DRAFT REPORT

West EurAsia FMD Control - Roadmap 2020
3rd Regional Progress Review Meeting

Report of a Meeting
held in
Istanbul, Republic of Turkey
March 27-29 2012
Convened by FAO as a Joint Meeting and Workshop of the regional FMD control projects supported by Italy (GTFS/INT/907/ITA) and EC (MTF/INT/003/EC)

Vision for the West Asia Roadmap for FMD Control

Regional cooperation among Eurasian countries for the progressive control of FMD through public and private partnerships leading towards freedom of clinical disease by 2020 for regional economic development, food security, and poverty alleviation.

Региональная кооперация между Евразийскими странами в целях прогрессивного контроля ящура через общественное и частное партнерство ведет к свободе от клинического проявления болезни к 2020 г. для экономического развития и снижения уровня бедности.

Abbreviations

CVO	Chief Veterinary Officer
EC	European Commission
EUFMD	European Commission For The Control Of Foot-And-Mouth Disease (An Inter-Governmental Commission Based In The Fao)
FAO	Food And Agriculture Organisation Of The United Nations
FMD	Foot-And-Mouth Disease
OIE	World Organization For Animal Health
PCP	Progressive Control Pathway
SAT2	Southern African Territories Type 2 Strain Of Fmd
USDA	United States Department Of Agriculture
WELNET	West Eurasia Laboratory Network
WRLFMD	The World Reference Laboratory For Foot And Mouth Disease

Table of Contents

Summary

1. The 3rd Regional Meeting to review the progress of the West Eurasia FMD Roadmap was held in Istanbul, Turkey, from the 27th to the 29th March 2012, organized by FAO in consultation with OIE, and hosted by the Ministry of Agriculture, Turkey.
2. The Meeting was supported by the FMD projects implemented by the EuFMD Commission (FAO) in Turkey, Trans-Caucasus and Iran, and the GTFS/INT/907/ITA project for Central Asian countries. Invitations were sent by FAO, on behalf of the FAO and OIE, to the Chief Veterinary Officers (CVOs) and to the FAO national consultants on FMD (EuFMD or GTFS projects). In total, 12 countries in West EurAsia were represented.
3. The Objectives of the Workshop were:
    a. to review the progress along the Regional Roadmap towards the vision identified at the Shiraz Meeting in 2008, of a "West Eurasia region free of clinical FMD by 2020";
    b. to share information on FMD virus circulation within the West Eurasia FMDV ecosystem to assist planning of preventive measures in the short-term.
4. The West Eurasia Roadmap Advisory Committee was re-elected with Turkey retaining the Presidency and Azerbaijan and Pakistan providing members. Naci Bulut (Turkey) was re-elected for the WELNET Network, and for the Epi-Network, Dr Naser Rasoli (Iran).
5. The progress of FMD control since the Istanbul meeting in 2010 was reviewed and a provisional revised Roadmap to 2020 developed for the 12 countries that participated in the 2012 West Eurasia FMD Roadmap review.
6. The progress in the third year was considered to be good. Of the 12 countries participating in the 2012 Roadmap meeting:
    a. Three countries progressed from Stage 0 to 1 (Kyrgyzstan, Turkmenistan, Uzbekistan);
    b. Nine countries were considered to remain at the same PCP stage as in 2010-11.
7. The Roadmap is not currently on track to achieve the vision of freedom from clinical cases of FMD being achieved by the year 2020. Four of 12 participating countries indicated that they foresee that their country would be in PCP Stage 3 in 2020. In Stage 3, FMD outbreaks are still expected and the focus of the Stage is progressive reduction of outbreak incidence, working towards elimination of circulation.
8. The less optimistic expectations of progression along the PCP over time are probably related to the increasing recognition that FMD control in the region is seriously hindered by weaknesses in international control of animal movement and gaps in preventive measures, such as biosecurity. The use of low potency vaccines and limited quantity of vaccine available have also been identified as factors that restrict progress in FMD control.

Outcome and outlook

9. The implementation of the vision will require a co-ordinated set of national efforts under an overall framework of progressive risk reduction, supported by regional services and sharing of information, technical knowledge, and possible donor support, between countries within the region and which are beneficiaries of the action.
10. In 2011-2012, the most important FMD event was the incursion of Asia-1 type virus into Iran and Turkey for the first time since 2002(Turkey) and 2004 (Iran).
11. All countries in the region are in PCP Stage 1 or above, and most continue to invest heavily in FMD vaccination programmes. Therefore, effective use of vaccine, including regular assessment of vaccine matching with local field strains, is extremely important.
12. The international organizations demonstrated continued strong support for the Roadmap process in West Eurasia. The EC and EuFMD support FMD control in Turkey and EuFMD supports FMD control in Iran and the TransCaucasus countries through ongoing projects. The Government of Italy

has provided further support to five central Asian countries in a project which closed in March 2012. In 2011-2013, USDA, through FAO, will provide major support for FMD control in Pakistan.

13. A Secretariat remains necessary to provide co-ordination of the supportive services, particularly to promote the laboratory network and services, and the epidemiology and risk monitoring, and for monitoring and communication of progress.
14. Annual meetings should continue to be convened by FAO/EuFMD/OIE to monitor progress.

WEST EURASIA FMD CONTROL ROADMAP TO 2020 – revised during the 2012 Roadmap meeting (Provisional)

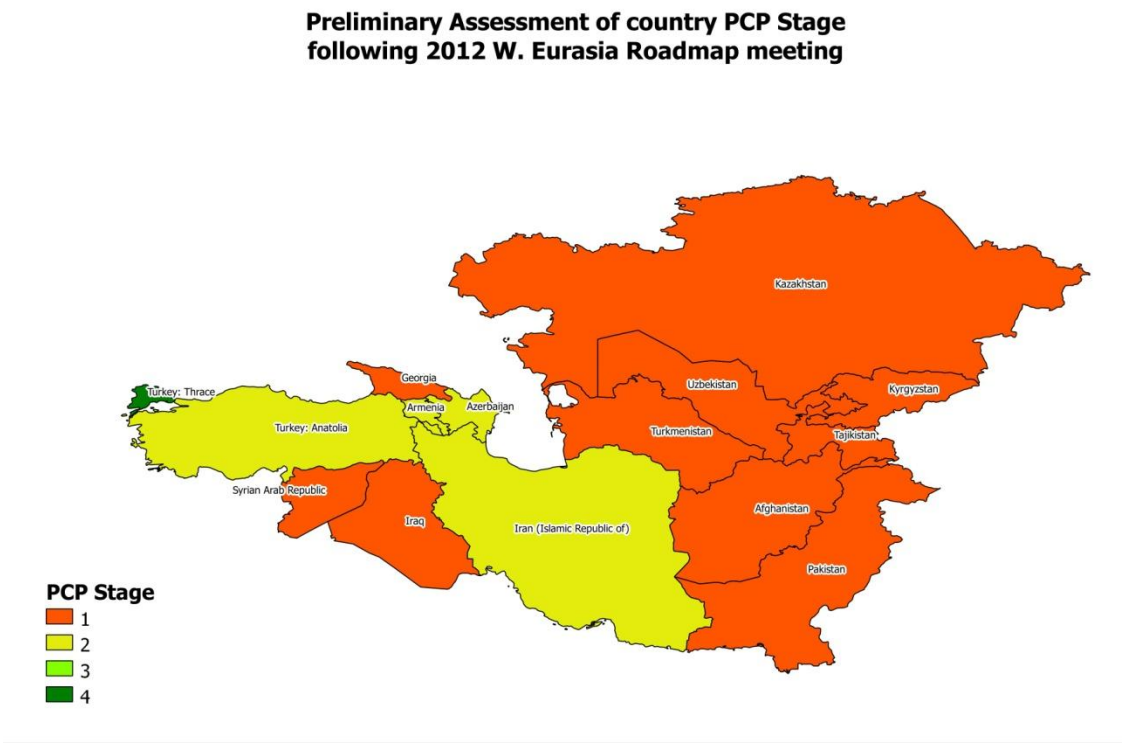
This table indicates the assessment of the country Stage position for 2012, together with the expected progression to 2020. For 2011, the 2010 PCP Stage was maintained because no Roadmap meeting was held in 2011. The progression from 2013 to 2020 is based on self-assessment completed during the Istanbul meeting.

Countries are given until 30th of June 30 2012 to produce an evidence-based request for this provisional status to be changed.

Table 1: *Preliminary assessment of country Stage position for 2012, together with the expected progression to 2020.*

		2008	2009	2010	2011*	2012	2013	2014	2015	2016	2017	2018	2019	2020	Comment
West Eurasia	Kazakh			1	1	1	3	3	3	4	4	5	5	5	
	Kyrgyz			0	0	1 (new)	2	2	3	3	3	4	4	5	
	Tajik			1	1	1	2	2	2	2	3	3	3	3	
	Turkmen			0	0	1 (new)	2	2	2	3	3	3	3	3	
	Uzbek			0	0	1 (new)	2	2	2	3	3	3	3	3	
	AFG			1	1	1	2	2	2	3	3	3	3	4	
	IRN			2	2	2	2	2	3	3	3	4	4	4	
	PAK			1	1	1	2	2	3	3	3	4	4	4	
	East Anatolia (TR)			2	2	2	2	2	2	2	2	3	3	3	
	Thrace (TR)			new	4	4	4	4	5	5	5	5	5	5	
	Marmara Aegean (TR)				2	2	2	3	3	4	4	4	4	4	
	Central Anatolia (TR)				2	2	2	2	2	2	2	3	3	3	
	Syria			1	1		3	3	3	4	4	4	4	5	not assessed in 2012
	Iraq														not assessed in 2010, 2012
	Armenia			2	2	2	2	3	3	3	4	4	4	4	
	Azerbaijan			2	2	2	2	3	3	3	3	4	4	5	
	Georgia	pending		1	1	1	2	2	3	3	3	4	4	5	
* No Roadmap Meeting was held in 2011, therefore 2010 Stages maintained															

Figure 1: *Map of countries that participate in W. Eurasia Roadmap, and provisional PCP Stage (2012)*



Acknowledgements

This report was compiled by the Secretariat of the EuFMD Commission, FAO, Rome. The financial support for travel and allied costs, from the EC (SANCO) and Italian Co-operation (GTFS/INT/907/ITA) is gratefully acknowledged.

Recommendations of the 3rd Regional meeting to review progress: West EurAsia FMD Control - Roadmap 2020.

The 12 countries here represented, agree the following:

Considering that:

1. There have been three major regional epidemics of FMD in the last three years (2009-2011) caused by A Iran 05 (Bar-08), O PanAsia-2 (ANT-10) and Asia-1 (unnamed strain). Two of these reached Libya and one reached Bulgaria. These outbreaks were detected and investigated largely through activities relating to the PCP. Serotype O Panasia II (ANT-10 lineage) has affected many countries in the region in the past year, and other type O Panasia II lineages have affected countries in the region;
2. Genetically distinct lineages of FMDV serotypes A, O and Asia-1 circulate within parts of the region, with the potential for further emergence and spread throughout the region;
3. Some countries in the region remain at an early stage of the PCP, with limited actions to monitor and control the movement of FMD;
4. Large investments in FMD control in Turkey and the I.R of Iran, and other countries in the region, are at risk as a result of epidemic developments in some parts;
5. Progress has been made to better map the emergence and spread of strains within the region, and to communicate between risk managers in the veterinary services, but an early warning system to allow countries to adapt their control measures is not yet in place;
6. Most countries have demonstrated their commitment to the Roadmap by undertaking PCP activities, with evidence of monitoring and control actions being applied, but eight of 14 remain in Stage 1 and 4 countries foresee themselves in Stage 3 in 2020;
7. There is a need for the countries of the region to express their voice and to assist direction of the initiative, working with the international organizations;
8. The countries of the region require effective regional services to achieve the progress in monitoring and surveillance, and assist improving the capacity of the national reference laboratories to service the national control strategies;
9. There has been a high demand for virus typing in 2011, and clear demonstration of the need for additional laboratory capacity in the Regional and national laboratories in order to provide rapid FMDV typing and vaccine matching services for the countries concerned;
10. FMD vaccines being used in the region are of generally low potency (3 PD50), include vaccines which are not purified in respect of NSP, and are produced by a range of suppliers whose adherence to the quality standards of the OIE and European Pharmacopoeia are uncertain;
11. Preventive vaccines of 3PD50 potency cannot be expected to prevent all outbreaks, and that additional measures targeted at critical control points will be needed if disease and viral circulation is to be prevented.

Recommend the following:

On virus circulation

1. Veterinary Services should reconsider their vaccination plans for the coming year, taking note of the continuing epidemic of serotype Asia -1 in Turkey, Iran, Pakistan and Afghanistan, and of serotype A Iran 05 and O Panasia II in at least these same countries;
2. Veterinary Services should develop contingency plans for the possible introduction of exotic FMDV from other virus pools, including the risk of FMDV spread of SAT2 from infected parts of the middle-east, and FMDV from pool 1 (East Asia) for the strains for which vaccines in common use may not protect.

On vaccine recommendations

3. Veterinary services should ensure that vaccines used are appropriate for the risk from viruses circulating in the West Eurasia region; the most appropriate vaccines for current risk in the region for use in 2012 are A Iran 05/A TUR 06 and O Manisa/O Panasia II. For Asia-1, Shamir is still the WRL recommended strain, but countries should note that the level of protection provided by Shamir against the new Asia1 strain is uncertain and more information is required to evaluate the protection provided in the field;
4. FAO/OIE reference centres for FMD should be consulted in decisions on the use of vaccine antigens that are different from the recommended for West Eurasia;
5. Veterinary services should review the re-vaccination intervals in countries in PCP Stage 2 to 4. This interval should be based on vaccine performance in the field, an assessment of the duration of population immunity in the species, and the risk posed by the gap in immunity in the species and age group concerned.

On the overall Roadmap approach and PCP

6. Recommended continuation of the Roadmap process, with a general endorsement of the approach including an annual survey for indicators of progress;
7. To endorse the process used in the Meeting for assessment of progress and urge FAO and OIE to finalize the official process for PCP step Acceptance Process at the regional and international levels;
8. Encouraged the Advisory group, and the EuFMD as Secretariat, to establish a donor co-ordination group for the Roadmap, to promote the PCP and Roadmap approach within their programmes and to find solutions to gaps in international support for national or regional support activities;
9. To make sure that the countries that are part of the West Eurasia Roadmap pursue their control efforts in coherence with the FAO and OIE Global FMD Strategy on FMD control (when officially adopted in June 2012), and notably that the Veterinary Services are progressively reinforced, as part of the 'enabling environment' accompanying the progress along the PCP;
10. To take into account the interactions between West Eurasia and the West Asia part of the Middle East region and articulate the West Eurasia roadmap /programmes with the Middle East ones;
11. To present the political commitment of the West Eurasia countries to the 2nd international Conference for FMD control, Bangkok, June 2012;
12. To use the possibility of Official Endorsed FMD Control Programmes during the Stage 3 of the PCP as a recognition of the effective management of FMD control in the country.

On the FMD monitoring and early warning activities

13. Recommends far greater effort to achieve the rapid sharing of laboratory information on FMD between the four main countries of Pakistan, Iran, Afghanistan and Turkey, through support to the WELNET and to reference laboratories providing vital services to the Roadmap;
14. WELNET, with the Secretariat and the WRL, should ensure that gaps in submission of samples for more than two months by the seven countries routinely reporting FMD in the region are identified, and attention given to achieve submissions;
15. Consideration should be given to supporting National FMD laboratories in countries in PCP Stage 1 with diagnostic kits to enable them to confirm the serotype on the basis that results will be reported to WELNET and to the OIE and Roadmap meetings;
16. Greater communication on a regular basis to the 14 countries in the Roadmap, plus their international partners, through newsletter, bulletins or other means of bring attention to new findings/threats to FMD control.

On progress along the Roadmap since 2009

17. That the international organizations, and national stakeholders, take note of the progress achieved in parts of the region since 2008, with progress of several countries along the pathway;
18. That the 2012 Roadmap be finalized before the *end of April*, after allowing another month for the missing information to be provided;
19. That the progress in this region be communicated to the Global Conference in Bangkok in June 2012, and that the Secretariat prepare information materials that assist countries to communicate the Roadmap principles and progress to national and international stakeholders.

Recommendations of the West Eurasia FMD Lab Network

20. Support is provided to WELNET in 2012 to better plan activities and achieve regular communication between the reference and national laboratories in the region;
21. The recommendations of the WELNET meeting were :
    a) Continued support is still vital to WELNET in 2012 to achieve the rapid sharing of laboratory information on FMD between the reference and national laboratories in the region and to support early detection and diagnosis capacity;
    b) That the Annual Workplan for 2012 be considered and supported by EuFMD and /or other international agencies, and calls upon the EuFMD to provide support for the action plan;
    c) To organize teleconferences between Pakistan, Iran, Afghanistan and Turkey, to support the WELNET and reference laboratories providing vital services to the Roadmap;
    d) Continued support be provided on the training needs for laboratory diagnosis to build up laboratory capacity in the region by developing a comprehensive plan to address training requirements for the next three years, facilitated by FAO/EuFMD consultancy project;
    e) To develop a mechanism for early detection and prompt identification of novel virus strains and threats in the region by collection of samples from endemic and sporadically diseased countries in the region, and testing through the WELNET;
    f) To organize a training workshop on vaccine matching methods to support regular testing for monitoring continual antigenic changes in order to optimise vaccination strategy in the region;
    g) To develop a simple proficiency trial system to be serviced within the region following a feasibility study supported by WRL and EuFMD, with results that can be presented to the Annual Meeting and communicated to the WRL and EuFMD regularly;
    h) To organize a workshop to assess residue of NSP by IPC kit for use in the region, and enhance NSP serosurveillance capacity in the region;
    i) A pilot study be supported on the benefit/cost of swab sampling from high risk markets in the region in light of the existing study in order to evaluate usefulness as an alternative collection system to identify circulating virus, including support to WELNET laboratories willing to undertake the services and information sharing required;
    j) Encourage WELNET laboratories developing Multiplex Real Time RT-PCR in the region, and facilitate collaboration between the WELNET laboratories already working on this area (Turkey and Iran) with the goal of primer optimisation according to circulating and high-risk strains.

Recommendations of the Epidemiology/Risk assessment group:

22. The network should seek to undertake activities and initiatives that will support countries in progress through PCP-FMD, particularly through the promotion of use of epidemiological tools in FMD control and by harmonizing the approach to surveillance in order to facilitate communication and understanding in the region. These activities should also improve early warning and response to FMD events in the region;
23. Through electronic communication and face-to-face meetings when possible, the network should share information and results pertaining to FMD monitoring and surveillance design and analysis, socio-economic approach and outcomes and value chain analysis;
24. That a training course in "**Practical Epidemiology for Progressive Control**" should be offered to network members to build capacity in epidemiology and socio-economic analysis; and specifically assist the veterinary staff of countries to plan and undertake activities within the framework of the PCP-FMD, with a first course to be conducted in 2012 and the appropriate level of field work needed to ensure training is appropriate to the situations faced in West Eurasia.

Day by day report of the Meeting: West EurAsia FMD Control - Roadmap 2020 - 3rd Regional meeting to review progress

Opening

The Meeting was opened by Dr Nahit Yazıcıoğlu, CVO and Head of the Animal Health Department, GDFC, Turkey. He warmly welcomed all participants to the meeting. Dr. Nigel Gibbens, EuFMD vice chairman, described the importance of the West Eurasia area to Europe. While the FMD control programs are a national responsibility, international support for the region is necessary, particularly technical support. As such, EuFMD anticipates continued support for this region to progress along the PCP Roadmap from 2013-2016, particularly in areas such as epidemiology training, promotion of WelNet activities and enhancement of data analysis and reporting through a dedicated database.
Dr. Alf-Eckbert Füssel, representing the European Commission (EC), echoed the sentiments of Dr. Gibbens in terms of the importance of the region and expressed his best wishes and hope to see progress along the PCP. Dr. Juan Lubroth, representing the Food and Agriculture Organization (FAO), reminded participants that FMD is not a rich countries' problem but its predominant effects are to negatively impact livelihoods and food security of the poor. He called for an emphasis on preventive measures and transparent reporting of FMD cases. Dr. Joseph Domenech gave opening remarks on behalf of the World Organization for Animal Health (OIE). He encouraged all participants to attend the upcoming FAO/OIE Global Conference on Foot and Mouth Disease Control that will be held in Thailand in late June 2012. Dr. Domenech further emphasized that, while this Roadmap was the first in the region and is now in its 4th year, it must articulate with other Roadmaps in the region, as the FMD virus may circulate between the different Roadmap country groups.

Organization of the Workshop

The Workshop was structured as follows:

Day 1

- Following the Opening, there was a series of talks which set the context for the participants. The Progressive Control Pathway and its relationship with the Roadmap proves was reviewed, and links and distinctions to the FMD Global Strategy and OIE procedures (official recognition of control programmes, FMD freedom, and PVS pathway) were described. Also in this session, two important talks described the current FMD situation in the region and globally.
- Following this background, each country gave a brief report on their progress along the PCP pathway. The day closed with a working session during which each country charted their expected progress along the PCP to 2020 and discussed in groups about particular challenges and obstacles they faced and potential solutions.

Day 2

- The advisory group met prior to the meeting to discuss issues related to the PCP Stage assessment and the future of the Roadmap.
- During the main meeting session, the each group from the previous afternoon gave feedback as to the issues discussed. The provisional Regional Roadmap and results from the questionnaire on vaccine use were presented. The meeting closed with the reading of draft Recommendations and Roundtable remarks by all country and international organization representatives.
- The WelNet and Epidemiology networks met in the afternoon.

Day 1- Session 1: Setting the Stage: West Eurasia Roadmap and the Progressive Control Pathway (PCP): Regional and Global FMD Situation

Chair: Dr. Juan Lubroth, FAO

The Session first received a presentation from Dr. Keith Sumption (EuFMD) giving the background to the West Eurasian FMD control Roadmap, (**Appendix 1**), mentioning that the West Eurasia Roadmap has demonstrated good progress since its inception three and a half years ago; now there is better understanding and awareness of FMD risks, many countries have progressed within the PCP and as a result new epidemic events are being identified at an earlier point. Progression in the PCP is particularly supported in West Eurasia through the activities of the FMD Lab Network (WELNET), the Epidemiology Network and the Roadmap Advisory group. It is the responsibility of each country to manage the risks with their own resources, and the PCP provides assistance to develop sustainable strategies. In order to continue to progress and improve, there is a need at the regional level for actions to reduce the risk of animal movements, economic analysis and stakeholder inputs, improved data sharing and reporting and capacity building in epidemiology, risk assessment and management.

The second presentation, "West EurAsia: recent epidemic situation, progress and challenges to implement the regional roadmap for progressive FMD control", given by Dr. Syed Jamal (**Appendix 2**). He explained that at present serotypes O, A and Asia-1 are circulating within the region. There are multiple sublineages within these serotypes, and new ones are appearing rapidly. Since the first Roadmap meeting in Shiraz (2008), three epidemics of regional significance have occurred within the region: A-Iran 05 (2008-2012), O PanAsia II (2009-2012) and most recently a new Asia-1 strain (first detected in Pakistan in 2008, but with significant spread in 2011). Available data indicates that all of these epidemics spread from East to West, and highlights the challenges in cross-border FMD control. Poor matching with commonly used vaccines most likely also played a role in these epidemics. Results were described from research done in live animal markets and dairy colonies in Pakistan, Tajikistan and Afghanistan in which apparently healthy animals were tested for FMDV. This non-invasive sampling demonstrated that FMD virus may be recovered from apparently healthy animals in markets and dairy colonies, and may be an important component of surveillance programs in endemic settings.

Dr. Joseph Domenech from the OIE then took the floor and presented information about the Global FAO-OIE FMD Control Strategy, which arose from a recommendation of the 1st International Conference of FMD Control in Paraguay in 2009 (**Appendix 3**). He outlined the components of the strategy: context, rationale, tools, already established programs, research needs and expectations, activities (globally, regionally and nationally), limiting factors, implementation and governance and finally conclusions. Dr Domenech stressed that the Global Strategy is designed to be tailored to national and regional situations and particularities of the virus pools, and as such articulates with the Regional Roadmaps. The Global Strategy will be formally presented at the Joint FAO/OIE Global Conference on the Control of FMD, to be held in Thailand in late June 2012.

The next presentation was on the "PCP-FMD principles and assessment procedures", by Dr. Melissa McLaws, EuFMD (**Appendix 4**). The PCP-FMD is a joint FAO/EuFMD/OIE tool developed to assist countries where FMD is endemic to progressively reduce the impact of FMD. It consists of 5 stages, that range from beginning to understand the epidemiology of FMD to developing an effective risk mitigation strategy, to measures that allow the elimination of virus circulation and maintenance of FMD absence. The PCP promotes a regional approach to FMD control by encouraging transboundary surveillance activities including the regular exchange of information. Work on the PCP-FMD is ongoing, including the development of an assessment procedure and tools to define countries' current PCP status and track progress over time. She explained the progress-to-date on these tools and procedures, which are based on the PCP Guidelines and applied during this Roadmap meeting. Feedback from the meeting will be used to improve and finalize the tools and procedures.

Dr. Nadège Leboucq (OIE) presented "Official OIE Recognition of FMD Country Status and Control Programmes - Linkages between OIE procedures (including OIE PVS) and PCP" (**Appendix 5**). She reviewed the steps required for the official recognition of disease status, such as Freedom from FMD with or without vaccination and explained that in 2011, the Terrestrial Animal Health Code was revised to include a description of the new provision for OIE to officially endorse and FMD control programme. Attaining this recognition would involve similar application and evaluation procedures to disease status recognition, and more information about these procedures is available on the OIE website. She also described the linkages between the PCP-FMD and the OIE-PVS tool, and that robust veterinary services are required to progress along the PCP.

The final presentation in the session was a global and regional overview of the FMD situation given by Dr. Jef Hammond from the WRLFMD (**Appendix 6**). In 2011, twelve countries in the region submitted approximately 750 samples to the WRL-FMD. While WRL did not detect serotype Asia-1 from the region in 2010, there were 69 isolates in 2011 including from Afghanistan, Bahrain, Iran and Turkey. In 2012, SAT-2 was detected in Egypt and Libya; phylogenetic analysis indicates that these are not related introductions. Several samples were analysed for vaccine matching in 2011. For Asia-1, of the 12 samples tested only 2 matched the Asia-1 Shamir vaccine strain. For serotype O, 62% matched with O Manisa and 90% with the O PanAsia-2 strain. For serotype A, 42% of samples matched with A22 and 83% with A Iran-05. Based on these findings, he identified vaccines of high importance for the region.

Day 1- Session 2: Country reports

Chairs: Keith Sumption and Dr Ghazi Yehia, OIE Regional Representative

All countries made brief presentations about their FMD situation in general and specifically progress along the PCP (**Appendices 7-18**).

Afghanistan: Afghanistan is currently in Stage 1 of the PCP. In 2011, they carried out a serological survey involving sample collection from 171 villages within 21 provinces; 46% of all samples were positive for NSP antibodies. There were 423 samples collected from suspected outbreaks in 2011, of which 36% were laboratory confirmed. A subset of 124 samples were sent to the WRL and laboratory results indicate that serotypes O, A and Asia-1 are circulating in Afghanistan. To date in 2012, 28 samples have been tested and found to be FMDV positive; again including serotypes O, A and Asia-1. Results from a study on the economic impact of FMD due to decreased milk production were also presented.

Pakistan: Pakistan is currently in Stage 1 of the PCP. An NSP serosurvey was done in 2011, involving 3400 samples of which 42% tested positive for NSP antibodies. During 2010-2011, 204 samples were collected from suspect FMD cases and 173 samples were sent to the WRL. Serotypes detected were: A-Iran 05 (AFG 08 and BAR 07); Pan Asia II (PUN 10 and ANT 10) and a new strain (unnamed) of Asia 1. Vaccine matching indicated some strains are not well covered by currently available vaccines. Results from a study undertaken to assess the immediate losses on lactating animals and to evaluate the cost benefit ratio of preventive vaccination were presented.

Tajikistan: Tajikistan is currently in Stage 1 of the PCP. An NSP survey was done including four provinces. Between 10-51 villages and 160-800+ animals were sampled in each province. Results showed that 11%-48% of samples were positive by province. A study of commercial farms revealed 71% of farms had NSP positive animals. In 2011, there were six reports of suspected outbreaks and three were laboratory confirmed, including serotypes O (2) and Asia-1 (1). The current understanding of the epidemiology of FMD is that the virus is maintained within the subsistence farming system. Live animal markets and migration to summer pastures play an important role in the spread of FMD. Mass vaccination of cattle and small ruminants is currently applied.

Kyrgyz Republic: The Kyrgyz Republic was in PCP Stage 0 following the 2010 Roadmap meeting and they are now in PCP Stage 1. In 2011, there was mass vaccination of cattle and small ruminants using trivalent (A/O/Asia-1) vaccine. In 2011, 65 suspected FMD cases were reported and serotypes O (PanAsia 2) and A (Iran 05) were identified. It was stated that the main cause of outbreaks is incursion from neighbouring countries. The State Veterinary Department, in association with FAO, has developed a Program and Strategy for FMD Prevention and Control of Animals, in effect from 2011-2015.

Kazakhstan: Kazakhstan was in PCP Stage 0 following the 2010 Roadmap meeting and they are now in PCP Stage 1. Mass vaccination is applied to control FMD. An NSP serosurvey was done in 2011. The risk of FMD is thought to be related to informal animal movements involving neighbouring countries and also between zones within Kazakhstan.

Uzbekistan: Uzbekistan was in PCP Stage 0 following the 2010 Roadmap meeting and they are now in PCP Stage 1. Mass vaccination is applied to large and small ruminants in the buffer zone to control FMD. A serosurvey was done which involved the collection and analysis of 1760 samples from 110 villages. Overall, approximately 7% of samples were positive for NSP antibodies.

Islamic Republic of Iran: The IR of Iran is currently in PCP Stage 2. In 2011, 2.3% of epidemiological units reported suspected FMD in the country. Serotypes O, A and Asia-1 are currently circulating; Asia-1 was confirmed in March 2011 for the first time since 2004. Mass vaccination is the principle control measure; between 2003-2010 large ruminants were vaccinated three times per year and small ruminants once per year. This strategy is currently being revised and mass vaccination will be applied less frequently. The vaccine used is mostly tri- and tetra-valent (A/O/Asia-1) and produced by the Razi Institute. Important factors in the spread and maintenance of FMD include: long borders with neighbouring countries, improper disposal of dead animals, animal markets, slaughter of animals outside of slaughterhouses, unsuitable transport of animals and manure. To mitigate these risks, a control strategy is being developed that includes strong emphasis on improving biosecurity, movement controls and reducing the risk posed by markets.

Turkmenistan: Turkmenistan was in PCP Stage 0 following the 2010 Roadmap meeting is and now in PCP Stage 1. An NSP survey was done in 2011 involving the collection and analysis of 976 samples in 5 different region. Results varied widely between regions: from 6-74% of samples were positive for NSP antibody. No outbreaks were reported, however, and circulating serotypes have not been identified. Mass vaccination is done twice yearly and farmers must pay for the vaccine.

Armenia: Armenia is currently in PCP Stage 2. Mass vaccination is applied to cattle and small ruminants using bivalent (A Iran 05/O PanAsia 2) or trivalent (A Iran 05/O PanAsia 2/Asia 1) vaccine. Post-vaccination serosurveillance was done in 2010 and 2011, including testing for both NSP and SP antibodies in large and small ruminants. The level of NSP positive samples varied widely between regions with between approximately 5%-40% NSP seropositive. Small ruminants were more often NSP seropositive in most regions. Positivity to SP also varied between regions (from approximately 45%-85%). In most regions, a higher proportion of cattle were seropositive compared to small ruminants. There were no reports of FMD outbreaks in 2010-2011.

Azerbaijan: Azerbaijan is currently in PCP Stage 2. The national FMD control strategy is based on risk analysis, vaccination, seromonitoring and follow-up investigations based on seromonitoring results. FMD risk is primarily associated with animal movements, both within the country and from neighbouring countries and formal and informal movements. Lack of immunity in small ruminants, insufficient vaccine quantity, lack of an identification and registration system for farms and animals were also cited as contributing to the risk of FMD. Steps to address some of these issues were described. High risk zones have been defined: districts bordering IR of Iran, Armenia, Georgia, Turkey; districts near animal markets and those close to seasonal migration paths. Seromonitoring surveys were carried out in 2010-2011 and the

results were given in the joint WelNet-epidemiology network meeting (**Appendix 31**). There were no reports of FMD outbreaks in 2010-2011.

Georgia: Georgia is currently in PCP Stage 1. The last reported outbreak of FMD in Georgia was in 2002. A NSP serosurvey was done in 2011 with 3% of samples testing positive. FMD high risk zones have been defined: areas near border of Armenia, Azerbaijan, Turkey and the occupied regions; areas near animal migration routes and livestock markets. Georgia is at risk of FMD introduction from other countries, and FMD may spread within Georgia through animal movements associated with markets and seasonal migrations. FMD control is based on surveillance, movement restrictions and vaccination.

Turkey: Turkey has two recognized zones with respect to FMD: Anatolia is in PCP Stage 2 and Thrace is in PCP Stage 4. FMD is endemic in Anatolia with serotypes A (Iran-05), O (PanAsia 2) and Asia-1 currently circulating. In 2011, 1797 outbreaks were reported. Of those submitted to the laboratory, 55% were caused by serotype A, 11% by Serotype O and 9% by serotype A (25% unknown). In 2012, to date 185 outbreaks have been reported of which 68% have been determined to be caused by Serotype Asia-1; 19% by serotype A and just 2% by serotype O (12% unknown). Information was given about FMD prevalence by region and province, as well as results of genetic analysis. The control strategy includes mass vaccination combined with surveillance and routine control measures in the case of an outbreak. Animal movement is monitored and regulated using the TurkVet system and training and awareness activities are ongoing. Large ruminants are vaccinated twice per year and small ruminants once per year. Ring vaccination is applied around detected outbreaks. Reported vaccination coverage varies by region from more than 85% to less than 60%. A new vaccine was developed to provide better protection against Asia-1, and initial results indicated that it is effective. FMD risk is considered related to animal movements (within Turkey and also involving neighbouring countries), animal husbandry practices and lack of booster vaccination. In Thrace, large ruminants are vaccinated twice per year and small ruminants once annually. There are strict animal movement controls, that are enhanced at times of high risk (e.g Kurban festival). Regular serosurveillance is implemented, with additional surveys conducted this year in response to the FMD outbreak in Bulgaria.

Day 1- Session 3: Working Groups

This session consisted of two parts.

In the first part, countries worked individually and were asked to:

- List activities planned for the next three years that would contribute to progress along the PCP;
- Indicate expected progression along the PCP to 2020;
- List areas where external support would be valuable to progress along the PCP;
- List any externally funded projects related to FMD.

In the second part, the countries formed three groups and were asked to discuss and report back on:

- The main challenges encountered to maintain (or make progress) in the current PCP-Stage and/or progress to the next Stage;
- How these challenges could be overcome.

Results from this session were reported on Day 2.

Day 2- Session 1: Working Group Reports

The groups cited diverse challenges that impede progression along the PCP –FMD. These include political pressure not to report suspected FMD outbreaks due to fear of unwarranted trade sanctions resulting from the report (e.g trade ban of products that is not scientifically based). Other constraints mentioned related

to biosecurity and difficulties in implementing effective animal movement controls. Vaccine quality, quantity and suitability were also identified as constraints to progress.

Solutions proposed included international support for vaccine, diagnostic kits and training. Increased sharing of data was called for, as well as the harmonization of surveillance activities across the region.

Day 2- Session 2: Results from questionnaire on vaccination and PCP Assessment

Chair: Dr. Juan Lubroth

Dr. Eoin Ryan (EuFMD) presented the results of the questionnaire on vaccination that all countries had filled out prior to the meeting (**Appendix 19**). Of the 12 countries present at the meeting, six had reported outbreaks, involving serotypes O (6 countries), A (5 countries) and Asia-1 (5 countries). The presentation detailed vaccine strains used in the region, vaccine strategies applied and resultant reported vaccine coverage, vaccine suppliers, diagnostic capacity and post-vaccination monitoring strategies employed. Six countries reported vaccine matching done; whereas five countries do not. Key regional viral threats identified are serotype Asia-1, the new subgroup to which Shamir does not appear to confer good protection; serotype O PanAsia 2 (ANT-10 and BAL-10); serotype A-Iran-05 and serotype Sat2, not usually present in the region but currently circulating in Egypt and Libya. Detailed responses are available in Table two.

Dr. Chris Bartels (EuFMD) presented the results of the PCP Assessment (**Appendix 20**). Prior to the meeting, every country had completed a PCP self-assessment checklist for the appropriate Stage of the PCP. The Assessment was based on the results from these checklists plus the information contained within each country presentation. In the presentation:

- The achievements recorded towards each Outcome within the relevant PCP stage are shown in a graphical representation;
- The PCP Stage according to the self-assessment result is given;
- The PCP Stage according to the Roadmap assessment result in given;
- Key activities planned by the country are listed (as per country work, Session 3 Day 1);
- The Provisional PCP-FMD Roadmap was presented.

The Stage assignments are provisional and countries may make an evidence-based appeal prior to 30 June 2012. At this point, the provisional Roadmap will be sent to the relevant GF-TADs committee for approval.

In the provisional Roadmap, three countries progressed from Stage 0 to 1 (Kyrgyzstan, Turkmenistan, Uzbekistan) and no countries regressed.

In the forecast from 2013-2015, countries are somewhat less optimistic about progress compared to the 2010 Roadmap. Four countries (Tajikistan, Turkmenistan, Uzbekistan and Afghanistan) that foresaw that they would be in Stage 3 in 2015 now preview being in Stage 2 in 2015. Looking further ahead, four countries forecast that they will be in Stage 3 in 2020. In Stage 3, FMD outbreaks are still expected and the focus of the Stage is progressive reduction of outbreak incidence, working towards elimination of circulation. Therefore, this suggests that the Roadmap is not currently on track to achieve the vision of freedom from clinical cases of FMD being achieved by the year 2020.

Day 2- Session 3: Report from Advisory Group, Roundtable discussion, Draft Recommendations and Closing Remarks

The advisory group consists of three national veterinary service representatives (currently Pakistan, Turkey and Azerbaijan), network representatives (Naci Bulut (WELNET) and Naser Rasoli (Epi-Network)) and

representatives from international organizations (EuFMD, FAO, EC and OIE). Items discussed at the meeting included issues arising from the PCP Assessment. Roadmap support and annual progress review (2013-), donor coordination and future meeting dates (**Appendix 21**).

Regarding the PCP Assessment progress:

- The Advisory committee supporting the proposed movements of three countries from Stage 0 to 1, based on the evidence presented at the Meeting;
- The issue of countries that do not report outbreaks despite positive NSP serology, indicating circulating FMDV, was discussed. The lack of reported outbreaks presents a challenge in determining the circulating serotypes and strains, which is an important component of all PCP Stages;
- To progress from Stage 1 to Stage 2, a dossier must be provided that describes the control strategy in which the outcomes of Stage 1 are clearly described and addressed (understanding of FMD epidemiology and risk);
- For countries that are currently in Stage 2, in order to remain in that stage they must provide a dossier that describes the control strategy in which the outcomes of Stage 1 are clearly described and addressed (understanding of FMD epidemiology and risk) prior to the next Roadmap meeting;
- External assessment should be on request unless clear conflict between self-assessment and Roadmap Review findings.

Regarding Roadmap support and annual progress review from 2013 onwards, the Advisory group thanked the FAO -GTFS/ITA project for their support from the start of the Roadmap.

The West Eurasia Roadmap Advisory Committee was re-elected with Turkey retaining the Presidency and Azerbaijan and Pakistan providing members. Naci Bulut (Turkey) was re-elected for the WELNET Network, and for the Epi-Network, Dr Naser Rasoli (Iran).

EuFMD was requested to provide the Secretariat for future meetings. Annual meetings are encouraged, supported by EuFMD /GfTADS Europe and co-ordinated with Gf-TADS Middle-East. A mid-year meeting is also recommended to follow-up the questions raised in March, and may take place as a side-meeting at the Bangkok Conference, June 2012.

Donor coordination is recommended and may involve the EC, USDA, FAO, World Bank, Turkish International Cooperation and Development Agency (TIKA) and the Asian Development bank. Meetings with some of these donors have already been arranged to take place prior to the Global Conference in Thailand.

The Draft recommendations were read, and the text amended or comments noted for revision of the final Version.

Delegates of the 12 countries, observers and the international organizations (FAO, EC, OIE, EuFMD) gave closing remarks on the proceedings of the 3rd Roadmap Review Meeting. The remarks were, without exception, positive on the outcome of the Meeting, and on the importance of the Roadmap as a framework for increasing action against FMD in the region, and for stimulating investment and achieving greater impact of national and regional efforts. Many themes that had already arisen over the course of the meeting were stressed, particularly the importance of a regional coordination and broad support for the PCP approach. The need for improved animal movement controls and biosecurity, as well the high cost of vaccine and the importance of financial support were raised several times.

Table 1: *Areas where external support would be valuable and current projects relevant to the PCP-FMD*

COUNTRY	Valuable areas for external support	CURRENT PROJECTS
AFGHANISTAN	• Financial and technical support	
ARMENIA	• Training on FMD for laboratory staff and epidemiologists • Technical support (upgrading equipment, improvement of diagnostic methods, diagnostic kits) • Vaccine for supporting buffer zone	Strengthening FMD surveillance and control in the TCC (MTF/INT/003/EEC) (end 2012)
AZERBAIJAN	• Training in epidemiology and GIS • Training for lab • Diagnostic kits (SP, NSP) • PCR reagents • Vaccine	Strengthening FMD surveillance and control in the TCC (MTF/INT/003/EEC) (end 2012)
GEORGIA	• Vaccine • Epidemiology and laboratory training • FMD rapid test and laboratory kits	Strengthening FMD surveillance and control in the TCC (MTF/INT/003/EEC) (end 2012)
IR of IRAN	• Extension of EuFMD project • Training courses, particularly in epidemiology • Participation in international meetings • Field studies and lab quality control development	EuFMD project (to 2013)
KAZAKHSTAN	Soon available in English	
PAKISTAN	• Production of diagnostic reagents • Establish vaccine matching • Capacity building in epidemiology • Upgrade local vaccine production capacity • Vaccine quality control	Progressive Control of FMD in Pakistan (USDA funding until 2014)
TAJIKISTAN	• Training in planning, risk analysis, value chain analysis	
TURKEY	• Vaccination • Serosurveillance	EC Project: 2011-2014; EuFMD: 2011-2012
TURKMENISTAN	• training for veterinary managers and field vets • Laboratory equipment and reagents • More information to veterinary managers about socio-economic impact of FMD • Assist veterinary services to improve control plans • Organize awareness activities for farmers	
UZBEKISTAN	• training for veterinary managers and field vets • Laboratory equipment and reagents • More information to veterinary managers about socio-economic impact of FMD • Assist veterinary services to improve control plans • Organize awareness activities for farmers	

Table 2: Detailed responses to vaccination questionnaire

Question	Turkey	Uzbek.	Georgia	Tadjik.	Turkme.	Afghan.	Arm.	Azer.	Kyrgyz.	Pakis.	Iran
Were there cases of FMD notified in 2011-12?	Yes	No	No	Yes	No clinical cases	Yes	No	No	Yes	Yes	yes
Which type (s) of FMD-virus were involved (A, O, Asia1, Non Type)	O, A, Asia1	No	No	O panAsia 2 in 2011, Asia1 in 2011	-	A, O, Asia1	-	No	A - O	A-Iran-05, O-Panasia 2, Asia1 unnamed	A,O,Asia 1
Describe the strategy for vaccination of cattle	Twice yearly	Free & compul. vacc.	Free & Compul. vacci. in High Risk Zones, twice a year (Spring& Autumn)	Free & compul. vacc.	Random vacc.	FMD control strategy does not exist	Free & compul. vacc.	Compl. Vacc.	Free & compl. vacc.	Voluntarily	Free on compl. Vacc.
Describe the strategy for vaccination of small ruminants	Annually in two provinces	Free & compul.	Free & Compul. (Obligatory) vaccination in the high Risk Zones twice a year (Spring and Autumn).	Free & compul. Vacc.	Random vacc.	FMD control strategy does not exists	Free & compul. Vacc.	Compul. vacc.	-	Voluntarily	Free on compul. vacc.
Composition of the vaccine used in each species (valency, serotype, and antigen)	O Tur 07; A TUR 06; Asia1 TUR 11	Large and small cattle: Trivalent (A Iran05 / OPanAziya-2/Aziya-1-Shamir)	Cattle and sheep - 2011: Bivalent (A – Iran05, O - PanAsia-2); and Trivalent (A – Iran05, O - PanAsia-2, Asia-1 - Georgia 2001) Produced by FGI ARRIAH (Russian Federation).	Cattle & sheep: trivalent (A Iran05/O1 Manisa\Asia 1)	Cattle & sheep: A;O;C;Asia 1	Same vaccine for cattle & small ruminant	Trivalent-A Iran-2005, O PanAsia2, Asia-1 Georgia-2001, TV FMD vaccine (strains - O/TUR/5/2009,A /TUR/20/2006, Asia 1 Shamir), Bivalent-(A Iran-2005, O PanAsia2) TV-Merial-(O1 Manisa, A Iran 2005, Asia 1 Shamir)	Cattle: trivalent (A Iran2005, O PanAsia 2, Asia-1 Georgia 2001; sheep bivalent	A – Iran 05 cattle, O – Pan-Asia-2, Asia-1 - Shamir	the subtypes of the locally manufactured vaccine are not known	Tri & Tetravalan (A, O, Asia1)

Approximate coverage of vacc. by species		20 % cattle, 16 % small ruminants	35% in cattle.30% in small ruminants. (Small Ruminants in the high risk zones are vaccinated by owners with commercial vaccines)	50% in cattle 35% in small ruminants	30% in , 20% in SR	Less than 10%	100% in cattle, 65% SR	100% in cattle, 20% in SR	83% cattle, 55% SR	0.01%	35% in cattle, 60% in sheep & goat
How is the vacc. program followed-up/monitored?	NSP serology	Annual serological samples 400-500 vaccinated animals one month after vacc.	In 2010/11 sero-survey in whole country (LR, SR & Pig on SP/NSP). In 2012 planning new sero-survey. Serologic check (SP) of vaccinated animals conducted 3-8 weeks after vacc.. Telephone & on-site monitoring is done by special group after each campaign.	Serologic check (SP) in 5-10% of vaccinated animals one month after vacc.	-	No monitoring in 2011 due to budget problems	Serologic check (SP) in 8000 vaccinated animals one month after vacc.	Serological monitoring of vaccinated animals one month after vacc.	Yes	_____	Checking the outbreaks & vacc.

Network Meeting Summary and Recommendations

The networks first met individually and then held a joint technical session.

Lab Network (WELNET) - summary and recommendations

The West Eurasian laboratory network (WELNET) was formed at the 2009 Istanbul FMD week meeting, following a recommendation at the 2008 Shiraz regional roadmap meeting. It has since been very active, with a review of the activities in 2010 given in the report of the second FMD week, Istanbul, 2010.

The fourteen member states of WELNET are Iran, Pakistan, Turkey, Afghanistan, Iraq, Syria, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan, Georgia, Kazakhstan and Kyrgyzstan.

Dr Emiliana Brocchi (IZSLER) gave a presentation on advances in diagnostic tests, including recent developments in SAT2 diagnostics. IZSLER has supplied newly developed antigen ELISA kits for SAT2 detection to Egypt for use there, and can supply more kits to other countries in the area over the coming period. (**APPENDIX 22**)

Dr Nazam Shirazi (Iran) presented work on developing a multiplex PCR assay optimized for FMD viruses found in the West Eurasia region. This was particularly welcomed by Dr Naci Bulut of the SAP Institute (Turkey), which has developed a similar multiplex assay. Further discussions to address cooperation and areas of collaboration are planned. (**APPENDIX 23**)

Dr Jef Hammond (OIE/FAO FMD World Reference Laboratory) gave a presentation covering the importance of proficiency trials and their role in developing the diagnostic capacity of laboratories. (**APPENDIX 24**)

Dr Labib Bakkali-Kassimi (ANSES, France) discussed the importance of quality control and assurance in diagnostic laboratories. He outlined the processes whereby laboratories can start to quickly implement quality control monitoring using control charts, and described the many benefits to the laboratory and its clients of using quality systems(**APPENDIX 25**).

Dr Naci Bulut was re-confirmed as WELNET leader, and outlined draft recommendations from the workshop; these were endorsed by the group; Dr Bulut was asked to draft an action plan and circulate in the next few weeks, and also to collate updated information on WELNET member laboratory capacities.

The recommendations of the WELNET meeting were:

1. Continued support is still vital to WELNET in 2012 to achieve the rapid sharing of laboratory information on FMD between the reference and national laboratories in the region and to support early detection and diagnosis capacity;
2. That the Annual Workplan for 2012 be considered and supported by EuFMD and /or other international agencies, and calls upon the EuFMD to provide support for the action plan;
3. To organize teleconference between Pakistan, Iran, Afghanistan and Turkey, to support the WELNET and reference laboratories providing vital services to the Roadmap;
4. Continued support be provided on the training needs for laboratory diagnosis to built up laboratory capacity in the region by developing a comprehensive plan to address training requirements for the next 3 years, facilitated by FAO/EUFMD consultancy project;
5. To develop a mechanism for early detection and prompt identification of novel virus strains and threats in the region by collection of samples from endemic and sporadically diseased countries in the region and testing through the WELNET;
6. To organize a training workshop on vaccine matching methods to support regular testing for monitoring continual antigenic changes in order to optimise vaccination strategy in the region;

7. To develop a simple proficiency trial system to be serviced within the region following a feasibility study supported by WRL and EUFMD, with results that can be presented to the Annual Meeting and communicated to the WRL and EuFMD regularly;
8. To organize a workshop to assess residue of NSP by IPC kit for use in the region, and enhance NSP serosurveillance capacity in the region;
9. A pilot study be supported on the benefit/cost of swab sampling from high risk markets in the region in light of existing study in order to evaluate usefulness as an alternative collection system to identify circulating virus, including support to WELNET laboratories willing to undertake the services and information sharing required;
10. Encourage WELNET laboratories developing Multiplex Real Time RT-PCR in the region, and facilitate collaboration between the WELNET laboratories already working on this area (Turkey and Iran) with the goal of primer optimization according to circulating and high-risk strains.

Epidemiology Network – summary and recommendations

The meeting commenced with a discussion about the function and structure of the Network. Results of this discussion are captured in the first two recommendations from the meeting.

Following this discussion, Dr Melissa McLaws (EuFMD) gave a short presentation on the **Practical Epidemiology for Progressive Control (PEP-C)** training course that is being developed and should be first offered in the West Eurasia region (**Appendix 26**).

Dr Luca Tasciotti from the International Institute of Social Studies of Erasmus, Rotterdam University, the Netherlands presented a summary of a longitudinal study carried out in Pakistan on the economic impact of FMD on milk production (**Appendix 27**). This study analysed data collected from 70 farmers between November 2010 and May 2011. The results suggest that vaccination of cattle/buffalo is an economically worthwhile activity.

Results from a study on the economic impact of FMD on milk yield in cattle in Afghanistan were presented by Dr Giancarlo Ferrari (FAO) (**Appendix 28**).

Epidemiology Network Recommendations:

1. The network should seek to undertake activities and initiatives that will support countries in progress through PCP-FMD, particularly through the promotion of use of epidemiological tools in FMD control and by harmonizing the approach to surveillance in order to facilitate communication and understanding in the region. These activities should also improve early warning and response to FMD events in the region.
2. Through electronic communication and face-to-face meetings when possible, the network should share information and results pertaining to FMD monitoring and surveillance design and analysis, socio-economic approach and outcomes and value chain analysis.,
3. That a training course in “Practical Epidemiology for Progressive Control” should be offered to network members, to build capacity in epidemiology and specifically develop the skills needed to undertake activities within the framework of the PCP-FMD

Joint Network session– summary

A joint session of the laboratory and epidemiology networks was held due to the common interests in the areas of post-vaccination monitoring and serosurveillance.

Dr Chris Bartels (EuFMD consultant) presented the results of a study on seroprevalence and risk factors for FMD in West Azerbaijan, highlighting the high prevalence in young stock and the village level risk factors involved (**APPENDIX 29**).

Dr Antonello Di Nardo (Institute for Animal Health, Pirbright) discussed the results of a study identifying risk factors and mapping risk areas in Central Asia. Areas of interdigitating borders were spatially at high risk, and there was a clear trend of increasing prevalence as time from vaccination increased (**APPENDIX 30**).

Dr Tamilla Aliyeva (EuFMD national consultant, Azerbaijan) presented the results of the post-vaccination serosurveillance study conducted there, which involved NSP testing of survey samples and SP testing of naïve imported calves following vaccination (**APPENDIX 31**).

Dr Jeff Hammond (OIE/FAO FMD World Reference Laboratory) discussed the complexities of vaccine matching and the role of the WRL in supporting West Eurasian countries in diagnostics and surveillance, emphasizing the importance of detecting new and emerging strains as early as possible (**APPENDIX 32**).

Dr Naci Bulut (SAP Institute, Turkey) presented the results of a collaborative project on post-vaccination monitoring in Turkey, which described methodologies and analysis appropriate to endemic countries (**APPENDIX 33**).