precedence:-

- regular vaccination and revaccination of high yielding, intensively managed dairy cattle (as currently practised)
- regular vaccination and revaccination of cross-bred dairy cattle (as currently practised)
- regular vaccination and revaccination of indigenous cattle
- vaccination of sheep and goats

To increase the availability of FMD vaccines of adequate quality in order to meet all national requirements.

To further strengthen the various elements of the control of animal movement, both of movement across international borders (particularly from the East) and within I R Iran.

To define the national plan for the control of FMD, including a contingency plan, and to revise these at least annually, or more frequently as called for by developments in the epidemiological situation.

To increase the support and involvement of the agricultural community in the control of FMD.

**Strategic Priorities for the Control of FMD in Turkey**

To concentrate on evaluating, and if necessary improving, the quality of the nationally manufactured FMD vaccine in respect of: -

- incorporation in the vaccine of viral strains relevant to the current and evolving field situation
- assurance of vaccine innocuity
- assurance of vaccine potency by challenge testing in cattle, and by adopting - to the greatest extent possible - the acceptance criterion of a minimum of 3 cattle $PD_{50}$ per valency per cattle dose.
- installation of independent quality assurance testing and release of FMD vaccines.
- accelerating the development and introduction of oil adjuvanted FMD vaccine.
- increasing the availability of FMD vaccines of adequate quality in order to meet all national requirements.

To increase active epidemiological surveillance in order to improve the level of national coverage and to obtain the earliest possible recognition of new foci and of the emergence of new virus types and variant strains.

To extend the ongoing programme for the identification of individual animals as rapidly as possible.

To continue to strengthen measures for the control of animal movement, especially at the eastern borders and across the Bosphorous and the Sea of Marmara, and also within the country.

To continue to increase the support and involvement of the agricultural community in the control of FMD.

**Appendix 7**

## Report of Russia: final Technical Report on the implementation of the Letter of Agreement for year 1999 signed between FAO and ARRIAH, Vladimir

***Contents:***



## 1 Introduction

1.1. Epizootic FMD situation in Turkey-Iran-Pakistan Region has worsened lately and the fact creates additional risk of FMD spreading on the territories which have an FMD favourable situation. 65 countries were unfavourable for Food-and-Mouth Disease in 1998-1999. Including: 28 countries on the African continent, 27 – on the Asian continent and 5 – in South America. During the same period of time 5 CIS countries: Armenia, Georgia, Kazakhstan, Kyrgyzstan and Turkmenia informed about FMD outbreaks on their territories. Analysing the FMD situation on the Euro-Asian continent one should pay the attention to existence of 2 parallel large centres of infection:

- India – South-Eastern Asia – China
- Turkey – Near East – Pakistan

Among them the last one is of direct danger for Russia and Europe.

1.2. The FMD introduction to the European continent is possible through 2 regions

- Turkey- Balkan Sates- Europe;
- Transcaucasia – Russia – Europe.

The third possible way of FMD entry is from the region of Iran-Afghanistan-Pakistan through the countries of Central Asia and then to Russia and Europe.

1.3. The Programme on Buffer Zone Maintenance has been successfully put into practice in the first abovementioned region (Turkey –Balkan States – Europe). At the same time the joint FAO-OIE-EC programme is carried out there together with national programmes.

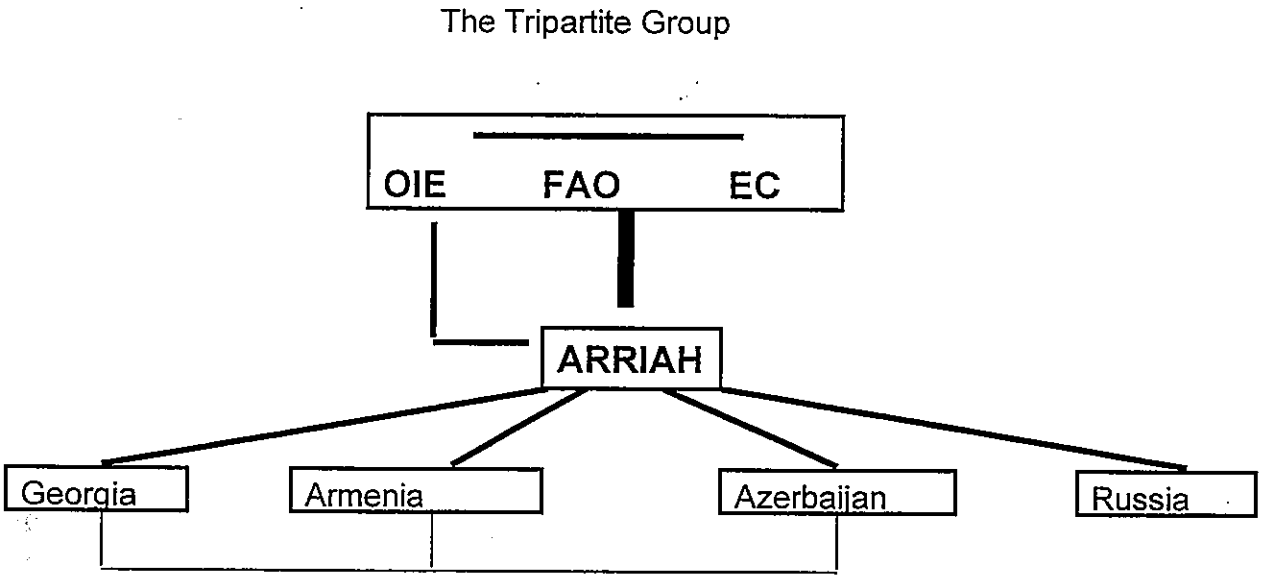
1.4. In 1997-1998 a similar pilot project was discussed and adapted for the Transcaucasia-Russia-Europe Region. Since May, 29, 1999 the project has been proceeding on the territories of Azerbaijan, Armenia, Georgia and in North Caucasian Region of Russia.

1.5. The pilot project is put into effect through the ARRIAH ( Vladimir, Russia). The activities carried out under the project have been decided and monitored by the Tripartite FAO-EUFMD, EC and OIE Group. It has been financed by EC under the

EC/FAO trust funds 911100 and a Letter of Agreement (LOA) precising the details of the project has been signed between ARRIAH and FAO.

*Fig.1*

*Organizations taking part in implementation of the pilot project on FMD control*




## 2 FMD situation in the Caucasian Countries, Central Asia and Russia

2.1 In the mid-60s FMD was widely spread on the territory of the USSR, including the Transcaucasian Region. By the middle of 80-s the stable situation had been achieved on the territory of the country as a result of intensive antiepizootic activities and implementation of the programme of mass vaccination of animals against FMD. However, the epizootic FMD situation aggravated again in the 90-s and especially on the territories adjacent to the southern border of the ex-USSR and particularly in Transcaucasia.

From the given data one can see that during the last 15 years only 3 single FMD outbreaks that were liquidated in their primary centres were registered on the territory of Russia. All these 3 outbreaks were registered rather far from the FMD endemic regions and, undoubtedly, were the result of entry of the agent from outside (Voronezh, 1990; Tyumen, 1993; Moscow, 1995).

Simultaneously, one should pay attention to the fact of considerable increase of the number of FMD outbreaks and constant registration of FMD cases in the countries of Transcaucasus. During the last 10 years Georgia was unfavourable for FMD for 8 years, Armenia – for 6 years, Azerbaijan – for 2 years. Beginning from 1998 new variant of the agent type A, identical to Iran 96, was registered in Armenia and Georgia.

At the same time, epizootic situation on FMD in Central Asian region, where during the last years the FMD cases caused by type O virus became more frequent, is getting worse.

2.2. It should be noted that out of 15 states formed of the territory of the former USSR 6 countries did not provide the OIE with official and full information about the epizootic situation in 1998. These countries are Armenia, Georgia, Kazakhstan, Kyrghyzstan, Tajikistan and Turkmenistan. According to the official data such countries of the former USSR as Azerbaijan, Armenia, Georgia, Kazakhstan, Kyrghyzstan and Turkmenistan had FMD unfavorable situations in 1996 – 99.

2.3. During 1998 four Kazakhstan Regions (Alma-Ata, Kzyl-Orda, Dzhambul, South Kazakhstan Region) and the Republics of Armenia and Georgia were affected with FMD.

2.4. In 1999 the FMD outbreak had been reported from Kazakhstan, Kyrghizstan, Turkmenistan and Georgia.
- FMD type A agent was isolated in Georgia, Adjaria, in September;
- FMD type O agent was isolated in Kazakhstan, Kzyl-Orda region, and in Kyrghyzstan, Talass region, in June;
- FMD type O agent was also isolated in Turkmenistan in Lebab and Achalsk regions in August.

2.5. Last FMD outbreaks reported in 1999 from Turkmenistan, Kyrghyzstan and Kazakhstan are of special concern. FMD (type O) was diagnosed in four north – eastern regions of Turkmenistan (on the Uzbekistan border) and in the south of the country (on the Iran and Afghanistan borders ). The FMD type O agent was reisolated in Kzyl-Orda Region of Kazakhstan in July 1999. In July – August 1999 the FMD outbreak was recorded in Tallass Region of Kyrghyzstan ( FMDV type O). Geographically the Region is separated by mountain masses but it has borders with Kazakhstan and Uzbekistan.

2.6. The additional tension of epizootic situation in the territories adjacent to the Russia – Kazakhstan and Russia – Central Asian Republics borders is caused by the lack of immunized population in this region. For many years animals were not vaccinated here against FMD.

2.7. The Transcaucasian Region is a bridge through which the serges of epizooties reach the territory of Russia (the former USSR) and introduce into it. In particular, the FMD type $A_{22}$ was introduced from Iran to Azerbaijan in 1964 and the subsequent epizooty lasted on the territory of the USSR for almost 30 years.

2.8. Besides FMD type A causative agent which is identical with a new variant of FMDV type A (Iran/96) was isolated in Armenia in 1998. In 1998 it was introduced in Georgia. This variant of FMDV often causes the disease even in vaccinated animals because type $A_{22}$ vaccine provides not very intensive immunity against $A_{IRAN/96}$ variant. FMD virus type A was reisolated in Georgia, near the Turkish border, in September 1999.

2.9. Recently the situation has become aggravated in the whole Transcaucasian Region where according to the information of the EUFMD Commission the wide spread of FMDV types A and O was recorded in Turkish provinces bordering on Georgia and Armenia and on Iranian territories bordering on Azerbaijan and FMDV type Asia-1 was spread from the Iranian border of Turkey to the central region of the country.

2.10. Russia has an FMD favourable situation since 1995 after the eradication of a single FMD outbreak on a pig farm of the Moscow region. Azerbaijan puts into practice the national anti-FMD programme and is an FMD-free country since 1997. Epizootic situation is much worse in Armenia and Georgia. The FMD favourable situation in Armenia lasted only during 4 out of 10 last years and in Georgia – only during 2.

2.11. At present the preventive vaccination against FMD is carried out on 6 per cent of the Russian territory possessing 17.7 per cent of Russian cattle population and 19.5 per cent of sheep. This territory includes the Northern Caucasia, the southern part of the Volga River Region, some districts of Moscow and Vladimir Regions and some regions of Siberia and Far East which border on China. FMD prophylactic vaccination on the territory of Russia spread over 2 regions:

1) territories adjoining Transcaucasian Region
2) territories along the border with China.

Beside, zone of FMD vaccination include 2 regions (Vladimir and Moscow regions) in the centre of Russia where biological complexes producing FMD preparations are localized.

The regions of North Caucasus and Volga river vaccination is carried out on the whole territory, whereas along the border with China and Central part of Russia vaccination include only some regions adjoining the territories threatening with FMD entry.

The whole Russia uses 17 mln doses of bivalent (A-O) FMD vaccine for prophylactic vaccination against FMD annually. From this amount more than 15 mln doses are used in the zone of North Caucasus (12.9 mln doses) and south region of Volga river (2.4 mln doses).Moreover, in the zone of North Caucasus some regions vaccinate not only cattle but also sheep. 100 thousand doses of vaccine used in Vladimir region (Central Russia) for animal immunization around ARRIAH, unlike all other regions, are represented by fourvalent vaccine (A – O – C - Asia-1).

2.12. Due to the sharp deterioration of the FMD epizootic situation in adjacent countries (especially in Kazakhstan and Central Asian countries) the threat of FMD introduction into and spread on the territory of Russia has been greatly increased. The additional factors which aggravate the situation are as follows:

-extensive links of Transcaucasian and Central Asian countries and Kazakhstan with Turkey and Iran;
-unapproved import/export of live animals, feed and animal products;
-animal smuggling; tourism and pilgrimage;
-mass migration on the ethnic basis; ethnic and military conflicts in those regions.

## 3 The Implementation of the LOA : Activities/Services

3.1. During the first 6 months of the project implementation an epizootic survey was carried out on the territories of 8 regions of Georgia, 2 regions of Armenia and 6 regions of Azerbaijan and FMD-affected animals were not registered.

3.2. In September 1999 the ARRIAH received materials obtained from FMD suspected cattle from Adzharia (Georgia). The materials were tested using CFT, ELISA and virus isolation.

3.3. All methods allowed to detect the causative agent of FMDV type A.

3.4. CFT with antiserum to FMDV $A_{22}$ and $A_{Armenia/98}$ strains (n=4) demonstrated that the agent is serologically related to the second of the abovementioned agents (specific activity is 56%). Retrospective study of serum taken from a recovered animal was carried out in liquid-phase blocking ELISA and demonstrated the presence of FMDV type A antibodies at the diagnostic titre. 3 ABC-ELISA confirmed that these antibodies were postinfectious.

3.5 The primary structure of $VP_1$ gene of FMDV was analysed in order to determine the origin and epizootologic relationships of epizootic isolate of FMDV type $A_{GEORGIA/99}$. Its comparative analysis confirmed that the isolate belonged to the FMD genetic line spread lately in the Middle East. $A_{GEORGIA/99}$ isolate had the higher level of homology (97,02%) with $A_{IRAN/96}$ isolate. Homology with FMDV type $A_{ARMENIA/98}$ isolate was 96,39%. At the same time the homology of the Georgian isolate with vaccine FMDV $A_{22}$ N550 strain was only 82,94%. Thus, the investigation determined that FMDV $A_{GEORGIA/99}$ isolate is of "wild" (non-vaccinal) origin. It is obvious that it has epizootologic relationships with FMDV isolated lately in the Middle East and in Armenia.

3.6. Bivalent (A-O) vaccine against FMDV was developed and produced using the new variant of FMDV type $A_{ARMENIA/98}$ (relative to Iran/96 causative agent) in the ARRIAH from December 1998 to March 1999.

3.7. The vaccine was tested for safety and avirulence in the ARRIAH and the WRL (Pirbright, UK) and for immunogenicity in naturally susceptible animals in the ARRIAH. The animals were challenged with FMDV $A_{ARMENIA/98}$ and $O_1$№194 strains 21 days post vaccination with the preparation diluted 1:7. The results showed 100% protection of animals (n=10). The vaccine is delivered to regions directly to CVOs in volumes specified in the Programme. So, in accordance with the LOA FMD vaccine was supplied to the Regions in the amounts specified in the Agreement: 300 000 doses-to Georgia, 250 000 doses-to Armenia and 350 000 doses-to Azerbaijan. The vaccine in accordance with the LOA was supplied to these Republics in the shortest times: custom documents confirm that the vaccine crossed the border in the direction of Georgia on the 23 of June 1999, in the direction of Armenia and Azerbaijan on the 28 of June 1999. In June 1999 during the field trip of ARRIAH specialists to the countries of Transcaucasus vaccine receiving and the way of storage were examined and certified.

3.8. As the LOA was signed and took effect from May, 29, 1999, the urgent vaccination of animals moving to pastures was found to be impossible (animals are on mountain pastures from April till September). It was decided to vaccinate animals as soon as they returned from the pastures in autumn. At present the vaccination is almost finished. The vaccine was delivered to the farmers free of charge.

3.9. In Azerbaijan the vaccine, received in accordance with the program, was concentrated in 3 regions: Nakhechivan Autonomous Republic (enclave on the south of Armenia on the border with Iran), in Astarkhan District on the South-East of Azerbaijan along the border with Iran on the South of the Caspian Sea and in Kazakh District on the North-East of Azerbaijan on the border with Armenia and Georgia. Realization of vaccine in this region was confirmed by ARRIAH specialists during their mission in autumn 1999.

Armenia placed the vaccine in 5 regions adjoining the borders with Turkey and Iran (around the above mentioned Azerbaijan enclave). However, vaccination in these regions will be carried out only in spring 2000 because before this program has started the Government of Armenia bought 1. 299. 900 doses of FMD vaccine in ARRIAH and vaccination was carried out using this batch.

In Georgia the vaccine was placed on the territory of 19 regions along the whole south border of the country. Besides, 15 000 doses of vaccine were sent directly to Abkhazian Autonomous Republic (on the North-West of Georgia near the border with Russia) that is not under the jurisdiction of Georgian Government.

3.10. The vaccine supplied to Russia according to the program covers, on an average, 12.5% of the national vaccination programs that can not be considered as satisfactory proof. In addition, the supplied vaccine in Russia compensate the lowest per cent (1.16%) and the highest per cent (29.1%) of compensation is in Georgia.

3.11. The FMD vaccine was produced and tested for safety, avirulence and potency in the ARRIAH at quantities sufficient for the Programme for FMD Control in Transcaucasia and Russia in the year 2000.

## 4. The Implementation of the LOA: Results

4.1. The first blood samples for sero-monitoring were collected prior to carry out the mass vaccination campaign. The ARRIAH specialists selected and delivered the appropriate samples during their visits to the Transcaucasian Region.

4.2. The regions of blood sampling for seromonitoring in Armenia were : Ararat and Artasiat Regions situated on the border with Turkey, Iran and Azerbaijan enclave (Nakhichevan Autonomous Region). The sampling was carried out in July 1999. The regions of blood sampling for seromonitoring in Georgia were : Khelvacianri, Kobuleti and Osargeti Districts in Adjaria Autonomous Region on the South-West of the country near the border with Turkey along the Black Sea; Borzhomi, Akhalkalani and Akhalrikhe Districts along the south border with Turkey and Armenia; Mzkheta and Gardabani near the border with Armenia and Azerbaijan. The sampling was carried out before mass vaccination in July 1999.

The regions of blood sampling for seromonitoring in Azerbaijan were : 5 districts in Nakhichevan Autonomous Republic (Azerbaijan enclave in Armenia) and Astarinski Districts on the South-East border with Iran near the Caspian Sea coast. The sampling was carried out in October 1999.
In total, 2 018 samples from 11 villages of 2 districts in Armenia, 12 villages of 8 districts in Georgia and 12 villages of 6 districts in Azerbaijan were collected. From all these samples 1 186 sera were submitted for examination, including 969 sera taken from cattle and 217 sera taken from sheep.

4.3. The delivered blood samples were tested in the ARRIAH in liquid-phase blocking ELISA against FMDV types A and O antigens by spot/dot method (in 1:16 serum dilution). The 3ABC-ELISA developed in the IZSLE (Brescia, Italy) was used for the serosurveillance for monitoring of the antibody for FMDV nonstructural proteins (NSPs) and the sera were tested at a 1:100 dilution.

4.4. Positive sera were investigated in 3-ABC ELISA for the presence of post infection antibodies.

4.5. 1186 blood sera including 217 sera from small ruminants were investigated. Significant differences were detected in the presence of antibodies in animals. The percentage of animals with diagnostic titres of antibodies against FMDV was: 22% in Azerbaijan, 24% - in Georgia and 55%- in Armenia. Antibodies against FMDV type O were mainly spread in Georgia and Azerbaijan and antibodies against type A were mainly observed in Armenia. Antibodies were detected in sera of only 5% of small ruminants in Georgia, whereas in Armenia and Azerbaijan in 23% and 24 % of sera, respectively. So, from 215 positive sera brought from Trancaucasia 39% demonstrated the presence of NSPs antibody. The tentative suppositions for that fact are the following:

- the seroconversion after the last epizooty of 1998
- underdiagnosed cases and the possible circulation of FMDV among immunized livestock

The last supposition makes us worry about the FMD favourable situation in border region of Transcaucasian countries and Turkey and Iran.
Besides, in Georgia and Armenia NSPs antibody were found practically in all examined regions, though in Azerbaijan NSPs antibody were found only in Nakhichevan Autonomous Republic, (Azerbaijan enclave in Armenia), but not on the main territory of the Republic.

4.6. Antibodies to nonstructural proteins were detected in 0 – 0.3% of samples from Georgia, in 8 -21% of samples from Armenia and in 8 - 13% of samples from Azerbaijan.

## 5. Proposals for the medium term FMD control measures in Caucasia.

5.1. Continue sera-monitoring in zones of mass vaccination against FMD in Transcaucasia and on the territory of Russia.

5.2. Carry out the isolation and surveillance of isolated agent/s on the basis of the ARRIAH and WRL in case of FMD occurrence on territories of Transcaucasia and Russia.

5.3. Consider the possibility of harmonization of the coverage of preventive and emergency vaccination in the zone under threat (Armenia, Azerbaijan, Georgia) in connection with the deterioration of the FMD epizootic situation in adjacent countries (Turkey, Iran).

5.4. Reinforce regional measures against FMD owing to joining the Program on the part of Kazakhstan. This extension of the zone of joint responsibility for FMD favorable situation is based on the epizootic situation in Central Asian Region and endemic character of FMD in Kazakhstan where FMD exists since 1996 and has a trend to spread to the north of Kazakhstan - Russian border.

5.5. Consider at the joint meeting of countries participating in the creation of the Buffer Zone :

-plans of measures against FMD for every country;
-documentation concerning FMD diagnosis and control;
-amendment of Veterinary Legislation with regard to its expansion to private livestock keepers/farmers.

5.6. Create and equip in the ARRIAH a team of veterinary experts for emergency missions to places of suspected FMD outbreaks for sampling, agent typing and rendering consultations in organization and implementation of measures against FMD.

5.7. Consider the possibility of providing all member countries with a unified information system: e - mail and fax.

5.8. Continue a collaborative survey with Instituto Zooprofilattico Sperimentale (Brescia, Italy) on NSP ELISA in the Transcaucasian Region. For this purpose to allocate additionally US$ 30.000 for the purchase of certain diagnostic reagents in Instituto Zooprofilattico Sperimentale.

5.9. Our suggestion is to take a decision for supporting the Programme for 2000 up to April as it is impossible to carry out spring preventive vaccination at later dates due to mass movements of animals to remote summer pastures.

5.10. In connection with the spread of Asia-1 type agent on territories of Iran and Turkey during last months of 1999 it is necessary to consider the possibility of the application of the trivalent (A, O, Asia-1) FMD vaccine instead of the bivalent one (A, O) used in the Transcaucasia.

**Appendix 8**

## *REPORT OF THE TRIPARTITE OIE/FAO/EC MEETING ON FMD CONTROL IN THE CIS, 14 February 2000, FAO HQ, ROME, Italy*

### Item 1: Review the FMD situation in the Caucasian countries and in other CIS countries

The delegation of Russia, presented a report on the situation of FMD in the region. Since 1996 FMD has been confirmed in Azerbaijan ( type O), Armenia ( type O and A ), Georgia ( type O and A ), Kazakhstan ( type O), Kirghystan ( type O) and Turkmenistan ( type O) and suspected in Uzbekistan and Tajikistan.

In 1999 FMD was reported from:
- **Turkmenistan**: FMD (type O) was diagnosed in four north-eastern regions (on the Uzbekistan border) and in the south of the country (on the Iran and Afghanistan borders ),
- **Kazakhstan**: the FMDV type O was isolated in Kzyl-Orda in July 1999,
- **Kirghystan**: FMD outbreak was reported in Tallas region at the border with Kazakhstan and Uzbekistan in July - August 1999.

The delegates from Russia considered that this epizootic situation in territories adjacent to Russia was caused by the lack of proper immunisation of susceptible animals in these regions for many years. In Russia, no FMD has been reported since 1995. At present preventive vaccination against FMD is carried out on 6% of the Russia territory corresponding to 17.7% of the cattle population and 19.5% of sheep. This territory includes Northern Caucasia, Southern part of the Volga river region, some regions of Siberia and Far East which border China, some districts of Moscow and Vladimir region around the FMD institute.

### Item 2: Progress made in the implementation of the Letter of Agreement signed between FAO and ARRIAH, Vladimir,

The Secretary of the EUFMD drew the meeting's attention to the content of the Letter of Agreement signed between FAO and ARRIAH, Vladimir, on 29 May 1999.

The representatives of ARRIAH stated that the vaccine had been delivered to Caucasia in July 1999.
- 350 000 doses to Azerbaijan
- 300 000 doses to Georgia + 15 000 doses to Abhazia
- 250 000 doses to Armenia
- 150 000 doses to Russia

and 15 000 doses are kept for emergency in the ARRIAH.

The vaccine has been used in 1999, except in Armenia where it has been kept for early vaccination in 2000. A serosurveillance has been organised in the region by ARRIAH. A total of 1186 blood samples including 217 from small ruminants were collected from 8 districts in Georgia, 2 districts of Armenia and 6 districts in Azerbaijan. Examination of sera has been completed by ARRIAH and some sera have also been sent to IZS Brescia Italy for further investigations. Results indicate that 22%, 24 % and 55 % had antibody titres respectively in Azerbaijan, Georgia and Armenia. Out of these positive sera, 3 ABC

antibodies were detected in 0 - 0,3 % in Georgia, 8 - 21 % in Armenia and 8 - 13 % of animals respectively in large and small ruminants.

These figures clearly indicated that there is - or there was - a circulation of FMD virus in the three countries both in small and in large ruminants. This circulation is particularly important in Armenia with respectively 8 and 21 % positive animals to 3 ABC ELISA in large and small ruminants.

ARRIAH also prepared protocol forms, diagnostic reagents and expendable stuff to be provided to Central Laboratories of Trans-caucasian countries. The delivery of this equipment and joint training of Lab specialist were organised in October-December 1999.

**Item 3: Reviews of the answers of CVOs, Armenia, Azerbaijan, Georgia to the letter of Dr Marabelli**

A letter ( in English) from Dr Marabelli was addressed on 8 November 1999 by fax and by post to the Ministers of Agriculture of Armenia, Azerbaijan and Georgia with copies to the CVOs of the three countries.
A translation of this letter in Russian - kindly carried out by Dr Belev, OIE - was addressed to the three Ministers.

The three countries were asked to answer the following four questions:

Quote

*1) What will be the utilisation of the vaccine that you have received from ARRIAH through the OIE/FAO/EC project. Can you please let us know when and where you intend to use this vaccine. If the vaccine or part of it has already been used, a report on the locations, species vaccinated and the date of its utilisation will be appreciated. Maps and other technical documentation are very welcome.*
*2) Can you describe the activities related to the control of FMD that were carried out in 1999 with funding from national resources: zones and livestock population vaccinated, surveillance activities, diagnosis activities etc...*
*3) How do you see the complementarity between the national activities and the OIE/FAO/EC project co-ordinated by ARRIAH?*
*4) What are your views and your expectations about the future control of FMD in the region under a regional program and under the national program.*
Unquote

The Secretary of EUFMD provided a summary of these answers to the participants. In general the CVOs answered only partly to the questions especially regarding their national FMD control program :

Answer from Dr A. Agadjanian, Head State Veterinary Service Armenia ( received on 9 November 1999)

*Utilisation of the vaccine provided:*

250,000 doses of vaccine are still under the authority of Veterinary Service. They will be used in first quarter of 2000 in administrative districts which have borders with Turkey and with Iran.

*Surveillance:*
Vaccination is implemented in late winter, spring and autumn before pasturing of animals. Serosurveillance to monitor vaccination levels was carried our in Amasia, Ani, Aparan, Ararat, Artashat, Ashotck and Talin districts. Samples were examined at the Armenian Scientific Research Institute of Veterinary Medicine. 526 sera from Amasia and Artashat districts were examined in ARRIAH Vladimir for level of antibodies to FMDV. Armenia has a 230 km border with Turkey and a 45 km border with Iran. They wish that the whole Republic of Armenia be considered as buffer zone.

Answer from Dr G. Jikia, Head State Veterinary Service Georgia (letter received on 29 December by Dr Marabelli)

*Utilisation of the 300 000 doses of vaccine provided*
Supplied to the regions bordering Turkey and to the regions which have herds nomadised to summer pastures neighbouring the Turkish borders.
160 000 cattle and 60 000 small ruminants have been vaccinated as on 1 December 1999. The objective is vaccination on the whole territory of the country

*FMD situation:*
- FMD type A was reported in August 1999 in Regions of Adigeni and Akhaltsikhe, bordering Turkey. It was diagnosed by ARRIAH ( see the ARRIAH report)
- it included 6 outbreaks, 652 cattle and 12 pigs were infected, no mortality was observed, it was control by quarantine measures.

*National FMD strategy*
Georgia have spent $ 340 000 in 1999 from the state budget for FMD measures
A total of 750 000 cattle and 280 000 small ruminants were vaccinated in 1999.
Close contact are maintained with ARRIAH which provides vaccines and reagent for the Institute

*.Proposals*
- Essential that the OIE/FAO/EC Buffer Zone project should be continued
- Cost for National FMD programme ( 1999-2001?) is $ 5 446 000
National budget can cover $ 500 000
- Situation complicated by occurrence of Asia 1 in Turkey and Iran : necessary to carry out vaccination against Asia 1 in border region and in nomadic herds. ( using trivalent O, A, Asia 1 .
- 500 000 cattle and 600 000 small ruminants must be vaccinated and national budget cannot cover it.

Answer from Dr Mirsalekh Guseynov, CVO, Azerbaijan (transmitted through ARRIAH - received on 30 November 1999)

*Utilisation of the vaccine provided and serosurveillance:*

Vaccine was provided to the regions with a border with countries where FMD virus was registered.

| *Provinces* | *Doses* | *Serosurveillance* | *Remark / location* |
|---|---|---|---|
| Autonomous republic of Nakhichevan | 250,000 | first collection in October* | Common border with Iran and Turkey |
| Astarinsk Region | 27,000 | first collection in October* | Border with Iran |
| Kazakh region | 73,000 | | Border with Georgia and Armenia |
| Total | 350,000 | | |

** Next collection of samples foreseen in February 2000.*
*2000 sera to be collected.*

*Global FMD vaccination figures for 1999 in Azerbaijan:*

| *Livestock Population / vaccinated in 1999* | *Total* | *Vaccinated in first half 1999* | *Vaccinated in second half of 1999( estimate)* |
|---|---|---|---|
| Large animals | 1, 964,000 | 1,308,000 (66.6 %) | 43 % |
| Small ruminants | 5,814,000 | 3,956,000 (68 %) | 44 % |

*Constraints and Proposals*
- Difficulty in getting vaccine and lack of financial resources.
- Request to continue the OIE/FAO/EC project with participation of ARRIAH for next years.
- Request to extend the project to the regions bordering Iran and Turkey, need 1.5 million doses of vaccine.

The representative of EC informed the meeting that according to the information he got in Brussels TACIS program will not fund for long term activities for FMD control in CIS.

For the representatives of Russia, the program for 1999 as specified under the LOA has been completed and they suggested that the program for 2000 should start immediately so that vaccination could be carried out before that animal are moved to mountain pastures in April.

**Conclusions and recommendations of the meeting:**

***1 - ARRIAH should strictly follow the LOA procedure for reporting. The final technical and financial reports should content detailed description of the field activities in Caucasia***

***2 - As the activities foreseen under the LOA signed between ARRIAH and FAO for 1999 have been completed by ARRIAH, this LOA should be closed by anticipation and a new LOA for 2000 should be prepared as soon as possible. This should allow vaccine delivery to Caucase on due time for vaccination of animals before they are moved to summer pastures.***

*3 - The collaborative study initiated between ARRIAH and the IZSLE, Brescia, Italy in detection of 3 ABC ELISA is encouraged and the meeting recommended that $ 30 000 be allocated for this research and purchase of reagents by ARRIAH.*

*4 - Caucasian countries should be encouraged to provide more information on the FMD situation and control measures and to better integrate the activities carried out through the project within their national FMD programs.*

*5 - On the base of the achievements obtained so far, the 64 th Session of the Executive Committee of EUFMD to be held in Bouillon, Belgium on 30-31 March will discuss how to pursue further activities in the region. A Representative of Russia / ARRIAH should be invited to attend as an observer.*

**Appendix 9**

## REPORT OF THE BRESCIA WORKSHOP ON NSP ELISA

18-21 January 2000

Background and outcome

The EUFMD Commission organized a Workshop (WS) on the detection by ELISA of antibodies against FMDV nonstructural protein 3ABC at the Istituto Zoooprofilattico Sperimentale della Lombardia e dell'Emilia (IZSLE) from 18 to 21 January 2000. The Workshop was sponsored by EC through the EC/EUFMD TF 911100 on the recommendations by the Tripartite FAO/EC/EUFMD meeting for the Balkans held on 13 October 1999 and the 63rd Session of the Executive Committee held in Sithonia, Greece, on 4 and 5 November 1999. Seven laboratory specialists from Bulgaria, Greece, Turkey and Belgium (invited by the IZSLE in the framework of an EU Concerted Action) participated. The instructors were experts from the World Reference Laboratory (IAH, Pirbright) and from the IZSLE.

During infection by FMDV, both structural and non-structural antibodies are produced in the animal wheras after vaccination generally only structural antibodies are induced. Research has shown that the detection of antibodies to the non-structural protein, 3ABC, can be a useful tool in the diagnosis of FMDV and the differentiation between infected and vaccinated animals. A monoclonal-trapping ELISA (MATELISA) using MS-3ABC was developed by the IZSLE, and has been used successfully in the investigation of sera from Albania, FYRO Macedonia and Caucasia. It has also been used in Argentina for demonstrating the absence of circulating virus. At Pirbright, a MATELISA based on the Brescia test but using GST-3ABC as antigen has been developed and used in testing sera from suspected outbreaks in the Balkans and North Africa. It is expected that the 3ABC ELISA could become a major tool for serosurveillance of FMD. Under the new EC legislation for FMD control which is under preparation, it is foreseen that if ring vaccination is carried out for controlling an outbreak, the 3ABC test should be used on all vaccinated animals. The WS in Brescia will initiate the first phase in the transfer of 3ABC ELISA technology to the National FMD laboratories in the Balkan countries.

The WS was opened by the Secretary of the EUFMD Commission. Afterwards, the Chairman of the Research Group gave a presentation in which he explained the background and rationale behind the nonstructural protein tests and particularly the 3ABC ELISA. For the remainder of the workshop, both Brescia and Pirbright ELISAs were first demonstrated by the instructors, then used by the participants to test various ovine and bovine sera.

Conclusions of the Workshop

1 Using the Brescia and Pirbright MATELISAs, the participants tested fifty-two known sera supplied by the two institutes – the sera were from non-infected, infected, vaccinated and also post-vaccinated and challenged animals. Further testing was carried out on two hundred and twenty-eight bovine and ovine sera provided by the participants. These included sera from non-infected, infected, vaccinated and post-vaccinated and challenged animals and field sera which had previously been collected for surveillance. Comparable results were achieved with both tests.

2 The current situation in Turkey and in Iran where 3 serotypes of virus are circulating makes the NSP ELISA very appropriate for detecting the circulation of FMD virus in the neighbouring Balkan region irrespective of whether vaccination has taken place.

Recommendations of the Workshop

1 Regular serosurveillance in the Balkans is encouraged. A sampling rate should be decided on a statistical basis.

2 In vaccinating countries, serosurveillance after vaccination using LPBE is encouraged. Those sera highly antibody positive should be tested for NSP antibodies for evidence of circulating FMD virus.

3 In countries which do not carry out vaccination, the NSP test can be used for serosurveys organised to detect possible subclinical infection.

4 In an interim period both LPBE and NSP tests should be used for serosurveys.

5 Animals for export and import, only LPBE can be used and any animals which are positive cannot be exported.

6 The preliminary results obtained from the use of the NSP test in the Balkan region should be presented to the next Workshop for the Balkans planned for the end of 2000 or in early 2001.

7 It was proposed that NUNC ELISA plates should be used for the forthcoming NSP ELISA program in the Balkans.

8 At present reagents for NSP assays are in limited supply. If these assays become more widely used, consideration should be given to production of these reagents on a larger scale (commercial partner?).

Following the completion of the WS, steps for the transfer of the 3ABC ELISA to the National Laboratories of Greece, Bulgaria, and Turkey, and guidelines for the utilisation of FMD ELISA's (LPBE versus NSP ELISA) have been proposed.

Proposed steps for the transfer of the NSP ELISA to the National Laboratories of Greece, Bulgaria, Turkey:

| | |
|---|---|
| Workshop in Brescia organised by Brescia and Pirbright personnel | 18-21 January 2000 |
| Provision of reagents and quality control sera by IAH and IZSLER to the 3 National labs | March / April 2000 |
| Familiarisation by the National labs of the tests on quality control sera and field sera of known origin | May / August 2000 |
| Submission of the results to IAH and IZSLER | September 2000 |
| Report on the utilisation of the test to the next WS | to be announced |
| Utilisation of the test for serosurveillance | 2001 / 2002 |

Draft proposal for guidelines for the utilisation of FMD ELISAs (LPBE versus NSP ELISA) in Greece, Bulgaria, Turkey

Serosurveillance programs in the absence of outbreaks

*In non vaccinating countries:*

| | |
|---|---|
| Routine use | NSP ELISA |
| Positive sera should be tested with LPBE to identify the serotype | LPBE ELISA |

*In countries / zones where vaccination is practised:*

| | |
|---|---|
| To monitor vaccination campaigns | LPBE ELISA |
| (NSP ELISA should be used on all strong positives to LPBE) | |
| To verify that FMDV virus does not circulate | NSP ELISA |

After an outbreak (serosurveillance around the outbreak)

*In non vaccinating countries if vaccination is not used for the control of the outbreak*
LPBE ELISA

*In non vaccinating countries if vaccination is used for controlling the outbreak*
NSP ELISA

*In countries with routine vaccination* *NSP ELISA*

Import / Export control on individual animals

| | |
|---|---|
| For routine use as OIE only recognise LPBE as a prescribed test | LPBE ELISA |
| (NSP ELISA not recommended for individual animals) | |

The recommendations and the preliminary proposals for guidelines will be discussed at the next Meeting of the Research Group of EUFMD to be held in Borovets, Bulgaria from 4 to 8 September 2000.

**Appendix 10**

# A Proposal for a Revision of the Monograph for FMD Vaccines of the European Pharmacopoeia

prepared by

**THE PHARMACOPOEIA WORKING GROUP**
of the
**RESEARCH GROUP OF THE STANDING TECHNICAL COMMITTEE**
of the
**EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE**

## BACKGROUND

The monograph on FMD vaccines of the European Pharmacopoeia (EP), prescribes principles of preparation and quality criteria for FMD vaccines. The issue of a substantial revision of the FMD Monograph of the European Pharmacopoeia (EP) was first raised at the 1997 Session of the Research Group of the EUFMD in Poiana-Brasov, Romania. It was stressed that the monograph was outdated in several respects and that it contained inadequate procedures. The text in some paragraphs is unclear and new knowledge and important items are missing (e.g. vaccination of pigs). These remarks were confirmed at the 1998 Session of the Research Group in Aldershot, UK, in the framework of a general discussion which included the contributions of private vaccine producers. The recommendation of a substantial revision of the monograph was endorsed by the Executive Committee of EUFMD in Oslo, in November 1998 and by the 33rd Session of the European Commission for the Control of FMD in Rome in 1999, and therefore an ad hoc working group was appointed to elaborate proposals for amendments.

The group came together initially in Rome on 25-26 May 1999 with invited experts, representatives of private companies and the Secretariat of EUFMD and the many issues were discussed in detail. The participants acknowledged the inappropriateness of the current FMD vaccine monograph and held a frank and open discussion on how to make sound proposals for amendments.

A second meeting was held on 28-29 September 1999 in Maisons-Alfort at the time of the Research Group meeting, when the contentious issues were re-examined and consensus was reached on the main proposals for change outlined in this document. The final output of these meetings is a model text for the FMD vaccine monograph of the EP.

As total agreement was not reached on all points in the text, it was suggested that this document indicate clearly and strongly the limitations of the current monograph. In addition, it is very important that this document outlines the changes proposed by the working group for which there was unanimous and strong

support. Finally, this document will present a balanced view of the issues on which there was not total agreement.

As a result, this document will be divided into the following Sections:

1. The Limitations of the Current Monograph
2. The Major Proposed Changes
3. The Potency Controversy

## 1. Limitations of the Current Monograph

There was consensus on what were the major limitations of the current monograph and these can be summarised as follows:

- The Monograph does not recognise the huge developments in Quality Assurance (QA) and in-process control procedures in the manufacturing companies.
- Quality Assurance and in-process control procedures actually reduce the relative importance of the controls on ready-to-use vaccines.
- The monograph does not take into account species other than ruminants. In particular, the importance of pigs in a scenario of emergency vaccination suggests that vaccine potency may be calculated in these animals as well.
- Some manufacturing procedures are outdated and in contrast with other existing regulations.

In addition to these major limitations the following paragraphs will outline some specific problems with the current monograph.

There is a need for replacing some *in vivo* tests with other *in vitro* tests. This is prompted by the present regulations on animal welfare (EEC Directive 86/609) and also by the higher reliability of these latter in vitro tests. As an example, the tongue inoculation procedure can include very few vaccine doses. Furthermore, there is uncertainty as to when the inoculation of the three vaccine doses should take place, whether before or after the tongue inoculation.

There is also confusion between *in vivo* tests on bulk antigen and *in vivo* tests on formulated vaccine.

With regard to potency, the footnote related to alternative validated tests has been omitted in the last edition and potency for pigs is not taken into account. Instead, a test in pigs may be mandatory in the light of the recent appearance of pig-adapted strains such as O Taiwan 1997 that had little, if any, pathogenicity in cattle. There is also no mention of the duration of protection to be conferred by vaccination.

In general terms, the monograph was written when prophylactic vaccination was carried out in most European countries and it was influenced by the once prevailing views about disease control. Nowadays, the monograph should envisage the needs of both prophylactic and emergency vaccinations and harmonise the interests of producers, control agencies and the final users of the vaccine, who should be reassured of the quality of the final product.

With regard to the official control and licensing agencies, it is worth mentioning that the overall picture of FMD control reflected in the EP monograph is far

different from what is experienced now, after the stepwise cessation of prophylactic vaccination in Europe. In addition, the legal status of FMD vaccine has been submitted to a substantial reappraisal and pressure is being exerted to apply the usual licensing procedures under the control of the relevant EU agency (EMEA) to FMD vaccine. In practice, the concept of an ad hoc control procedure based on the National FMD laboratories has been formally challenged (see Prof. Pastoret's report on FMD to the European Commission). Owing to the above, the legislative framework of FMD vaccines and vaccinations is likely to be substantially changed and a revised edition of the monograph must properly envisage such a scenario.

The conclusions of the group are that the current monograph is inadequate in the many ways outlined above. Therefore, the group very strongly recommends that there is a full revision of the FMD monograph of the European Pharmacopoeia.

## 2. THE MAJOR CHANGES PROPOSED

The following section outlines the major changes proposed to the monograph. These changes are designed to address the limitations of the current monograph as outlined in Section 1.

### Structure of the Monograph

The current monograph consists of chapters and paragraphs with the headings outlined in Figure 1. In these chapters methods of production and of tests on bulk

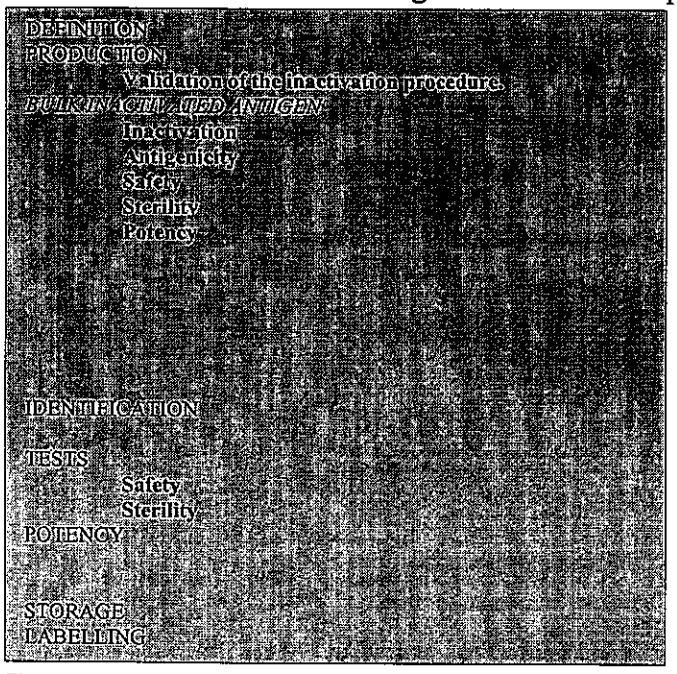



**Figure 1:** Structure of Current Monograph

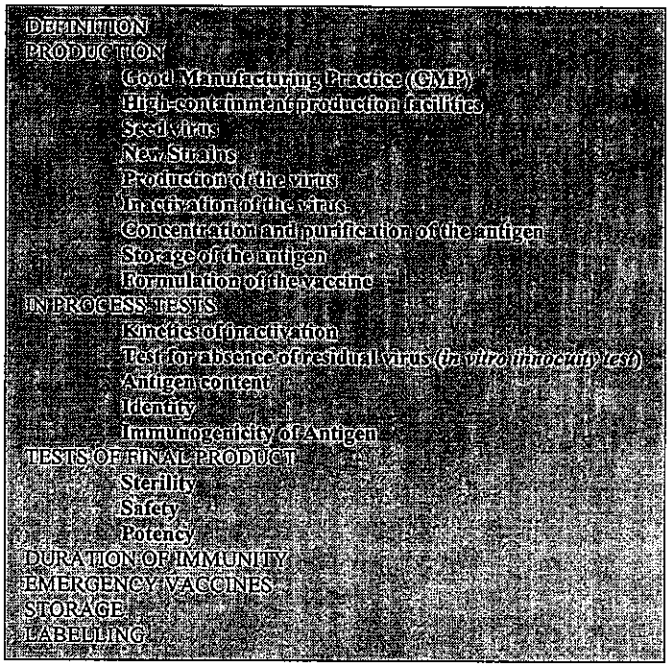



**Figure 2:** Structure of Proposed Monograph

inactivated antigen are mixed up with "in process" tests. In fact, the chapter on production of the antigen also describes the test for validation of the inactivation procedure and a test for freedom of surviving virus. In addition, the tests for antigenicity, sterility and potency are mentioned under "Bulk inactivated antigen".

The chapter "Tests" describes the *in vivo* safety (and innocuity) test and the testing for sterility. A special chapter (Potency) describes the potency testing in cattle only, and not in other species.

A more systematic layout, in accordance with a good manufacturing practice (GMP) approach, is outlined in Figure 2.

### Safety (Detection of Residual Infectivity)

The group proposes that the in vivo test should be omitted and replaced by an in vitro test in a sensitive cell system. This is due to concerns for animal welfare and due to the fact that the in vitro tests are more reliable.

It is also the groups view that the control system should be based on Quality Assurance first; then on the assessment of the inactivation kinetics and finally on safety controls of the bulk inactivated antigen. Thus recognising the huge developments in Quality Assurance and in-process control procedures.

Regarding the criteria for internal validation of the test on bulk inactivated antigen, there was consensus about using an amount of antigen equal to or higher than 200 antigen doses and for the introduction of a cell susceptibility test, based on a small amount of infectious virus which must be detected in the cell culture system used for safety tests.

### Innocuity (Tests for Local and Systemic Tolerance)

It was the group's opinion that the tests currently prescribed in the monograph under the heading "SAFETY" should be carried out during the registration procedure. There was also consensus that the procedures detailed elsewhere in the Ph. Eur. should be omitted for batch release and emergency vaccines.

### New Strains

It was the opinion of the group that following the appearance of new field strains, these may be introduced into the existing registered vaccines without a new registration procedure.

### Potency

There was consensus in the group that FMD vaccine should be potency tested in cattle or in pigs and that the potency test in cattle covers small ruminants, but that not less than 1/3 of a cattle dose should be injected in small ruminants.

The group agreed that the standard procedure is to challenge vaccinated animals and have the results expressed as PD50; a full test is required for registration, but that an alternative and possibly reduced test would be acceptable for batch release. The group felt that a validated alternative test should be used if correlation data with the challenge test are available.

Additionally, it is the opinion of the group that in the framework of a Quality Assurance system, and in particular in a sub-serial system of batch release, one test only is performed for the whole series of batches derived from the same bulk of inactivated antigen. Furthermore, it was felt that if in the framework of a Quality Assurance system, the producer shows consistency of potency results for a particular vaccine strain in at least 3 representative vaccine production batches, then the following batches may be released after a proven serological response in vaccinated animals.

It was the groups opinion that a challenge test in pigs should be detailed in the monograph for the reasons outlined in Section 1.

### Production

It was felt that specific reference should be made to GMP (Good Manufacturing Practice) in the monograph, as adherence to the principles of GMP and QA are essential for some of the proposed changes.

### Inactivation

It was thought necessary to include a specific reference to virus inactivation by a two-tank system as described under GMP principles by means of 1st order inactivants.

### Summary

The above proposed changes indicate practical solutions to the main problems and concerns raised by the present edition of the EP monograph, as outlined in Section 1. On all of the above mentioned points there was consensus among the group for the changes proposed. It is obviously a reasonable compromise between the different needs of vaccine consumers and producers, which acknowledges the dramatic changes in FMD vaccine policy in Europe in recent times.

The changes above have all been incorporated into a model text of the revised monograph. As far as possible, this proposed full text corresponds to the present layout of the EP monograph, while highlighting the possible points of revision.

The group strongly feels that the following critical changes should be part of any revision of the EP FMD vaccine monograph:

- A internal validation procedure for the safety test on bulk antigen.
- A strong reduction of the in vivo tests and, in particular, of the challenge of vaccinated animals in a dynamic link with the Quality Assurance System.
- The distinction between tests needed for licensing and those needed for batch release.
- A challenge test in pigs.
- A reference to Good Manufacturing Practice.

## 3. The Potency Controversy

The most controversial issue within the group was vaccine potency, and in particular whether the passmark for vaccine approval should be 3 or 6 $PD_{50}$. The arguments are outlined below:

### Arguments for Increasing Potency

The dramatic improvements in manufacturing techniques allow the preparation of very potent vaccines against a large array of FMDV strains.

It is arguable that the present system of injection of variable vaccine volumes instead of vaccine dilutions in neutral buffer can give rise to artificially higher $PD_{50}$ values, i.e. 3 $PD_{50}$ obtained with injection of variable vaccine volumes would correspond to 2.2 $PD_{50}$ after vaccine dilution in neutral buffer. In practice, 3 $PD_{50}$ under the vaccine dilution system would correspond to 4.5 $PD_{50}$ under the existing system (Stellmann et al).

The current contracts of sale to European FMD vaccine banks usually refer to a passmark of at least 6 $PD_{50}$.

### Arguments against increasing Potency

Too strong an emphasis on potency may induce overconfidence in the vaccine in several countries to the detriment of other aspects of paramount importance for the success of vaccination campaigns and ultimately for disease control.

It may lead to higher vaccine prices and may prompt reduced usage of FMD vaccines in poorer countries or prompt those countries to use lower quality vaccines produced not in accordance with the high standards of the EP. The disease security of Europe depends on policy decisions like these in neighbouring countries.

**Appendix 11**

## Accounts 1999 (as at 31 December 1999); provisional budgets 2000 and 2001

Statement 1

MTF/INT/011/MUL – TF number 904200
EUROPEAN COMMISSION FOR THE CONTROL OF FOOT-AND-MOUTH DISEASE
Financial Report as at 31 December 1999 (Final)

| | US$ | US$ |
|---|---|---|
| **Balance as at 1 January 1999** | | 165,612 |
| Interest received | 7,018 | |
| Contribution from member countries (As per statement 2) | 297,077 | 304,095 |
| **Expenditure** | | |
| Commission Secretary | 124,428 | |
| Consultant | 9,860 | |
| Admin. Support Personnel | 76,993 | |
| Contracts | 46,262 | |
| Duty Travel | 35,875 | |
| General Operating Expenses | 1,980 | |
| Expendable Equipment | 17 | |
| Non-Expendable Equipment | - | |
| Total Expenditure | | -295,415 |
| **Balance as at 31 December 1999 (Final)** | | 174,292 |

**TRUST FUND No. 9042.00 - MTF/INT/011/MUL -**
**Inter-Regional - Euopean Commission for the Control of Foot-and-Mouth Disease**

Status of Contributions as at 31 December 1999 (Final)
(expressed in US$)

| Member Governments | Outstanding 31/12/1998 | Contribution due for 1999 | Received up to 31/12/99 | Outstanding 31/12/99 |
|---|---|---|---|---|
| **ALBANIA** | 46.00 | 2,600.00 | 2,621.00 | 25.00 |
| **AUSTRIA** | 0.00 | 7,800.00 | 7,800.00 | 0.00 |
| **BELGIUM** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **BULGARIA** | 11,364.99 | 7,800.00 | 7,800.00 | 11,364.99 |
| **CYPRUS** | 0.00 | 2,600.00 | 0.00 | 2,600.00 a/ |
| **CROATIA** | 0.00 | 2,600.00 | | 2,600.00 |
| **CZECH REPUBLIC** | 0.00 | 7,800.00 | 7,800.00 | 0.00 |
| **DENMARK** | -13,000.00 | 13,000.00 | | 0.00 |
| **FINLAND** | 0.00 | 7,800.00 | 7,800.00 | 0.00 |
| **FRANCE** | 0.00 | 26,000.00 | 26,000.00 | 0.00 |
| **GERMANY** | 0.00 | 26,000.00 | 26,000.00 | 0.00 |
| **GREECE** | 0.00 | 7,800.00 | 7,800.00 | 0.00 |
| **HUNGARY** | 0.00 | 7,800.00 | 7,800.00 | 0.00 |
| **ICELAND** | 0.00 | 2,600.00 | 2,600.00 | 0.00 |
| **IRELAND** | 20.00 | 7,800.00 | 7,800.00 | 20.00 |
| **ISRAEL** | 0.00 | 2,600.00 | 2,600.00 | 0.00 |
| **ITALY** | 0.00 | 26,000.00 | 24,706.29 | 1,293.71 |
| **LITHUANIA** | 0.00 | 2,600.00 | 5,200.00 | -2,600.00 |
| **LUXEMBOURG** | 0.00 | 2,600.00 | 2,600.00 | 0.00 |
| **MACEDONIA, Fed.Y.Rep. of** | 15.00 | 2,600.00 | 2,600.00 | 15.00 |
| **MALTA** | 0.00 | 2,600.00 | 2,600.00 | 0.00 |
| **NETHERLANDS** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **NORWAY** | -7,800.00 | 7,800.00 | | 0.00 |
| **POLAND** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **PORTUGAL** | 3,900.09 | 7,800.00 | 11,700.09 | 0.00 |
| **ROMANIA** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **SLOVENIA** | 649.99 | 2,600.00 | 3,249.99 | 0.00 |
| **SPAIN** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **SWEDEN** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **SWITZERLAND** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **TURKEY** | 0.00 | 13,000.00 | 13,000.00 | 0.00 |
| **UNITED KINGDOM** | 0.00 | 26,000.00 | 26,000.00 | 0.00 |
| **YUGOSLAVIA, Fed. Rep. of** | 60,061.30 | 7,800.00 | 0.00 | 67,861.30 |
| TOTALS | 55,257.37 | 325,000.00 | 297,077.37 | 83,180.00 |

a/ Payment reported in September 1999 was reversed at year-end since amount was not collected.

STATEMENT 3



**MTF/INT/004/MUL - TF number 909700**

**FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME**

Financial Report as at 31 December 1999 (Final)

| | US$ | US$ |
|---|---|---|
| **Balance as at 1 January 1999** | | 58,250 |
| Interest received | | 2,067 |
| **Expenditure** | | |
| Consultancy | 1,831 | |
| Duty travel | 4,371 | |
| Support Costs | 372 | |
| Total expenditure | | 6,574 |
| **Balance as at 31 December 1999 (Final)** | | **53,743** |

STATEMENT 4

**MTF/INT/003/EEC - TF number 911100**

**FOOT AND MOUTH DISEASE**

Financial Report as at 31 December 1999 (Final)

| | US$ | US$ |
|---|---|---|
| **Balance as at 1 January 1999** | | 955,829 |
| Interest received | 28,206 | |
| Contribution received | - | |
| | | 28,206 |
| **Expenditure** | | |
| Consultancy | - | |
| Duty Travel | 30,273 | |
| Contracts | 340,000 | |
| General Operating Expenses | -1,582 | |
| Expendable Equipment | -123 | |
| Non-Expendable Equipment | - | |
| Support Costs 6% (on all items except expendable equipmen | 22,121 | |
| Less: Total Expenditure | | 390,689 |
| **Balance as at 31 December 1999 (Final)** | | **593,346** |

**TEMP/INT/974/MSC TF number 081159**

**FOOT-AND-MOUTH DISEASE** Statement 5

Financial Report as at 31 December 1999 (Final)

| | | US$ |
|---|---|---|
| **Balance as at 1 January 1999** | | - |
| Contributions received | 15,000 | |
| Interest received | 47 | |
| | | 15,047 |
| **Expenditure** | | |
| Duty travel | | 13,821 |
| **Balance as at 31 December 1999 (Final)** | | 1,226 |

TF904200 MTF/INT/O11/MUL (TFAA970089122)
European Commission for the Control of Foot-and-Mouth Disease

*Pledges by member countries for the years 2000 and 2001*

| | |
|---|---|
| 2000 | US$325,000 |
| 2001 | US$325,000 |

Budgets (expressed in US$)

| Budget components | | 2000 approved | 2001 proposed* |
|---|---|---|---|
| 1101 | Secretary | 141,628 | 145,168 |
| 1300 | Administrative Assistant | 86,328 | 88,485 |
| | Overtime | - | 1,500 |
| | Support staff | see ** | 15,000 |
| | Subtotal | **227,956** | **250,153** |
| 2000 | Duty travel (Secretariat & NST's) | 30,000 | 31,200 |
| 3000 | Contracts | | |
| | Annual contribution to WRL | 35,000 | 35,000 |
| | Collaborative Laboratory Study | 11,200 | 8,500 |
| | Workshop | 15,000 | - |
| 4000 | General Operating Expenses | 1,000 | 147 |
| 5000 | Expendable equipment | 3,750 | - |
| | Subtotal | 95,950 | 74,847 |
| | Reserve/unallocated funds | 1,094 | |
| | **Total** | **325,000** | **325,000** |

* includes projected cost increase of 2.5% on salaries and 4% on travel
**The Commission at its 33rd Session recommended earmarking a certain amount of funds for temporary assistance to cover administrative work in the case of prolonged absence of staff. For this purpose US$7,800 (from savings as of 31.12.99) will be included in the budget for the year 2000.
***interpreters for 34th General Session

## Budgets for 2000

**Trust Fund 911100 MTF/INT/003/CEE (TFEU970089129)**

| *Budget components* | ***Provisional Budget 2000*** **(approv by 63rd Session)** | ***Proposed for 2000*** **(as per FAO/EC project doc)** |
|---|---|---|
| 1151 Consultants | US$ 50,000 | US$ 15,000 |
| 2000 Duty travel | US$ 70,000 | US$ 50,000* |
| 3000 Contracts | US$ 340,000 | US$ 350,000** |
| Workshop | US$ 15,000 | US $ 15,000 |
| 4000 Gen. Op. Expenses | US$ 2,500 | US$ 2,500 |
| 5000 Expendible equipment | US$ 200,000 | US$ 130,000*** |
| 9100 Support Costs (6% all items except vaccine) | US$ 7,350 | US$ 25,950 |
| Total | US$ 684850 | US$ 588,550 |
| Balance | US$ 747,974 (as of 30.09.99) | US$ 593,346 (as at 31.12.99) |
| *Less proposed expenditure* | US$ 63,124 | US$ 4,796 |

*Research Group
Tripartite meetings
**LOA ARRIAH (340,000)
LOA Brescia/Albania (10,000)
***Emergency vaccine supply (100,000) Reagents (30,000)

TF 909700 MTF/INT/004/MUL (TFAA970089127)

| | Prov. Budget 2000 (approved by 63rd Session of Exec. Comm.) | Proposed for 2000 |
|---|---|---|
| 1151 Consultants | US$ 10,000 | US$ 10,000 |
| 2000 Duty travel | US$ 10,000 | US$ 10,000 |
| 5000 Exp. equipment (vaccine) | US$ 10,000 | US$ 10,000 |
| Exp. equipment (reagents) | US$ 13,000 | US$ 13,000 |
| 6000 Durable equipment | US$ 3,000 | US$ 3,000 |
| 8000 Training | US$ 3,000 | US$ 3,000 |
| 9100 (Support costs (6% all items except vaccine) | US$ 2,340 | US$ 2,340 |
| Total | US$ 51,340 | US$ 51,340 |
| Balance | US$ 51,786 (as at 30.09.99) | US$ 53,743 |
| Balance less expenses | US$ 446 | US$ 2,403 |

**Appendix 12**

**Report of the EC/FAO meeting on the utilisation of Trust Fund MTF/INT/003/EEC 911100 (TFEU970089129) by the European Commission for the Control of Foot-and-Mouth Disease, FAO HQ, Rome, 25 February 2000.**

**Outcome**

Dr Mario Boldrini, Secretary of the Commission between 1962 and 1978 recalled the context of the establishment of TF9111 in 1962. At that time FMD type SAT 1 was threatening to invade Europe through the Balkans. Considering the emergency situation, the Director of AGA Division, on the proposal of UK, asked the Director General of FAO to launch an appeal for funds to combat the disease by establishing a buffer zone. Fifteen countries responded to this appeal and the funds raised were placed in a special account which was the basis for the present TF. No conditions were attached to the utilisation of the TF; instead importance was placed on prompt and efficient action to combat the disease. A Tripartite Group EC/FAO together with OIE was established to monitor the fund and since then this Tripartite Group decides on the activities to be carried out with the funds available. In 1964, the Common Market countries (5) requested FAO that the funds provided should be placed in a separate account. Two separate TF's were then created, 911100 for EC countries and 909700 for non EC countries.

The Secretary reported on recent practices in the utilisation by EUFMD of the EC/FAO TF. Since 1994 the TF has been used for emergency action in Albania, Turkey, and the Caucasus. In addition to the emergency activities ( provision of vaccines, consultancies, missions etc...).the TF has also been used for activities carried out jointly between the EUFMD Commission and EC ( organisation of workshops, of meetings of the Tripartite Group and Research Group meetings). All expenditure under this TF was agreed prior to its being used and accounts of expenditure were provided to EC at Sessions of the Executive Committee and General Sessions of the Commission. Since 1987, no reimbursement has been made by EC with the exception of the costs for the vaccination campaign in Albania and Macedonia in 1996 which were partially reimbursed in 1997.

The representative of FAO Procurement Service ( AFSP) presented to EC the FAO procedures for tendering particularly in respect of vaccine supplies. A copy of the FAO Manual Section 502 regarding procurement was circulated to the participants. He explained that the criterion for choice of suppliers was not always the price but was also based on delivery time and/or other criteria. Technical specifications and the criteria for selection are decided jointly by Procurement service and technical divisions, always before despatch of the call for tenders. Bids are received sealed above a ceiling of $ 25,000, and open under this ceiling. A five person Purchase Committee is in charge of examining and selecting the offers.

The representative of Finance Division explained the FAO financial rules and their compatibility with those of EC was discussed. In general a 13% rate is applied as operating expenses by FAO. However for certain projects, - including the EUFMD

activities carried out under the TF - a special rate of 6 % is applied. The continuation of this rate of charge was accepted by EC. The question related to pool charges was discussed at length and EC delegates explained that there many difficulties for them to accept these charges as a complement to the 6% operating charge rate. The Secretary suggested that no pool charges should be made to the EC/FAO TF and if these were essential they should be charged to TF 904200. This solution was not acceptable for Finance Division due to practical difficulties to implement it.

Concerning future expenses the Secretary proposed that

1) a list of current activities which could be carried out under the TF be established. This was accepted by EC,
2) a prior agreement will continue to be necessary for activities covered by the funds,
3) the activities supported by EC should be executed within the frame work of a 4 year project. A first draft of the implementing agreement - based on another EC/FAO project already accepted by EC - was circulated to the participants at the time of the meeting to guide the discussion

**Conclusions and recommendations**

The following has been agreed between the EC and FAO representatives (subject to endorsement/agreement by their respective hierarchies and authorities):

1) There was no clear procedure so far, either in FAO or in EC on how the EC/FAO TF should be used. This absence of clear procedures created difficulties in the past, in both organisations, and it was agreed that clarification was needed for the future.

2) The future activities carried out by EUFMD under the financial support of EC will be executed in the framework of a four year renewable project. The initial project will cover the period 1 January 2000 - 31 December 2003 and the provisional budget is being set at $ 1 000 000.

3) The balance of the TF 911100 as on 31 December 1999 will be considered as the first contribution of EC to the project. The provisional amounts to $ 611,000 (inclusive of the $ 25,000 corresponding to the interest for 1999 - the US $ 140,000 for the 1999 LOA with Vladimir has been calculated under expenditure 1999 although it is actually being paid in 2000).

4) Full reimbursement to the TF up to the value of $ 1 million by EC will be made on an annual basis after receipt by EC of the annual technical and financial reports of EUFMD on the activities covered by the TF during the previous year.

5) The technical reports as prepared by the Secretariat of EUFMD for the Sessions of the Executive Committee of the EUFMD Commission (held at least once a year ) and to the General Session of the EUFMD Commission (held every two years) will be accepted by EC as official reports in the framework of the current project.

6) The financial reports as prepared by the Chief, Central Accounting and Control Service, Finance Division, FAO and presented by the Secretariat to the Sessions of the Executive Committee and to the Sessions of the Commission will be accepted as the official financial reports in the framework of the current project. In addition to this report, the itemised expenses under the Funds, as available under the new FAO Oracle system will be provided to the EC.

7) The project is monitored by the Secretariat of EUFMD. It will undertake activities oriented to FMD control and prevention which are classified under two categories:
- emergency activities related to the outbreaks of FMD which threaten Europe
- routine activities which are oriented to reinforce the control measures in Europe and the surrounding countries.

8) If exceptional expenses related to emergency activities are paid for by the trust fund and deplete it to a critical level within any given year, then a total or partial reimbursement can be envisaged immediately after these expenses on presentation of a technical and financial report related to this specific activity.

9) FAO/EUFMD will inform EC in case of contracting with third parties (through letters of agreement, contracts, sub-contracts) in the framework of the project. The contractual document should be approved by EC prior to the signature.

**Follow up and proposed timescale**

The draft for implementing the Agreement is being amended by the Secretary and FAO Finance Division to incorporate the proposals from the meeting.

10 March 2000

This document should then be submitted to EC for Agreement.

20 March 2000

The document will be submitted to the 64th Session of the Executive Committee

30-31 March 2000

When agreed by both parties and by the Executive Committee, the Agreement will be signed by FAO and EC and will serve as framework for future activities of EUFMD supported by EC

April 2000

**Appendix 13**

## Note of information on FAO activities in respect of prevention and control of exotic diseases in Europe

**By Yves Cheneau, Chief, Animal Health Service, AGA**

The question of extension of the activities of EUFMD was discussed at length by the 63 rd Session of the Executive Committee in Sithonia which concluded and recommended that:

1. *The Committee is in favour of the principle of paying attention to diseases other than FMD.*
2. *EUFMD has certain specific and comparative advantages compared with other international organisations.*
3. *However, the extension of its activities should be carefully analysed and no action should be taken before the 64th Session. Proposals should be discussed and agreed between the EUFMD and FAO. Both legal and operational aspects should be covered in these discussions.*
4. *A decision should be taken at the 64th Session.*

The overall objective of the FAO Animal Health Service ( AGAH) is to increase the quantity and the quality of animal products by supporting countries or groups of countries in their efforts to control and eradicate economically important animal diseases.
The FAO activities in the field of animal diseases are undertaken in different ways:

1) The normative activities of FAO are carried out in the interest of all member countries without exception. AGAH has thus developed, in the framework of the EMPRES program an information and early reaction system destined to be applied in emergency situations in member countries. A specific computerised program (TADinfo) has been developed for this purpose, and this program is available to member countries. It can be customised to particular situations prevailing in individual countries and AGAH can provide technical support to adapt the program.

2) The Technical Cooperation Programme (TCP): the general framework of this programme is defined in a special document available on the FAO web site at the following address:
http://www.fao.org/WAICENT/FAOINFO/TCD/DEFAULT.HTM

The requests from member countries for FAO support must fulfil certain requirements.
Two TCP projects for the benefit of EUFMD member countries are currently in progress ( or at an advance level of preparation):

- a joint TCP for Iran and Turkey for better control of the new variants of Foot-and-Mouth Disease viruses in the two countries for a total of $ 340,000 ( see item 3 of the agenda)

- a TCP on Biotechnology and Epidemiology for Central and Eastern Europe; one component will concern the organisation of a workshop on Blue Tongue in Bulgaria.

3) All FAO member countries or groups of countries may address a formal request to the Director-General of FAO underlining the national or regional importance of particular situations which come under the mandate of FAO and requesting resources through the Technical Cooperation Programme.

As far as the Regular Program of the organisation is concerned requests must be addressed to the governing bodies of FAO ( Conference/Council ) and/or to the Director-General of FAO.

4) The FAO Regional Office for Europe is in charge of the Secretariat of ESCORENA (European System of Cooperative Research Networks in Agriculture). Within the System a new network can be established for the prevention of exotic diseases in Europe if so requested by member countries. The activities of this network should then be monitored jointly by the Regional Office for Europe and AGAH and particularly the EMPRES program. Extra-budgetary funding for these activities should be found.

5) FAO keeps close contacts with EC and OIE and a joint FAO/CE/OIE activity can also be considered in this domain on the model of the activities on Foot-and-Mouth Disease carried out by EUFMD in the Balkans and in the Caucase. The establishment of a specific Trust Fund for these activities ( Prevention of Exotic Diseases in Europe) could be considered. Extra-budgetary resources should be also identified in this case.

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