Proposed Extension of Project: the Regional FMD Surveillance Centre in the I.R of Iran - Consolidation phase

Title and Symbol: MTF/INT/003/EEC

Donor: Trust Fund from European Commission Contribution

Government Implementing Agency: Ministry of Agriculture of IR Iran
Iran Veterinary Organisation

Duration: 2 years

Estimated starting date: January 2008

Brief description:
The project seeks to consolidate the FMD surveillance Centre set up in Iran in 2006-2008 under the project “Combating Foot-and-mouth Disease through enhanced and co-ordinated surveillance activities; Central Asia FMD Surveillance Centre initiative”.

The project is consistent with:
- all the actions engaged by the EUFMD Commission in the region (Projects MTF/INT/003/EEC),
- the FAO/AGAH Plan for Controlling Transboundary Animal Diseases in the Central Asian Countries (Project GTFS/INT/907/ITA - phase 2),
- and the FAO’s Strategic Framework.

A. GENERAL BACKGROUND

Foot-and-mouth disease (FMD) is the most infectious of animal diseases and difficult to control because of the extreme ease with which it spreads between animals which requires a rapid and co-ordinated response by the responsible authorities, to reduce and where possible to prevent spread. The I.R of Iran has over the last 10 years recorded one of the highest annual incidences of FMD in the region, with two or three virus types circulating and through the size and complexity of animal agriculture in the country, it is likely that several virus subtypes circulate at any time, with periodic entry or emergence of new viruses that threaten to breakthrough the immunity of the population.

Vaccination is an important tool in the control of FMD but to be effective in preventing disease, and in reducing the risk of spread of infection, the choice of vaccine is extremely important, and the operation of vaccination programmes must be carefully planned in time and space in relation to the “wave of infection” to achieve a sufficient level of immunity that epidemic spread is prevented. For these reasons timely surveillance information is vital to the control of infection in such complex epidemiological situations.
The FMD situation in central Asian and Middle East regions is complex and dynamic, creating major difficulties for effective control. It requires an effective gathering and sharing of information among those responsible for disease control in the region, and mutual co-operation in FMD surveillance should assist each of the countries involved to reduce the risk of FMD by earlier action following the alerts and early warning messages. The dynamic situation is illustrated by the recent emergence of new variant type A virus in 2005, and O Panasia in 2006-2007, with severe episodes of disease in Iranian livestock following entry and circulation of these virus types.

The rapid succession of new viral types creates a difficult management situation in which vaccines produced and used have to be continuously reviewed for suitability for protection against circulating viruses. At any time, more than one antigenic type might be circulating, or pose an immediate threat through entry from neighbouring regions and therefore vaccines containing several antigens may be required to provide adequate control. The impact of entry of novel FMD types has often been at the regional level, with in recent times the emergence of A Iran 05 virus and subsequent difficulties to control it and the subsequent spread to neighbouring countries including Turkey and the Caucasus. Another example is given by the occurrence of the new O Panasia in Iran in 2006 and then in Turkey in 2007.

The rapidly changing pattern of viruses in the region requires up to the moment information to assist planning of vaccination and control campaigns. An understanding of how and why FMD spreads will assist the authorities to plan controls at the local level that should reduce the possibility of spread to neighbouring animal populations, provinces and countries. Up to this moment, the surveillance information and capacity to identify the critical control points to achieve protection or control have been inadequate in the region and this proposal addresses these constraints.

Based on those arguments, the EUFMD Commission implemented a FMD Surveillance Project named “Combating Foot-and-mouth Disease through enhanced and co-ordinated surveillance activities; the Central Asia FMD Surveillance Centre initiative” in January 2006.

The increase in FMD surveillance information given by the implementation of phase 1 of this Regional FMD Surveillance Centre Initiative provided an opportunity for the I.R of Iran to develop effective prevention and control strategies which address the routes of entry of viruses to the country, and the factors that result in spread within the country. An FMD Task Force has been implemented inside the Iran Veterinary Organisation, with 30 FMD Task Force Provincial Managers trained by the project and supervised by a FMD Task Force Manager. The Central Veterinary Laboratory has been strengthened and a FMD Diagnostic Unit – including molecular biology diagnostic and sequencing activities – has been set up, under the control of the FMD Task Force Manager.

During those 2 years (2006-2008), the Project participated in the regional meetings of the ongoing regional project “Controlling Transboundary Animal Diseases in the Central Asian Countries (GTFS/INT/907/ITA)”, the regional meetings of the OIE Regional Commission for Middle East and the EUFMD meetings (Executive Committees, General Assemblies and Research Group sessions).

In the meantime, Iran Veterinary Organisation developed specific relationship with the General Directorate for Protection and Control of Ministry of Agriculture and Rural Affairs of Turkey on Foot and Mouth Disease Surveillance and Control (see annex XXII).
Consequently it seems absolutely necessary to consolidate the FMD Surveillance Centre implemented in Iran, for the benefit of the I.R of Iran and the all region. The Iranian experience will be also used as an opportunity for establishing a strong network for FMD surveillance and control in the Central Asia and Middle East regions in the framework of the different Regional programmes implemented in the regions by or through FAO.

B. PROJECT RATIONALE AND JUSTIFICATION

B.1 - Problem to be addressed and present situation

Transboundary animal diseases, being those that readily cross national borders, represent a particular concern. Firstly, they are diseases that have the potential to occur in epidemic form, spreading quickly and causing high losses, with a resulting severe effect on food security. Secondly, their presence increases the risks involved in livestock production enterprises and therefore discourages investment in the sector. Finally, as countries develop a capacity to export livestock, the presence of transboundary animal diseases represent a constraint to trade, often totally precluding a country from exporting live animals to another country or region. Control of transboundary animal diseases needs to be addressed on a regional basis since, with imperfect border controls, no one country can exert effective disease control without the cooperation of its neighbours. It is for this reason that the FAO EMPRES Program and other international agencies recognize a particular responsibility in assisting countries to develop both a national and a regional capacity to combat these diseases.

In the present situation, Foot-and-Mouth Disease is the major transboundary animal disease concerned in the region, with very little information available in a lot of the countries of the Central Asian region and inadequate communication between countries of the region. Iran experience on FMD surveillance during the last 2 years can be an opportunity for the entire region to develop adapted surveillance systems for early warning and adapted response at regional level concerning this disease.

B.2 - Target beneficiaries

The direct recipients of assistance will be the Iran Veterinary Organisation to complete the FMD Surveillance Centre as a Centre of excellence able to train other national veterinary authorities of the region for improving FMD control in the region. The target beneficiaries encompass a broad range of stakeholders. They include livestock owners within the countries who will benefit from decreased livestock mortality and production losses and consequently, improved food security. However, because of the transboundary nature of the diseases of concern, benefits will accrue to participants in the livestock industries, as well as consumers of animal products, at a regional and global level.

B.3 - Expected end-of-project situation and sustainability

It is anticipated that at the completion of the project, a notable reduction of the prevalence and impact of the FMD in Iran will be set up. Within the scope and resources of the project and the other ongoing FAO project of the region, it is expected that rational policy decisions will be make on planning for a regional FMD control.

This regional tool will be used to create an environment of trust in which the veterinary services of the region seek to maintain contact after project termination and have the means to do so. Reporting of FMD occurrence to Office International des Epizooties should be significantly improved and countries should understand the value of such transparency. There should be improved national capabilities for FMD surveillance and diagnosis in the region, paving the way to a regional strategy plan to control the disease in the region.

B.4 - Project Strategy

Specific actions will be conducted by the Iran FMD Task Force through a 3 components actions plan:
- Western borders: stakeholders’ information - mass vaccination in the villages – market control,
- Eastern borders: vaccination on imported animal to reduce risk of introducing exotic strains,
- Central provinces: active surveillance and FMDV identification and characterisation by sequencing.

The FMD Surveillance Centre of Iran will provide regular information on the FMDV circulating in the region and will share this information with the concerned neighbouring countries such as Afghanistan, Iraq, Pakistan, Syria, Turkey and Turkmenistan. Regional meeting on virus strains circulating in the region will be timely organised.

The FMD Diagnostic Unit of the Central Veterinary Laboratory of Iran will provide sequencing for the neighbouring countries that needs.
Beside those actions, this project will be linked with the ongoing regional projects:
- The FMD module of the Animal Disease Reporting System (GISVET-v2), based on Geographical Information System, will be transferred to the countries of the region who needs such a reporting system.
- The FMD Surveillance Centre of Iran will be used as a Centre of excellence to train the national veterinary staff of the region for improving FMD data analysis and diagnostic,
- Specific actions to tackle virus at sources will be conducted in neighbouring countries such as Pakistan and Afghanistan.

**B.5 - Institutional framework and counterpart support capacity**

The Iran Veterinary Organisation (IVO) is the national body responsible for the project activities. The project activities will be implemented in Iran through a Project National Coordinator (PNC) based in the IVO. This PNC must be the Iran FMD Task Force Manager who conducted phase 1 of the project. This PNC will be recruited by the FAO-IR Representation on a temporary and part-time based contract. Additional National staff will be appointed to undertake field and laboratory activities under the FMD Task Force Manager responsibility.

An Operation Officer (NPO) will be recruited by the FAO-IR Representation on a temporary and full-time based contract. He will be located in FAO-IR Office in Tehran. He will be responsible of implementation of the project activities described in the following paragraphs, according to the PNC decision and notification.

**C. DEVELOPMENT OBJECTIVE OF THE ASSISTANCE**

The development objective is to increase food security by reducing livestock production losses caused by the FMD in the region.

The overall objective of the project is to continue to strengthen the national and regional capacities for active surveillance to enable effective and timely management of FMD risk in the I.R of Iran and through co-operation with neighbouring countries and the international organisations, within the wider region at risk, including the risk to the countries of Central Asia, Turkey, the European Union and the CIS.

**D. IMMEDIATE OBJECTIVE(S), OUTPUTS AND ACTIVITIES**

**D.1 - Immediate objective(s)**

1. **To reduce FMD prevalence and incidence in I.R of Iran**

   According to the results of the previous project implemented in I.R of Iran in 2006-2007, specific actions will be taken in Eastern and Western provinces to reduce the prevalence and incidence of FMD:

   - Active vaccination of the imported animals from Pakistan and Afghanistan will be conducted by the Provincial FMD Task Force teams in the Eastern provinces,
   - Mass vaccination will be conducted in the villages by the Provincial FMD Task Force teams in the Western provinces.

2. **To permanently check the FMD viruses circulating in the region**

   Active surveillance conducted by the Provincial FMD Task Force teams in the Central provinces will permit to check on permanent bases the FMD viruses circulating in the region. Such information will be shared with the neighbouring countries through a specific Web site.

3. **To establish communication between the countries of the region for collaborative FMD surveillance and control and further coordination programs**

   An improved knowledge of the FMD situation in neighbouring countries that need through training in FMD epidemiological data collection will enable national veterinary authorities to assess threats and establish priorities for FMD surveillance and control activities and to set up a regional strategy for reducing the impact of FMD in the region through a regional FMD control program.

4. **To establish national FMD investigation, control and contingency planning in the region**

   Establishment or improvement of FMD control and contingency plans will limit the risk and impact of the FMD on livestock farmers, improving the productivity and security of livestock production.

**D.2 – Outputs**

The specific outputs of this Phase are expected to be:

For the I.R of Iran

- Consolidated the FMD surveillance and effective control system implemented in Iran,
- Consolidated the FMD Task Force in use of active surveillance methods in outbreak investigation and in planning control measures,
• Strengthened capacity for continuous identification of the risk of FMD entry and spread for the I.R of Iran,
• Develop system for FMD effective control in border North-Western and Eastern regions of Iran
• Consolidated the FMD Diagnostic Unit established in the Central Veterinary Laboratory, including capacity in post vaccination monitoring and sequencing the virus,
• Given the tools for reviewing the national surveillance program and contingency plans according to the data analysis.

For the Region

• establishment of a network for FMD surveillance in the Central Asian and Middle East regions with National focal point to set up a rapid alert system,
• establishment of active surveillance expertise in the region,
• enhanced capacity for local control in the region through application of skills and methods required to understand the local FMD epidemiology
• enhanced capacity for confirming the virus type involved in each outbreak, the vaccine suitability and genetic fingerprint,
• enhanced capacity for control in the region through understanding of the patterns of FMD transmission and spread in the region ,
• revised national surveillance programmes and contingency plans in each country to include the new surveillance methodologies.

D.3 – Activities

1. **FMDV Surveillance in Iran**
   An improved knowledge of FMDV circulating in the region through the permanent FMDV surveillance conducted in Iran by the FMD Task Force.

2. **Stakeholder information**
   Stakeholder’s information and training should be organised on regional bases. 3 annual sessions on FMD control, with booklets distribution, should be organised for the Western, Central and Eastern provinces for private veterinarian and main stakeholders (animal dealers, farmers, etc...)

3. **Epidemiological, vaccination and laboratory data permanent analysis**
   FMD data analysis through GISVET_v2 will allow sustainable knowledge of the disease introduction and spread in Iran in the regional endemic context. Animal movements’ analysis is expected to be conducted by the project, in link with the ongoing FAO projects in the region.

4. **Actions to reduce entrance of the virus in Iran in the Eastern provinces**
   Specific action such as vaccination of the imported animals will be implemented by the FMD Task Force in the Eastern provinces bordering Afghanistan and Pakistan.

5. **Actions to reduce the virus in the Western provinces**
   Specific mass vaccination program and animal movement control will be implemented by the FMD Task Force in ten Western provinces bordering Turkey.

6. **Regional FMDV sequencing**
   Central Veterinary Laboratory (CVL) of Iran is expected to be able to process molecular biology diagnostic for the region in order to trace origin of the FMDV circulating in the region.

7. **FMD reporting and investigation procedures established in neighbouring countries**
   Training on FMD reporting and investigation system should be organised in Iran for the neighbouring countries such as Afghanistan, Azerbaijan, Armenia, Pakistan and Turkmenistan, supported by the ongoing FAO/EUFMD projects in the region.

E. INPUTS

E.1 Inputs by the Recipient Government
For the successful implementation of this project, the Government of the I.R of Iran firmly commits itself to do the following:
- Appoint a senior veterinary officer as the National Project Co-ordinator and FMD Task Force Manager (see Annex XX for TOR). He will be expected to have responsibility for the national co-ordination of the governmental programme for Foot-and Mouth Disease surveillance and control.
- Make available field veterinary officers member of the FMD Task Force and other personnel as well as logistical support for the field programme of Foot-and Mouth Disease surveillance and control.
- Make all the national personnel available at no cost to the project.
- The Government will provide all necessary facilities and logistics for effective surveillance programmes including transport and laboratory facilities for the successful implementation of the project.
- The heightened community awareness of and involvement in the National FMD and other exotic disease control plans will be under the responsibility of the Governments. In this regard, communication/extension activities aimed at the livestock industry in particular and the community in general (farmers, officials, community elders, traders, abattoir personnel etc.) will be undertaken, especially in the high risk areas of the country.

E.2 Donor Inputs through FAO

1. Staff
   1.1 Professional
   1.1.1 The Project National Coordinator will be a P4 Epidemiologist. He will be recruited on part-time based contract by the FAO-IR Office and will be par time working within the FAO-IR Office.

1.2 Supervisory
   1.2.1 STS Supervising missions - 6 x 2 weeks.
   The Former Project International Coordinator will travel up to three times (two weeks each) per year to backstop this project. He will undertake supervisory as well as advisory technical services as follows:
   A. First mission, month 3: during the first workshop
      - to assess the timeliness and effect of FAO and national inputs;
      - to advise on any amendments necessary for effective project organisation.
   B. Second mission, month 7: during a regional meeting
      - to assess the timeliness and effect of FAO and national inputs and progress in project implementation
      - to assist in regional coordination and global framework
   C. Third mission, month 11: during a national meeting
      - to assess the timeliness and effect of FAO and national inputs and progress in project implementation
      - to assist in development of FMD risk maps relating to animal movement in the region
      - to assist the development of a follow-on proposal for an effective regional early warning network.
   D. Fourth, six, seven and eight mission: according to the project implementation

1.2.2 STS Backstopping missions - 2 x 1 week
   A Technical Officer from EUFMD Commission will travel twice (one week mission) from FAO Headquarters, Rome, to rvices evaluate the project and draft perspectives.

1.3 Technical Support Se
   1.3.1 ATS Consultancy in post-vaccination surveillance and FMD incidence - 2 weeks.
   The Officer will assist the Project National Coordinator in reviewing and sorting the data collected during the experiments 1, 2 and 3 before given them to the statistician/epidemiologist.

1.3.2 ATS Consultancy in serology data analysis - 2 weeks.
   The Officer will analyse the data collected during the experiments 1, 2 and 3 to achieve post-vaccination surveillance and FMD incidence evaluation in the country.

1.3.3 ATS Consultancy/Training on Field investigation/disease evolution/virus circulation in endemic countries - 3 x 2 weeks.
   The Officer will assist the Project National Coordinator in addressing the disease evolution-virus circulation in an endemic country through field investigation with the FMD Task Force and subsequent training in three provinces representing the different animal husbandry systems.

1.3.4 ATS Consultancy in epidemiological data analysis - 2 weeks.
   The Officer will analyse the data of GIS-VET_v2 database for modelling predictive epidemiology in the country.

1.3.5 ATS Regional meeting on FMD virus circulating in the region - 1 week.
   The Project International Coordinator will assist the Project National Coordinator in organising a regional meeting on FMDV circulating in the region.

1.3.6 ATS Consultancy on animal identification - 3 weeks.
   The Officer will evaluate the feasibility of implementing an animal identification system adapted to the different animal husbandry systems and the country situation. The objective of this meeting is to identify and define places t implement targeted vaccinations to reduce virus circulation.
1.3.7 ATS Consultancy on regional animal movement - 1 week meeting +3 weeks studies in the region.
The Officer will assist the Project National Coordinator in organising a regional meeting on animal movement and trade streams.
He will then conduct field studies in the region according to the meeting recommendations.

1.4 General Service
Operation Officer (NPO) / Operations Clerk - NOA 1 - 24 months. The operations clerk assistant will provide support to the Project National Coordinator.

2. Consultants
2.1 International Consultant – post-vaccination surveillance and FMD incidence – 2 weeks.
The Consultant assist the Project National Coordinator in reviewing and sorting the data collected during the experiments 1, 2 and 3 before given them to the statistician/epidemiologist.
Terms of reference are in Annex II.

2.2 International Consultant – serology data analysis – 2 weeks
The Consultant will analyse the data collected during the experiments 1, 2 and 3 to achieve post-vaccination surveillance and FMD incidence evaluation in the country.
Terms of reference are in Annex III.

2.3 International Consultant – field investigation/disease evolution/virus circulation in endemic countries – 6 weeks
The Consultant will assist the Project National Coordinator in conducting 3 workshops on field investigation/disease evolution/virus circulation for the FMD Task Force members.
Terms of reference are in Annex IV.

2.4 International Consultant – epidemiological data analysis – 4 weeks (2 missions).
The Consultant will analyse the data of GIS-VET_v2 database for modelling predictive epidemiology in the country.
Terms of reference are in Annex V.

2.5 International Consultant – animal movement – 3 weeks.
The Consultant will assist the Project National Coordinator in organising a regional meeting on animal movement and trade streams. He will then conduct field studies in the region according to the meeting recommendations.
Terms of reference are in Annex VI.

2.6 International Consultant – animal identification – 3 weeks.
The Consultant will evaluate the feasibility of implementing an animal identification system adapted to the different animal husbandry systems and the country situation.
Terms of reference are in Annex VII.

2.7 TCDC Consultant – FMDV Diagnostic methods – 4 weeks (3 missions).
The Consultant will upgrade the national laboratory staff on FMD diagnostic methods. Allowance is made for two weeks in the first mission, with two one-week missions in subsequent years to assist with resolving any problems encountered.
Terms of reference are in Annex VIII.

3. Contracts
3.1 Contractual services include costs related to agreement with well-qualified Institutes for Animal Diseases Diagnostic for training laboratory staff, with well-qualified Institutes for Animal health for training epidemiological staff and with Iran Veterinary Organisation for conducting any needed study or experiment.

3.2 Customisation and upgrading of software database, in particular to improve mapping data for the country and for the region

3.3 International Consultant– Consultancies and Training sessions. 11 (eleven) missions – one to three weeks each.

4. Travel
4.1 Professional Staff
4.1.1 Project National Coordinator – Foreseen 6 (six) missions per year to participate to all international and regional meeting related to FMD surveillance and control in the region.
4.1.2 Operations Clerk – Foreseen 3 (three) missions per year to participate to international and regional meeting related to FMD surveillance and control.
4.2 Technical Support Services
4.2.1 ATS/STS Foreseen total 34 (thirty four) person-weeks in the region.
4.2.2 Project Evaluation and Review: A terminal Tripartite Review in Year 2 (FAO, Donor and Iran)

4.3 Consultants
4.3.1 International consultants – 9 (nine) missions: total of 20 (twenty) weeks.
4.3.2 TCDC consultants – 3 (three) missions foreseen; total of 4 (four) weeks.

5.4 National Staff for Training, Stakeholder Information and Regional Meetings
5.4.1 Regional workshops for the FMD Task Force staff – one meeting each 4 months for the provincial FMD Task Force staff, 2-days meeting.
5.4.2 National information/training programs for stakeholders and private veterinarian. The details of how many people require training and venue arrangements will be determined by IVO at regional level. Allow for a total of 250 to 500 personnel for training for 2 days each year, in three locations (Western, Central and Eastern provinces).
5.4.3 Regional meetings on FMDV circulating in the region – 2 regional meetings, 1 week each, estimated two people from the neighbouring countries (supported by the regional FAO and EUFMD project).

5. Training
See Annex XXI.

6. Equipment
6.1 Expendable Equipment
The materials are listed in Annex VII. It comprises materials needed for field disease investigation and sampling, laboratory testing, data analysis and FMD Task Force office supplies.

6.2 Non-Expendable Equipment
This equipment is listed in Annex VII. Laboratory testing will require the purchase of equipment such as Elisa readers, Elisa kits and other materials necessary for sero-surveillance and training courses.

7. General Operating Expenses
The following are the major identified categories of general operating expenses:

• FMD Task Force communication expenses (mobile)
• Freight and transport costs (samples dispatch to national and international reference laboratories/educational material)
• Rapid Internet connection in Central Veterinary Laboratory
• Incentive payments for reporting disease by private sector

F. PROJECT REPORTING, REVIEW AND EVALUATION
F.1 Project Reporting
The Project National Coordinator will prepare every six-month a Project Progress Report in English, using the standard FAO format and which shall contain:

• an account of actual implementation of the activities compared to that scheduled in the Work-plan, and the achievement of outputs, based on the objectively-verifiable indicators shown in the Logical Framework and the timing proposed in the performance monitoring plan;
• an identification of any problems and constraints (technical, human, financial, etc.) encountered during implementation;
• recommendations for corrective measures;
• a detailed Work-Plan for the following reporting period.

F.2 Project Monitoring and Review
The Former Project International Coordinator will conduct regular backstopping missions (every 4 months) to monitor and review the project during the 2 years.

F.3 Project Evaluation
As stated above, the project will be jointly evaluated by representatives of the EUFMD Commission and the donor final review prior to completion. The terms of reference, exact timing and place will be decided in consultation among the concerned parties.