

Mission to Trans-Caucasus (Georgia, Armenia and Azerbaijan), October/November 2004

Provisional Recommendations after Mission I

of the EUFMD consultant Carsten J. Pöttsch
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FMD vaccine use

- Storage facilities are urgently needed in Georgia and Azerbaijan as to ensure vaccine quality; on a central level: fridge containers (Georgia), on a regional and county level: fridge containers/fridges, generators, cool boxes and ice packs
- Fresh stocks of vaccine should only be delivered shortly before the beginning of the vaccination campaign, especially to Georgia
- Vaccination campaigns should be conducted as quickly as possible
- The quality of vaccine stored under unfavourable conditions should be investigated
- Temperature records should be kept for vaccine storage on all levels

Gaps in FMD vaccination cover

- Vaccination strategies should be development for entire countries, including the buffer zone
- The FMD situation in Nagorny Karabakh and Abkhasia needs assessment
- Regularity of vaccination campaigns should be ensured

Proposed sero-surveillance plans

- Baseline sero-surveillance investigations in the entire countries are recommended to follow up issues of NSP positive results in 2003 and to estimate the level of antibodies to structural proteins
- Follow-up surveillance should be targeted and based on the results of the pilot and baseline sero-surveillance investigations
- The quality of the Armenian vaccine needs investigation

Surveillance training

- Epidemiological knowledge, diagnostic facilities and transparency have to be improved to introduce more risk-based vaccination and surveillance schemes
- Hands-on training could be provided by supporting the implementation of the sero-surveillance plans by external expertise

General recommendations

- Cooperation between the South Caucasus countries, and Turkey and Iran in FMD surveillance and control is necessary
- FMD surveillance and control activities should be regularly assessed and adjusted
- Close cooperation between FAO, and the EU Food Security Programme and the US Biosecurity Programme is recommended
- Agreements on mid and long-term aims of FMD control and surveillance between the South Caucasus countries and FAO should be reached
- The role of ARRIAH, Russia should be defined
- Georgia could be designated a regional FAO focal point for FMD control and surveillance.

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Preliminary Report

of the International Consultant Carsten J. Pötzsch

Food and Agriculture Organization of the United Nations

19 November 2004

Terms of Reference

1. Implement, and where required contribute to improving the design of a program for inspection of the use made of FMD vaccine provided by EC through FAO for the purpose of maintaining a buffer zone of immunity to FMDV in the border regions of each country with Turkey and/or Iran.
2. Identify areas in the buffer zone where gaps in vaccination cover might occur, and through liason with Government veterinary services and with FAO in the countries concerned, develop and monitor implementation of plans to address these gaps, particularly the issue of potential gaps in cover in disputed territories.
3. Develop sero-surveillance plans to resolve issues of nonstructural protein (NSP) positives identified during sero-surveillance in 2003, particularly in border regions of Georgia with Armenia. Develop plan for studies to resolve issues of induction of NSP positives by locally produced FMD vaccines. This might be combined with other studies on potency/quality of locally produced vaccines, developed with national services.
4. Collate information on the elements of the animal disease reporting system in each country, and provide to FAO on inputs required to address weaknesses in the passive surveillance system for FMD.
5. In subsequent missions (2 and 3), provide technical support and advice relating to the studies designed in points 3 and 4, particularly the analysis of data

Summary

The objectives of the mission were to inspect the use made of FMD vaccine provided by EC through FAO in the border regions of Georgia, Armenia and Azerbaijan with Turkey and/or Iran. Furthermore, gaps in vaccination cover in this buffer zone should be identified and plans developed to address these gaps. To resolve issues of NSP positives in 2003 sero-surveillance plans should be developed.

Vaccination was carried out in the buffer zone apparently using the amount of vaccine doses provided by FAO/EC. No FMD outbreaks have been reported in the three countries in 2003 and to date in 2004. Given the relatively ineffective passive surveillance systems, the true occurrence of FMD remains unclear. The reported EC/FAO vaccine coverage in the buffer zone in spring 2004 was between 88.8 and 100% for cattle and between 0% (Armenia) and 73.1% (Georgia) for small ruminants. Especially in Georgia and Azerbaijan the cold chain for vaccines was not thoroughly maintained. The veterinary services of all three countries suffered from very limited resources, a situation that hampers FMD surveillance and control. Main gaps in vaccination cover in the buffer zone could be caused by large numbers of not sufficiently vaccinated sheep and young stock, with sheep often migrating long distances to seasonal pastures. A possible geographical gap of vaccination cover could exist between Nagorny Karabakh and Iran. The buffer zone is also bypassed by official and informal national and international trade of livestock and animal products.

Two sero-surveillance pilot studies were designed and asked to be carried out in the buffer zones of Georgia and Azerbaijan for follow-up of issues of NSP positives and to begin with national FMD sero-surveillance. Armenia has started FMD surveillance in 2004. The testing of 4,033 cattle samples indicated an average antibody level of 32.4% against serotype A, 34.6% against serotype O and 10.4% against serotype Asia1.

To safely move to a more risk-based vaccination and surveillance scheme, epidemiological expertise, diagnostic facilities, transparency and cooperation with neighbouring countries have to be vastly improved.

Findings

1. Vaccination campaign

Use of FAO Vaccine

Vaccination was carried out in Georgia, Armenia and Azerbaijan in the buffer zone to Iran and Turkey apparently using the amount of vaccine doses provided by FAO/EC (Table 1). The time schedule of vaccine distribution and use is shown in Table 2.

Tab. 1. Planned use of vaccine doses delivered to Georgia, Armenia and Azerbaijan in autumn 2004

| Country | No. of animals (latest national census) | No. of FAO vaccine doses | theoretical vacc. coverage |
|------------|---|--------------------------|----------------------------|
| Georgia | 316,268 (cattle+sheep) 212,279 cattle, 103,989 sheep | 300,000 | 94.8% |
| Armenia | 226,417 cattle | 230,000 | 100% |
| Azerbaijan | 428,873 cattle | 400,000 | 93.3% |

Tab. 2. Time schedule of vaccines distribution and use in Georgia, Armenia and Azerbaijan in autumn 2004

| Country | Date of arrival in capital | release out of customs | Delivery to regions | proposed end of vaccination campaign |
|------------|----------------------------|------------------------|---------------------|--------------------------------------|
| Georgia | 11/10 | 16/10 | early November | December |
| Armenia | 10/10 | | following week | November |
| Azerbaijan | 15/10 | 18/10 | following week | mid November |

The national vaccination campaigns were generally motivated by high concerns about the risk of FMD entry from neighboring countries (see 2.).

Vaccines used other than provided by FAO

Georgia:

No local FMD-vaccine was produced since the closing of the Georgian vaccine production plant "Biokombinat Grusgrobioprom" in early 2004 (see 3.). Local bi- and trivalent vaccine was last used in the spring campaign 2004 and is not planned to be used in the future. About 2,000 bottles of local bivalent vaccine were kept in the central vaccine store at the time of the mission. 1.2 million doses of FMD vaccine were received from Turkey in 2004. Of this stock, 500,000 doses of trivalent vaccine will be used in autumn 2004 for the border areas to Armenia and Azerbaijan and on animals that move to border summer pastures. A further 575,000 doses of bivalent Turkish vaccine will be used in other parts of Georgia.

Armenia:

Apart from the vaccine provided by FAO only local vaccine was used in Armenia:

- spring 2003: 618,494 doses bivalent AO vaccine, 513,008 doses Asia1 vaccine
- autumn 2003: 1,360,091 doses bivalent vaccine and 897,690 doses Asia1 vaccine
- spring 2004: 811,218 doses trivalent vaccine

It was not possible to break the figures down to livestock species at the time of the mission.

Azerbaijan:

Azerbaijan nearly exclusively vaccinated with ARRIAH vaccine. Three years ago several thousand doses of Turkish vaccine were used. In 2003 a total of 2.40 million cattle and 1.33 small ruminants were vaccinated.

Booster vaccination was generally not applied in Georgia. Armenia claimed to vaccinate calves three times in the first year. In Azerbaijan boosting was also carried out in calves. In both countries this was subject to availability of vaccine and budget.

Vaccination and livestock keeping

In all three countries the grazing of livestock, mainly sheep, on mountain summer pastures is practiced. These summer pastures are often located in the vaccination buffer zone. Approximately less than half of the sheep population of lowland areas is brought to summer pastures. Summer and winter pastures can be more than 200 km apart. Only few cattle are taken to these distant summer pastures. If summer pastures are nearby cattle are also grazed there.

These migration patterns were considered by veterinary authorities a high risk to spread FMD, if the disease is present. Because of movement of livestock to summer pastures, spring vaccination was considered more important than autumn vaccination. It was also recognized that vaccination of migrating stock has equal importance to the vaccination in border areas.

More attention was paid to the vaccination of sheep in the buffer zone of Georgia, where trivalent vaccine was used. In Armenia and Azerbaijan sheep were more frequently left without vaccination. If sheep were vaccinated this was done using bivalent AO (in Armenia and Azerbaijan) or Asia1 (Armenia) vaccine. For Armenia, information was not consistent whether sheep were vaccinated and which vaccine was used.

Vaccination of animals that migrate to summer pastures was carried out in spring before moving. Lambs in lowlands are born from around November/December and might therefore also be vaccinated with the flock. Vaccination is mostly done on the home farms.

It could not be fully established during the mission how and which vaccine was distributed and how the vaccination of these migrating herds in spring was organized.

The vaccination coverage in Georgia, Armenia and Azerbaijan for 2003 and 2004, calculated from official figures, is shown in Table 3. The table illustrates that generally more attention is paid to the vaccination of cattle vs. sheep and to spring vaccination vs. autumn vaccination. Vaccination coverage of cattle in the buffer zone ranged in spring campaigns 2003 and 2004 from 88.7 to 100%. In autumn 2003, no vaccinations were carried out in Azerbaijan, and vaccination cover was lower than in spring for Georgia and Armenia.

Tab. 3. Vaccination coverage in Georgia, Armenia and Azerbaijan (in %), 2003-2004

| Country | area | Spring 2003 | | Autumn 2003 | | Spring 2004 | |
|------------|------------------|-------------|------|-------------|------|-------------|------|
| | | LR | SR | LR | SR | LR | SR |
| Georgia | whole country | 47.0 | 54.0 | 13.5 | 18.2 | 54.2 | 73.7 |
| | buffer zone | 101.6 | 35.9 | 24.0 | 0. | 105.2 | 73.1 |
| Armenia | whole country* | ? | ? | ? | ? | ? | ? |
| | buffer zone ** | 88.7 | 0 | 54.9 | 0 | 122.9 | 0 |
| Azerbaijan | whole country | 107.2 | 18.3 | 0 | 0 | 99.9 | 41.4 |
| | booster vacc.*** | 51.3 | 0 | 0 | 0 | 1.5 | 0 |
| | buffer zone | 95.1 | 47.0 | 0 | 0 | 88.8 | 33.6 |
| | booster vacc.*** | 59.4 | 0 | 0 | 0 | 5.5 | 0 |

LR-large ruminants, SR-small ruminants

livestock census was usually carried out at the beginning of the year and did not include most of the newborn stock, see Annex 4

buffer zone: FAO vaccine used in spring 2003 (and in autumn 2004 in Armenia)

* It was not possible to break down livestock species from the figures presented

**vaccination coverage could be higher than presented as also other vaccine was used for cattle and sheep (e.g. Shirak Region)

*** the young stock for booster vaccination was estimated at 20% of the total population

Cold chain

The maintenance of the cold chain to ensure optimal vaccine efficacy varied between the countries. Armenia had sufficient cooling capacities on all administrative levels. Georgia lacked cooling capacity on central, regional and village level. Alternatively, cellars and rented storage space was used on central and regional level. In Azerbaijan central storage was sufficient while on county and village level fridges were not always present or functioning. Power cuts frequently occurred in Georgia and Azerbaijan.

Some county veterinary centers and village veterinarians had cool boxes. Whether and how they were routinely used during vaccination could not be determined.

2. Gaps in vaccination cover

The last outbreaks of FMD were officially reported in Azerbaijan in 2001 and in Georgia and Armenia in 2002. No indication of outbreaks after these reports were found during the mission.

The highest risk of FMD entry into the country is considered by the veterinary authorities in Georgia and Armenia to be via Turkey and in Azerbaijan via Georgia.

The following points could contribute to gaps in the vaccination cover of the livestock population:

- sheep populations: not or only vaccinated once a year; no booster vaccination; most likely to come into contact with other animals across borders on mountainous summer pastures; frequently traded
- young cattle: mostly not sufficiently booster vaccinated; less immunity; more frequently traded than adult cattle
- irregular vaccination due to availability of vaccine and logistic constraints: e.g. the spring vaccination 2004 in parts of Georgia was finished in July, in the Adsharian AR in August. To maintain the vaccination interval of 6 months this has delayed autumn vaccination.
- quality of vaccine exposed to higher temperatures: storage without sufficient cold chain in Georgia and Azerbaijan possibly over one month, see Tab.1
- mixing of vaccinated and not sufficiently or unvaccinated animals:
 - as a result of international trade; trade of animals occurs mainly between Georgia and: Armenia, Azerbaijan, Turkey
 - as a result of national trade (local livestock markets, meat supply to the capital) and animal movements to pastures

As only direct border counties are included in the buffer zone, the distance from the border to areas not included in the buffer zone vaccination could be as low as 15 km (e.g. between Yerevan/Armenia and the Turkish border).

A possible geographical gap in vaccination coverage could exist in the border area to Iran south of Nogorny Karabakh. This land, sparsely populated by humans, is used as summer and winter pasture for livestock. It was not possible to visit Nogorny Karabakh during the mission. According to information received from veterinary authorities of Nogorny Karabakh, the livestock population in 2004 in this area was 60,000 cattle, 65,000 sheep and goats and 28,000 pigs. About half of this population is kept in the border counties to Iran. 30,000 doses of trivalent vaccine were sent for use in these border areas from Armenia in October 2004. In Autumn 20,000 doses were delivered to Nogorny Karabakh. There were 174 veterinarians working in government, the central laboratory and in 9 local veterinary stations.

In the Abkhasian AR (Autonomous Region) of Georgia veterinary structures seem to be very weak. This region is seen as high FMD risk area by Georgian veterinary authorities. The situation for the veterinary services of Adsharian AR of Georgia has improved. Since early 2004 this region is again under control of the central government. Abkhasia and Adsharia received no vaccines from the central government in autumn 2003, while in spring 2004 45,000 doses were delivered to Abkhasia and 137,558 doses to Adsharia. Although access

by the Georgian government to South Ossetia is also very limited, this area is of less concern as the border to Russia seems to pose a low FMD risk to Georgia.

3. Sero-surveillance studies

During the mission, sero-surveillance pilot studies on cattle have been designed by the consultant and asked to be carry out in Georgia and Azerbaijan:

- aimed at detecting at least 5% prevalence of NSP-positives on county/region level at 95% confidence level (sample size: 58 or 59 according to cattle figures)
- to assure the required number of samples for diagnosis the sample size in each county or region was increased to a total of 75 collected from 3 villages
- collection of data of individual animals and the vaccination and disease history
- the serum should be stored in the country capitals.

The results of this study could provide information about the antibody level of cattle before revaccination in risk areas and issues of NSP positives could be better explained. The study areas have been selected to allow comparison with the NSP results of 2003 (see Tab. 4)

Tab. 4. Pilot studies: study areas, sample sizes and NSP results in 2003

| Contry | Region/county | Sample size | Prevalence of 3ABC antibodies (%) in 2003 |
|------------|----------------|-------------|---|
| Georgia | Adsharian AR | 75 | 2 |
| | Akhalkalaki | 75 | 50 |
| | Akhaltzikhe | 75 | 12 |
| | Adigeni | 75 | 24 |
| | Ninotsminda | 75 | 57 |
| | Total | 375 | |
| Azerbaijan | AR Nakhichevan | 75 | 5 |
| | Beiljagan | 75 | n.a. |
| | Imishli | 75 | 8 |
| | Dshalilabad | 75 | 13 |
| | Astara | 75 | 0 |
| | Total | 375 | |

Armenia has started sero-surveillance according to the ARRIAH ELISA protocol in 2004. The testing of 4,033 cattle samples collected until October 2004 indicated an antibody level of 32.4% against serotype A, 34.6% against serotype O and 10.4% against serotype Asia1. The respective figures for the border regions are 42.7%, 40.7% and 15.4%. No information about the vaccination history of the sample animals was collected while data about the age existed but was not analyzed. NSP-testing was not carried out. This sero-surveillance is planned to be continued. If available, serum collected during this survey could be used for NSP testing in external laboratories. The adjustment of this sero-surveillance to more intensely study risk areas was not possible to implement due to time constraints during the mission.

Georgia and Azerbaijan lacked diagnostic facilities to carry out sero-surveillance at the time of the mission.

Further risk-based sero-surveillance plans for all three countries will be discussed at the surveillance workshop in December 2004.

4. Animal disease reporting systems

The animal disease reporting systems in Georgia, Armenia and Azerbaijan are paper based and organized strictly hierarchical. FMD reporting relies on passive surveillance by farmers and veterinarians. Most veterinarians and farmers in areas recently affected were aware of FMD and the symptoms. However, local knowledge and awareness of veterinarians and farmers might have ceased in areas where FMD has not occurred for many years. In Armenia active FMD sero-surveillance has started in 2004 (see 3.), the study design (objectives, sample size, sample selection) could not be discussed during this mission.

Animal identification systems are not in place neither do there seem reliable livestock figures available. The paper based reporting system does not allow fast linking of data and necessary analyses.

5. General remarks

The veterinary authorities of all three countries supported the mission of the consultant with great willingness and tried to meet all his demands.

Livestock numbers provided in the report (see also Annex 4) are official figures from the national livestock census. True figures are probably somewhat higher. Animals are usually counted at the beginning of the year and do therefore not include most of the newborn stock.

The veterinary services of all three countries suffer from very limited resources in all fields; especially lack of transport, veterinary equipment and consumables and a very low payment of veterinarians on all levels. For example, in all three countries village veterinarians receive from 20 to 35 USD and most veterinarians in central service from 30 to 70 USD. This situation could influence the motivation of the veterinary services and the quality disease surveillance and control.

Georgia has started a technical cooperation "Biosecurity Program" with the United States in 2004 for a duration of 7 years. As a result the biokombinat Grusgrobiprom was closed down as vaccine production unit. Three new laboratories will be established, in Tbilisi, Kutasi (Eastern Georgia), and Batumi (Western Georgia). Two of them will be finished in the first half of 2005. The new laboratories will include L2 and L3 facilities. Ten surveillance stations will be established in the country. These stations will include emergency response groups, facilities for rapid diagnostic testing and disease response. A new vaccine production unit at the Research Centre for Veterinary Diagnosis and Expertise is planned. This unit will first produce vaccines with imported antigens; later production with local antigens is envisaged. In Georgia some of the veterinary legislation is currently changing based on EU, OIE and World bank legislation and requirements. For instance, a law allowing fines of 500-1500 USD for refusing vaccination of national priority disease was passed in October 2004.

The Veterinary Services of Azerbaijan and Armenia are supported by the EU Food Security Programme. This includes the future establishment of animal identification systems and diagnostic support and training.

Preliminary Conclusions

1. Vaccination was carried out in Georgia, Armenia and Azerbaijan in the buffer zone to Iran and Turkey apparently using the amount of vaccine doses provided by FAO/EC.
2. The currently practiced vaccination in the buffer zone and in large parts of the countries has contributed to no FMD outbreaks being reported in 2003 and 2004. Given the relatively ineffective passive surveillance in all three countries, the true occurrence of FMD remains unclear.
3. To safely move to a more risk-based vaccination and surveillance scheme, epidemiological expertise, diagnostic facilities, transparency and cooperation with neighbouring countries have to be vastly improved. The current passive surveillance must be improved and active surveillance implemented.

4. For the buffer zone vaccination programme clear objectives should be agreed upon between FAO/EC and the participating countries about mid- and long-term goals regarding vaccine use, FMD surveillance and control.
5. Closer cooperation between the three countries and with neighbouring Iran and Turkey regarding exchange of information and coordination of vaccination campaigns is recommended.
6. The results of the pilot studies should be used in the design of risk based sero-surveillance plans for the detection of disease and for follow-up of the issues of NSP positives.
7. FMD surveillance and control activities in these countries should be regularly assessed and coordinated. An international consultant could be employed for this purpose.
8. FAO should closely cooperate with the EU Food Security Programme and the US Biosecurity Programme in Georgia regarding FMD surveillance and control.
9. Electronic data recording and analysis should at least on central veterinary level be rapidly implemented to ensure timely availability of necessary data and information. The use of GIS should be established.
10. The extension of central storage facilities is essential in Georgia. Careful planning of the vaccination campaign in Georgia and Azerbaijan should ensure that the storage time of vaccines without proper cold chain is as short as possible. Alternative cooling facilities on county and village level should be actively sought in Georgia and Azerbaijan.
11. On livestock markets there is a high risk of spreading infection if FMD virus is present. However, the markets could allow closer veterinary inspection and be of high importance in disease surveillance. Therefore livestock markets should be put under veterinary inspection. Clinical examinations and certificates of origin and of destination of the animals should be minimum requirements.
12. As a result of the TCP (TCP/RER/3001 (A)) and the Biosecurity Program, Georgia could soon have modern disease surveillance and diagnostic capacities. Comparing the three countries, with its open borders and good trading relationships with neighbours, Georgia has probably the highest risk of getting infected and spreading FMD. It is recommended to make Georgia a regional focal point for FAO regarding FMD control and surveillance.

Annex 1 Itinerary

| Date | Location | Details of activities |
|-------------|-------------------------------------|--|
| 05-06/10/04 | Berlin | Briefing by Dr Keith Sumption |
| 11/10/04 | Tbilisi, Georgia | Fly to Georgia Meeting with L. Ramishvili and G. Maglakelidze, Veterinary Dept. MoA (Ministry of Agriculture) |
| 12/10/04 | Tbilisi, Georgia | Visit to the central vaccine store Discussions with L. Ramishvili and G. Maglakelidze, data collection, Veterinary Dept., MoA Meeting with Head of Agrarian Committee, Parliament of Georgia, Meeting with FAO National Coordinator |
| 13/10/04 | Tbilisi, Georgia | Research Centre for Veterinary Diagnosis and Expertise Discussions with L. Ramishvili and G. Maglakelidze, data collection, Veterinary Dept., MoA |
| 14/10/04 | Tbilisi, Georgia | Discussions with L. Ramishvili, I. Tkemaladze and G. Maglakelidze |
| 15-16/10/04 | Batumi, Adsharian AR | Fly to Batumi Meeting with the Regional Minister of Agriculture and Head and Deputy Head of Veterinary Services Visit to county and village veterinary stations and to the BIP Sarpi (Georgia-Turkey) Return by car |
| 17/10/04 | Samtskhe- Javakheti Region | Visit to a livestock market, to the immediate border zone Georgia-Turkey and to a village slaughterhouse |
| 18/10/04 | Tbilisi, Georgia | Discussions with L. Ramishvili and G. Maglakelidze on vaccine use, data collection, Veterinary Dept., MoA |
| 19/10/04 | Tbilisi, Georgia | Departure to Armenia by train |
| 20/10/04 | Yerevan, Armenia | Arrival in Yerevan Meeting with FAO Assistant Representative, EU Food Security Programme Representative and Head of State Veterinary Service Visit of the Central Vaccine Store |
| 21/10/04 | Aragazotn and Armavir Regions | Visit to county and village veterinary stations and to the immediate border zone Armenia-Turkey |
| 22/10/04 | Yerevan Ararat Region | Discussions with G. Bagyan and A. Anouchevan Visit to county and village veterinary stations |
| 24/10/04 | Armavir Region | Visit to villages in Armavir Region, Discussions with UNDP staff Armenia and FAO Assistant Representative |

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| 25/10/04 | Yerevan | Visit to the National Laboratory Discussions with Vet. Inspection about sero-surveillance results Final Meeting with G. Bagyan |
| | Tavush Region | Travel to Ichevan; Tavush Region Meeting with Regional Vet. Service and with representative of GTZ Food security regional cooperation and stability program - Veterinary revolving fund |
| 26/10/04 | Tavush Region, Armenia | Departure from Armenia by car Visit of BIP Sadakhlo, Discussion with Armenian and Georgian veterinary border inspection officers |
| | Tbilisi, Georgia | Arrival in Tbilisi |
| 27/10/04 | Tbilisi, Georgia | Meeting with FAO National Coordinator and I. Tkemaladze and G. Maglakelidze (Veterinary Dept.) |
| | Baku, Azerbaijan | Fly to Baku, Meeting with Head of Epizootiological Sector |
| 28/10/04 | Baku, Azerbaijan | Visit of the Veterinary Department, the State Association of Veterinary Provision (Supply) and the Republic Veterinary Laboratory |
| 29-31/10/04 | Sabirabad, Imishli, Beiljagan, Biljasuvar, Dshalilabad and Masalli County | Meeting with county veterinary officers, village veterinarians and farmers Visit to Masalli livestock market |
| 1/11/04 | Baku, Azerbaijan | Discussions with R Safarov, G. Magerram and R. Hasan, data collection; Veterinary Dept. Final meeting with R Safarov |
| 2/11/04 | Agsu, Agdash, Goytshay, Agdafa and Gasakh County; Azerbaijan | Departure from Azerbaijan by car Visit to the county veterinary centres and BIP in Gasakh County Arrival in Tbilisi |
| 3/11/04 | Tbilisi, Georgia | Meeting with I. Tkemaladze and G. Maglakelidze, data collection, Veterinary Dept. MoA |
| 4/11/04 | Tbilisi, Georgia | Discussions with I. Tkemaladze and G. Maglakelidze about the sero-surveillance study; Veterinary Dept. MoA Opening of the FAO Regional Office in Tbilisi |
| 5/11/04 | Tbilisi, Georgia | data collection and discussions about the sero-surveillance study, Final meeting with I. Tkemaladze and G. Maglakelidze Veterinary Dept. MoA |
| 6/11/04 | Tbilisi, Georgia | Fly to Germany |

Annex 2 People met

FAO

Dr Keith Sumption Secretary of the European Foot-and-Mouth Disease Commission, Animal Health Service

Georgia

Ministry of Agriculture

Dr Levan Ramishvili Chief Veterinary Officer; Veterinary Department
Dr Irakli Tkemaladze Deputy Chief Veterinary Officer; Veterinary Department
Dr Gambul Maglakelidze Anti-Epidemiological Measures Administration, Head of Administration; Veterinary Department
Dr Gugashvili Director of the Research Centre for Veterinary Diagnosis and Expertise
Dr Tengiz Beridze Akhalsikhe District, Head of Veterinary Services
Dr Eduard Phutkaradze Adsharian AR, Minister of Agriculture
Dr Vaja Iakobadze Adsharian AR, Head of Veterinary Services
Dr Shalva Ananidze Adsharian AR, Deputy head of Veterinary Services
Mr Mamuka Nasidze Aspindza District, Slaughterhouse manager

Other

Mr Mamuka Meskhi National Coordinator FAO, Georgia
Mr George Kheviashvili Member of Parliament, Head of Agrarian Committee
Mr Shalva Samtskhe-Javakheti Region, Regional Administration

Armenia

Ministry of Agriculture

Dr Grigori Bagyan Head of State Veterinary Service
Dr Anouchevan Aghajanyan Head of State Veterinary Inspection
Dr Tigran Gasparian Chief Veterinary Officer, State Veterinary Service
Mr Armen Head of Veterinary Service, Ararat Region
Mr. Armen Manalchion Head of veterinary border inspection, BIP Sadakhlo

Other

Mr Avetik Nersisyan FAO Assistant Representative; Armenia
Mr Grigor Grigoryan Representative of the EU Food Security Programme
Mr Tigran GTZ Food security regional cooperation and stability program - Veterinary revolving fund

Azerbaijan

Ministry of Agriculture

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| Prof Ramiz Safarov | Chief Veterinary Officer, Head of State Veterinary Inspection |
| Dr Emin Shahbazov | Assistant of Chief Veterinary Officer |
| Dr Gadim Magerram | Head of Treatment and Eradication of Epizootic Diseases Sector (Epizootiological Sector) |
| Dr Rafiq Hasan | Epizootiological Sector, Field Service |
| Dr Mahir Hajiyev | Director of the State Association of Veterinary Provision (Supply) |
| Dr Ismail Gasanov | Director of the Republic Veterinary Laboratory |