Food and Agriculture Organization of the United Nations

WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

GF-TADs
GLOBAL FRAMEWORK FOR THE PROGRESSIVE CONTROL OF TRANSBOUNDARY ANIMAL DISEASES

eufmd
european commission for the control of foot-and-mouth disease

The Progressive Control Pathway for Foot and Mouth Disease control (PCP-FMD) Principles, Stage Descriptions and Standards

Edition 2018

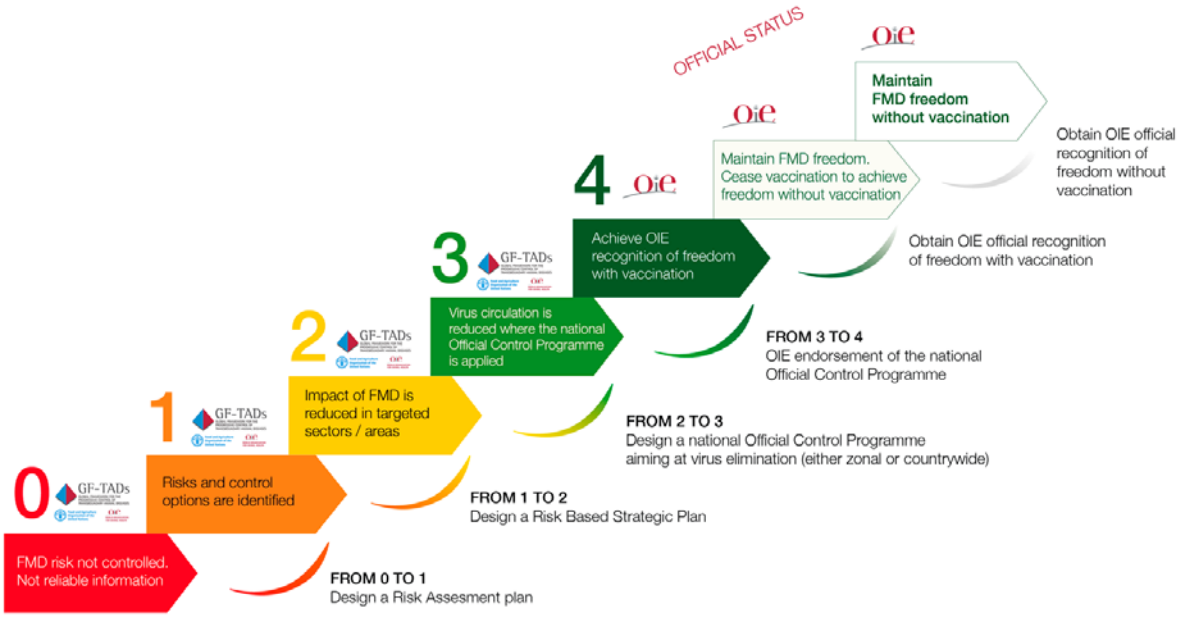
The Progressive Control Pathway

for

Foot and Mouth Disease control (PCP-FMD)

2nd Edition

Principles, Stage Descriptions and Standards



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LIST OF ACRONYMS

EuFMD:	European Commission for the Control of Foot-and-Mouth Disease
FAO:	Food and Agriculture Organization of the United Nations
FMD:	Foot and mouth disease
FMDV:	FMD virus
GF-TADs:	Global Framework for the Progressive Control of Transboundary Animal Diseases
OIE:	World Organisation for Animal Health
PCP:	Progressive Control Pathway
PCP-FMD:	Progressive Control Pathway for FMD
PVM:	Post Vaccination Monitoring
RAG:	Regional Advisory Group
RBSP:	Risk-Based Strategic Plan
TAD:	Transboundary animal disease

I. PCP-FMD Principles and Application

The Progressive Control Pathway for Foot and Mouth Disease (PCP-FMD) has been developed by FAO (Food and Agriculture Organization of the United Nations) and EuFMD (European Commission for the Control of Foot-and-Mouth Disease) to assist and facilitate FMD endemic countries to progressively reduce the impact of the disease and the load of FMD virus. The PCP-FMD approach has been adopted by FAO and OIE (World Organisation for Animal Health) as a working tool in the design of FMD country (and some regional) control programmes. The PCP-FMD forms the backbone of Component 1 of the FAO-OIE Global FMD Control Strategy[1].

The PCP-FMD is a set of FMD control activity stages that focuses on first identifying and then addressing the risks for FMD introduction and spread. If adequately implemented, the activities should enable countries to progressively increase their level of FMD control to the point where an application for OIE-endorsement of a national official control programme will eventually lead to the OIE recognition of an FMD free status with or without vaccination in accordance to the requirements of the OIE *Terrestrial Animal Health Code*.

The PCP-FMD consists of two distinct domains: (i) a Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) pathway from Stage 0 up to and including stage 3 and (ii) an OIE pathway beyond Stage 3.

[1] http://www.fao.org/3/a-an390e.pdf

A. PCP Principles

The PCP approach is based on the following principles

- Understanding the epidemiology of FMD and active monitoring for FMD virus (FMDV) transmission pathways are the foundation of a control programme, and therefore the activities to meet these requirements are common in all stages. An FMD monitoring and evaluation system should be in place at Stage 2 and higher to measure the effectiveness of the control programmes;
- Activities are conducted to mitigate the disease risk and reduce virus transmission in the susceptible domestic animal population, as appropriate for the particular PCP Stage;
- In each PCP Stage, activities and their impacts are measurable, comparable between countries and generate information of benefit to national as well as international stakeholders;
- Available resources are optimised by targeting control measures to specific critical control points along the value chains where their impact is greatest. Critical control points may be production systems and/or husbandry practices and/or particular geographic locations where the risk of FMD entry, spread and/or consequences is highest.

B. Expected progression and monitoring achievements along the PCP and beyond

The PCP is not intended to be compulsory or prescriptive; rather it is outcome-oriented and acknowledges that the most effective approach to achieve the key outcomes might be different in different countries and regions. It is also recognised that priorities will vary across countries, and therefore there is flexibility built into the PCP. Within the lower stages, countries may choose to focus control measures on certain production system(s) and/or specific geographic area(s), and throughout the PCP each country can decide how quickly and how far it progresses. Eventual progression to Stage 2 is the logical goal of countries that embark on Stage 1.

However, countries may decide not to progress further than Stage 2, which focuses on reducing the impact of FMD and thus provides sustainable management of FMD to an acceptable level. In particular, for those countries unlikely to be able to progress beyond Stage 2, the quality of the monitoring data and information sharing is important to ensure that other countries in the region are informed and can protect themselves from the potential risks.

Moving to Stage 3 would indicate a strong commitment to progress toward elimination of FMD virus (either at zonal or country level). The gateway to Stage 3 is to prepare an Official Control Program aiming at eliminating virus circulation.

The effectiveness of the Official Control Program plan while in Stage 3 would normally lead the country to request the OIE endorsement that, once obtained, will be the gateway to move to Stage 4 (moving towards achievement of freedom with vaccination).

The following steps will be for the country to be officially recognized by the OIE as having an FMD free status (with or without vaccination) for all or part of the country which would correspond to an official recognition of a status.

C. Assessment of progress

Regional Roadmap Meetings

Although the assessment and resultant Stage assignment are done on an individual country basis, countries within a region are preferably assessed concurrently at a regional meeting ("Regional FMD Roadmap meeting") held regularly (ideally every 1-2 years). The opportunity for countries to cross-examine each other's progress at regional level is intended to encourage greater transparency and accountability.

The main objectives of the Roadmap meeting are to:

- Share information on FMD virus circulation within the regional ecosystem to assist in planning of vaccination and other preventive measures;
- Review and assess countries' progress in respect to the vision identified by the region;
- Identify areas for improvement and needs for assistance;
- Provide technical training in priority topics identified by the region.

Regardless of their OIE status or their PCP FMD stages, all countries in a particular region are encouraged to attend and actively participate in Regional Roadmap meetings and share their control plans and activities with other countries in the region.

Acceptance process for countries in PCP Stages (Stages 0-3)

A self-assessment questionnaire ("PCP Checklist"[2]) is available that summarizes the required and recommended activities for each PCP Stage. Countries are encouraged to use this questionnaire at any time to informally review their progress along the PCP.

To determine each country's PCP-FMD Stage[3] and its progression over time, an assessment is conducted following a formal procedure utilizing the GF-TADs in which FAO and OIE cooperate called the GF-TADs PCP-FMD Acceptance process.

The Acceptance process is an evidence-based, transparent assessment carried out regularly, preferably every 1-2 years, following a well-established procedure conducted uniformly across the world. The countries being assessed must provide clear evidence of the activities performed and progress achieved towards the key outcomes of the PCP and of their national plans.

The key body in the Acceptance process is the **Regional Advisory Group** (RAG) which has been established for each group of countries that attend FMD Roadmap meetings.

The RAG consists of (i) three CVOs (or their designees) from the region nominated by the Member Countries of the region for a period of three years, including a chairperson nominated by the RAG members and, although not obligatory, it would be an asset if the RAG members are also members of GF-TADs Regional Steering Committee (RSC) wherever possible (considering that the geographical coverage of a GF-TADs Regional Steering Committee and the Regional Roadmap may not overlap); (ii) the heads of the regional epidemiology and laboratory networks, (iii) Members of the GF-TADS FMD Working Group (FMD-WG), (iv) representatives of the regional/sub-regional FAO and OIE regional offices, (v) PCP and PVS experts and (vi) a representative from a regional organization. Only (i) and (ii) have voting power for the Acceptance process, supported in their decision by the other RAG Members. Countries may participate in multiple Roadmaps if appropriate according to their geographical location and risk but only be assessed by one RAG. The country, in consultation with the FMD-WG, may decide which RAG will be responsible for assessment.

[2] Available at: http://www.fao.org/ag/againfo/commissions/eufmd/commissions/eufmd-home/progressive-control-pathway-pcp/en/

[3] Countries with their FMD national control programme endorsed by the OIE (stage 4) or countries with an OIE officially recognized status are not required to go through a self-assessment process.

The GF-TADs Acceptance process consists of four steps (see **Box 1**). The FMD-WG reports the outcome of each FMD Roadmap to the GF-TADs Management Committee and the Global GF-TADs Steering Committee.

Country visits may be undertaken by experts (only if requested by the country) to provide technical support or to resolve disagreements between country self-assessment and the assessment made by the RAG. The experts' reports on the country visit, along with their recommendations, are presented to the FMD-WG.

Box 1: GF-TADs Acceptance process

1) Completion of the self-assessment questionnaire ("PCP checklist") by countries. This is crucial, and enables countries to summarize the information in a standardized manner.
2) The FMD-WG reviews the questionnaires to assess country progress with respect to the required and recommended outcomes in a given PCP-FMD Stage. The FMD-WG assesses that the FMD plan is consistent with the Stage in which the country is claiming to be or is wishing to be accepted and drafts a written feedback.
3) The country provides evidence supporting the self-assessment for peer review, usually with a presentation and interviews by the FMD-WG during the Roadmap meeting.

In the event that no Roadmap meeting is held, then supportive evidence should be provided to the RAG through the FMD-WG, who will convene an extraordinary meeting of the RAG (usually an online meeting). This will be done:

As needed, for Stage progression

Every 3 years to maintain the Stage Acceptance

4) Evidence is reviewed by the RAG, which determines PCP Stage Acceptance

Provisional Acceptance

In case evidence is missing or required information is incomplete at the time of the Roadmap meeting, the RAG may provisionally accept the country in a Stage, under the condition that the country provides the required evidence within a specified timeframe (no longer than six months). If the evidence is not provided within the timeframe, then the provisional acceptance is withdrawn and the country reverts to the previous accepted Stage. The FMD-WG is responsible for following-up this issue and coordinating with the RAG to finalize the assessment soon after receipt of the required evidence.

The FMD-WG is responsible for communication with the individual countries regarding PCP-FMD issues. The GF-TADs Regional Steering Committees should be closely involved, as much as possible and feasible, considering that the geographical coverage of a roadmap may not necessarily be the same as the GF-TADs Regional Steering Committee.

A briefing on the progress of the PCP-FMD in their region should be part of the agenda of each GF-TADs Regional Steering Committee meeting although it may encompass only part of a regional roadmap.

Requirements to qualify in a PCP-FMD Stage

In order to qualify to a PCP-FMD Stage, the country should have achieved all of the key outcomes from the previous Stage, *plus* have met the minimum requirements for inclusion in the subsequent Stage (see below). Completion of a Stage depends on the attainment of a specific 'indicator' outcome demonstrating that the country is ready to move to the next Stage. The indicator outcome for each Stage is described (see **Box 2**).

More specifically, an important outcome is the elaboration of a specific plan appropriate for the objectives and capacity of the country and that builds on the results of the previous Stage(s).

To move forward from Stage 3 to 4 and have its Official Control Programme endorsed by the OIE, the country should prove its effectiveness, compliance with the relevant requirements of the *Terrestrial Code* and follow the OIE procedure for endorsement. Similarly, to be officially recognised free from FMD, the countries have to comply with the relevant requirements of the *Terrestrial Code* and follow the OIE procedure.

Box 2: Indicator outcome to enter

Stage 1	Risk Assessment Plan
Stage 2	Risk Based Strategic Plan
Stage 3	Official Control Programme
Stage 4	Endorsement of the Official Control Programme by OIE
Status	Recognition of FMD freedom with vaccination
Status	Recognition of FMD freedom without vaccination

The procedure for endorsement and for the official recognition of freedom is available from the OIE[4].

It is worth noting that, different to previous PCP stages, the fulfilment of the requirements to have its Official Control Programme endorsed or its free status officially recognised is no longer assessed by the RAG but by the OIE Scientific Commission for Animal Diseases and the World Assembly of OIE delegates.

Once countries have entered the OIE pathway and have either their official control programme endorsed by the OIE or their free status, with and without vaccination, officially recognised, their FMD situation is assessed annually by the OIE against the requirements of the OIE *Terrestrial Animal Health Code*.

Additionally, in line with the FAO-OIE Global FMD Control Strategy, countries should also demonstrate the progressive reinforcement of the capacity of their Veterinary Services (the Global Strategy component 2),

[4] http://www.oie.int/en/animal-health-in-the-world/official-disease-status/official-recognition-policy-and-procedures/

which is an important driver and guarantee for the efficacy and sustainability of the FMD specific measures put in place. Countries should therefore achieve the level of advancement required for the set of critical competences of the PVS evaluation tool relevant for each PCP-FMD Stage (see Annex 1).

As described below (see Zoning), a country may choose to focus enhanced control activities on a specific geographic area (zone/region) to progress more quickly in that area. Consequently, zones within a country may be placed in different PCP Stages. In the event that a zone of a country has completed the PCP and is officially recognised as free, the remaining areas of the country should continue to participate in the PCP assessment process.

Fast-track

It is possible for a country, or zones within a country, to advance by more than one Stage in the PCP, this is referred to as "fast-track". For example, a country in PCP Stage 1 that devotes sufficient resources to FMD control may progress directly to PCP Stage 3 without ever being assigned in PCP Stage 2. For a country wishing to fast-track, it should have fulfilled all of the key outcomes from the previous Stage(s), *plus* have met the minimum requirements for inclusion in the Stage desired to enter.

Withdrawal of Acceptance

Under certain circumstances, a country may no longer comply with the minimum requirements of a Stage to which it has previously been accepted (see Box 3). In this event, the RAG may assess that the conditions for being qualified in Stage 1 or 2 or 3 are no longer met. In such circumstances, the Stage acceptance can be withdrawn and the country downgraded to the Stage that best corresponds. As stated above, a provisional acceptance will be withdrawn if the missing evidence is not provided within six months.

In the event that a country in Stage 4 has the endorsement of its Official Control Programme withdrawn by the OIE, it will be invited to provide the necessary evidence that it complies with the requirements of Stage 3.

Countries previously free of FMD that experience an incursion of the disease would have their official status suspended. Such a country would then follow one of the paths offered by the OIE to recover as soon as possible its officially recognized FMD-free status in accordance with the OIE *Terrestrial Code* and OIE procedures for the maintenance of official status.

Box 3 Minimum requirements to remain in the Stage (failure to comply will lead to acceptance in a lower Stage)

Stage 1	Activities to understand FMD risk
Stage 2	Risk-based control measures implemented and monitored
Stage 3	Rapid detection and response to all FMD outbreaks
Stage 4	Endorsed National Control Program implemented and monitored

D. Zoning

Within a country, different areas might attain different levels of FMD control. This is reflected in the PCP through the principle of 'zoning', in which different PCP Stages might be assigned to distinct geographic areas (called zones) within a country. Because the early PCP Stages focus on a general understanding of FMD risk and control within particular production systems, the concept of zones of higher FMD control level within a country usually only applies to countries that have set the objectives for zonal freedom and formulated an Official Control Programme to eliminate FMD virus for a distinct geographic area or areas. In order to consider a geographic area as a 'zone' within the PCP, the country must provide convincing, evidence-based rationale for the decision. The zoning approach should take into account the structure of the livestock industry, including animal movement patterns at national and regional levels, and fulfil the recommendations of the OIE *Terrestrial Animal Health Code (*Chapters 4.3 on zoning and compartmentalisation[5] and 8.8 on FMD[6] in the 2017 version of the *Terrestrial Animal Health Code)*.

E. PCP and alignment with current regional FMD Control initiatives

In some regions, there are already existing bodies and programmes established to promote and harmonize regional FMD control efforts. The main examples are the EuFMD Commission, involved with the European neighbourhood, the 2020 Roadmap for Foot and Mouth Disease Control in South-East Asia and China (SEACFMD) and the Plan Hemisférico de Erradicación de la Fiebre Aftosa (PHEFA) for South America. The PCP is intended to assist those regions without such current programmes, but is also accessible to these regions. The concepts and assessment indicators may also be applied within these existing programmes, for example to progress towards the development of control zones as used in some regions and improved understanding of risks as well as critical control points.

[5] http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_zoning_compartment.htm

[6] http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_fmd.htm

II. PCP and stakeholders

It is fully recognized that true progress in FMD control is not feasible without the support of the animal owners and other stakeholders in all steps from production to marketing. Therefore, strong and continuous efforts will have to be made to develop and maintain such support. Particularly for the higher stages of the PCP-FMD pathway, evidence that the national FMD activities are backed by stakeholders will be necessary.

III. PCP and use of information

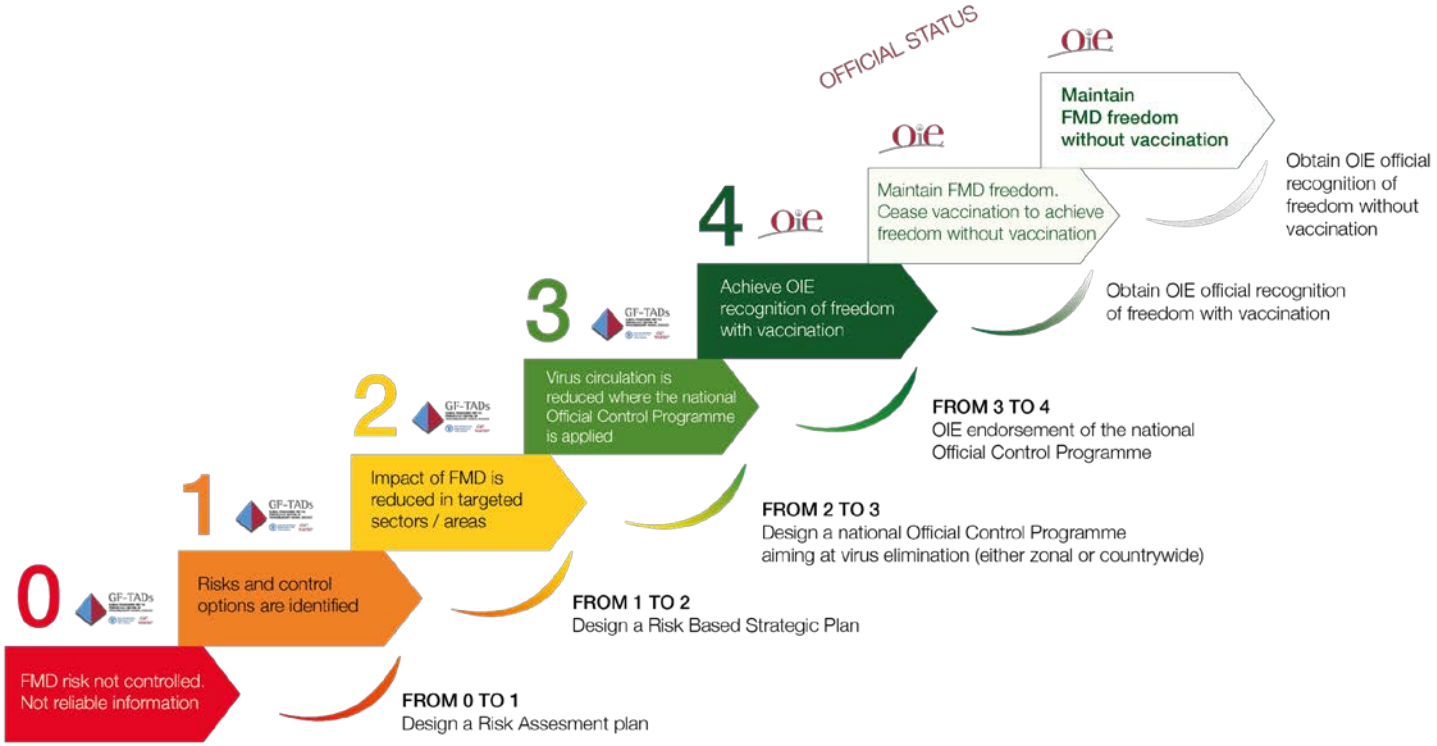
The gathering of detailed data in the framework of the PCP-FMD is subject to confidentiality rules of FAO and OIE.

Countries taking part in the PCP accept that the data they provide be used by FAO and OIE and their experts to provide informed support to the RAG in its assessment of the countries' PCP-FMD Stages. The result of this process is in the public domain and will be published on the GF-TADs website. The underlying data, however, will not be available unless agreed by the country concerned.

IV. PCP Stage Description and Minimum Standards

The PCP Stages are summarized in Figure 1 and described below. The 'Stage Focus' represents the usual overall objective or aim of the stage, and the numbered points outline the 'key outcomes' necessary to achieve that aim.
Countries decide themselves how far, and how fast, it is appropriate for them to progress along the PCP. The Stage Focus therefore does not necessarily assume that a country will progress to the next stage.
The PCP approach is not intended to be prescriptive and particularly in the lower stages it is usually possible to realise the key outcomes through different activities or combinations of activities. Therefore, 'typical activities' are listed below each key outcome, along with a description of 'quality indicators' that are intended to better define the key outcome, and facilitate the transparent assessment of achievement in each outcome. It is essential to address all of the key outcomes to fully complete the Stage and progress to the subsequent Stage.

Figure 1: Stage progression in the Progressive Control Pathway



Stage 0

A country in PCP Stage 0 has **little** to **no** reliable information about FMD, and any FMD control measures are not targeted according to risk.

Stage 1

- ***STAGE FOCUS: "To gain an understanding of the epidemiology of FMD in the country and develop a risk-based approach to reduce the impact of FMD"***
- **Minimum requirement for inclusion in Stage 1:** There is a comprehensive plan ("Risk Assessment Plan (RAP)") in place to conduct the activities required to achieve the key outcomes outlined in PCP Stage 1, and results are available from activities working towards Key Outcomes 1 to 9.
- **Key Outcomes:**

1. All husbandry systems, the livestock marketing network and associated socio-economic drivers are well described and understood for FMD-susceptible species (value-chain analysis).
    - *Quality indicators:* This should include an overview of all systems involving FMD susceptible species from input suppliers, through producers of animals, to the marketing system, processors and consumers. Importation of relevant animals and animal products as well as movements of animals associated with transhumance or nomadism should also be described. As these are dynamic processes, the information available should be regularly reviewed and updated in subsequent PCP Stages.
    - *Typical activities:* Participatory rural appraisal, stakeholder consultation workshops, national expert consultation, analysis of existing data.
2. The distribution of FMD in the country is well described and understood.
    - *Quality indicators:* It is important that all regions of the country and all husbandry systems involving FMD-susceptible species are considered at this stage. Because the FMD situation can change rapidly, information on FMD outbreak reporting and serologic surveys for antibody to non-structural protein (NSP-Ab) should be current (i.e. collected within the previous 12 months). The information should provide indications of the spatial and temporal distribution of FMD and normally include a serological survey designed to identify differences in risk between animal populations or production systems, which can act as baseline for future monitoring.
    - *Typical activities:* collation of FMD outbreak reporting from all regions/areas in the country, serological survey to assess sero-prevalence to FMD virus in different husbandry systems, participatory epidemiology studies.
3. Socio-economic impact of FMD on different stakeholders have been estimated.

- *Quality indicators:* A complete economic impact assessment is not expected at this stage, but the different types of direct losses (visible and invisible) should be described and the impact of direct losses in key husbandry systems due to FMD should be estimated.
- *Typical activities:* Primary data collection and analysis, analysis of existing data, key informant interviews, identification of synergies with other livestock disease control activities.

4. The most common circulating strains of FMDV have been identified.
    - *Quality indicators:* Samples should be representative of different production sectors and geographic regions. Because the FMD situation is constantly evolving, samples should be collected and analysed regularly over time.
    - *Typical activities:* Sampling and laboratory testing for FMDV, ship samples regularly to an OIE/FAO Reference Laboratory for virus characterization.
5. There has been progress towards developing an enabling environment for control activities. The OIE Performance of the Veterinary Services Pathway (OIE-PVS) describes the capacities and competencies required by a Veterinary Service to effectively control FMD
    - *Quality indicators:* In Stage 1, the majority of veterinary and other professional positions in the Veterinary Services are occupied by appropriately qualified and equipped personnel able to understand the risks of FMD and the benefits, consequences and potential impacts of disease management options . FMD should be a notifiable disease and reporting of suspect cases and laboratory confirmed cases should be encouraged by providing adequate training to veterinarians and stakeholders as well as by having an appropriate communication mechanism. Producers and other interested parties are informed of the risks of FMD and mechanisms are established to consult with them on improvements to FMD management. A table that links the PCP-FMD with the thirteen recommended critical competencies of the OIE PVS Tool at Stage 1 can be found in the annexed document (Annex 1).
    - *Typical activities:* Training on field and laboratory activities to enhance professional competencies of veterinarians and veterinary para-professionals in particular to support risk assessment and monitoring of the disease situation. The Veterinary Services are equipped with sufficient resources at central and at some regional level for the activities required by the Stage. Coordination and communication with national and international stakeholders is adequate when designing the control programme and during the preparation of the legal framework in support of the implementation of the FMD control activities.
6. The country demonstrates transparency and commitment to participating in regional FMD control initiatives.
    - *Typical activities:* Outbreaks are notified to OIE in a timely manner, countries participate and share results of PCP activities at regional level, e.g. Regional Roadmap meeting.

7. Important risk hotspots for FMD transmission and FMD impact are identified and a 'working hypothesis' of how FMD virus circulates in the country has been developed.

    - *Quality indicators:* The analysis should use information in relation to key outcomes 1-6 above. 'Risk hotspots', defined as points in the production system and marketing network (or more in general along the value chains) where there is a high risk of FMD entry and/or spread, should be described and prioritised. Gaps in knowledge that are required to mitigate effectively the risk of FMD entry/spread are identified.

    - *Typical activities:* Analysis of data about the epidemiology of FMD and husbandry systems and, when data allow, conduct a preliminary risk assessment to identify risk hotspots for FMD transmission and FMD impact, developing risk pathways for identified risk hotspots and define possible interventions for mitigating FMD entry and spread, including wildlife where appropriate.

8. Identification of potential synergies with other TAD control initiatives
    - *Quality indicators:* National efforts to control other TAD exists and are described
    - *Typical activities:* Identification of the national TAD priority diseases, description of the control activities and the allocated resources and identification of possible joint activities.

***AND TO PROGRESS TO* STAGE 2**

9. A written **Risk-Based Strategic Plan** (RBSP) that has the aim of reducing the impact of FMD in at least one zone or husbandry sector is developed.

    - *Quality indicators:* The RBSP should be endorsed by the veterinary authorities and clearly based on the risks identified through the Stage 1 PCP activities.

    - *Typical activities:* Control measures to mitigate the most important risks are selected on the basis of both their feasibility and expected impact. Risk assessment techniques, particularly the description of risk pathways, will be useful to accomplish this. Stakeholders should be consulted and involved in the development of the RBSP.

    - A RBSP endorsed by the government and accepted by the RAG is required for the country to progress to Stage 2.

Stage 2

- **STAGE FOCUS**: **"To implement risk based control measures such that the impact of FMD is reduced in one or more livestock sectors"**
- **Minimum requirement for inclusion in Stage 2:** Completion of previous Stage, and results are available from activities working towards Key Outcomes 1 to 7 below.
- **Requirement to remain in Stage 2:** The country must be able to provide evidence that risk-based control measures are implemented each year, and that there is routine, ongoing monitoring of their implementation and impact.
- **Key Outcomes:**

1. Ongoing monitoring of FMD risk in different husbandry systems.
    - *Quality indicators:* The country should maintain activities described in Stage 1, with data and analysis updated as required to keep the information current. Additionally, critical gaps in understanding should be identified and be addressed, with particular emphasis on acquiring knowledge that could assist in more effective implementation of control measures. Thus, the understanding of both the epidemiology of FMD in the country and feasible mitigation options are progressively enhanced.
    - *Typical activities:* As for Stage 1, plus targeted research studies implemented to address gaps in knowledge (e.g. targeted serological surveys, active surveillance, participatory epidemiology studies, risk assessments etc.); awareness and communication.
2. Ongoing monitoring of circulating strains.
    - *Quality indicators:* The country should maintain activities described in Stage 1, with representative samples collected regularly from outbreaks that occur in different geographical areas and husbandry systems.
    - *Typical activities:* As for Stage 1, plus additional sampling, analysis and targeted research studies implemented to address gaps in knowledge and/or ensure control measures are effective (e.g. laboratory evidence that the vaccine used is appropriate for circulating strains of virus, enhanced investigation of outbreaks where vaccine failure is suspected).
3. Risk-based control measures are implemented for the sector or zone targeted, based on the risk-based strategic plan developed in Stage 1.
    - *Quality indicators:* Control efforts should be targeted at critical risk control points, and will most likely include both vaccination and enhanced biosecurity measures.
    - *Typical activities:* The development of vaccination delivery mechanisms and cold chain, introducing measures at markets to reduce transmission of FMD, enhancing awareness of FMD transmission mechanisms and behaviours that can interrupt transmission, improving border controls, movement controls, implementation of good biosecurity practices, hygiene, cleaning and disinfection routines at critical points all along the production and marketing

networks (typically where animals are being moved, and marketed through the country or region).

4. It is clearly established that the impact of FMD is being reduced by the control measures in at least some livestock sectors.

   - *Quality indicators:* To demonstrate the control measures are achieving the desired impact, it is important to monitor both the implementation and impact of control measures. The official veterinary services show ownership for systematic monitoring of the implementation and impact of the control measures and provides results of monitoring to stakeholders.

   - *Typical activities:* analysis of surveillance data to assess the change in FMD prevalence over time in the target population(s); Post Vaccination Monitoring[7] (PVM) including serological surveys to assess immunity and coverage within the target population(s); assessment of control measures (cost effectiveness, degree of implementation, impact), documented inspections showing compliance with biosecurity and hygiene requirements. Evidence of systematic monitoring of implementation and impact are provided.

5. *There is further* development of an enabling environment for control activities.

   - *Quality indicators:* In Stage 2, there is evidence that the country is committed to developing an effective and sustainable control programme through the allocation of sufficient resources to ensure the correct implementation and monitoring of the risk-based strategic plan. The legal framework should ensure that control and surveillance and monitoring activities can be carried out which will include laboratory investigation of suspected cases and a national reporting system. A table that links the PCP-FMD with the 27 recommended critical competencies of the OIE-PVS Tool at Stage 2 can be found in Annex 1.

   - *Typical activities:* As for Stage 1 *plus* internal coordination mechanisms with adequate record keeping, documentation and management, and an established and functional clear chain of command. The operational capacity of veterinary services, including veterinary para-professionals and other technical staff, is sufficient to manage the services required under the RBSP. The Veterinary Services have the capacity to regulate the use of the vaccines and the power to take legal action in instances of non-compliance of in relevant fields activities (e.*g.* disease notification, rights to enter premises and examine animals, markets and transporters control). The Veterinary Services have the capacity to adequately notify the disease occurrence to the OIE and to officially participate in international meetings. An interdisciplinary coordination body such as a FMD task force with the participation of producers and other stakeholders is created with a defined governance and clear Terms of Reference. The coordination body meets regularly to coordinate the control activities and review monitoring results. The national laboratory capability is sufficient to meet the programme' needs. Surveillance activities are supported by an information system (preferably making use of digital data flows instead of paper) to allow availability of non-

[7] http://www.fao.org/3/a-i5975e.pdf

aggregated data at central level and which includes geo-referenced data for analysis and mapping.

6. Some FMD control activities are combined with other TAD control activities.

    - *Quality indicators:* A plan combining some FMD control activities with other TAD control activities is being implemented
    - *Typical activities:* The FMD vaccination campaign and/or the serological survey target, at least, another TAD. The benefits of combining TAD activities is clearly documented and accepted by the stakeholders.

AND TO PROGRESS TO STAGE 3

7. A written Official Control Programme aiming at eliminating virus circulation in the domestic susceptible animal population from at least a zone of the country is developed.

- *Quality indicators:* This plan is more aggressive than the RBSP and should contain provision for rapid detection of and response to outbreaks in order to limit the spread of infection. It should be endorsed by the Veterinary Authorities.
- *Typical activities:* Compared to the RBSP implemented during Stage 2, this plan must address the requirement that disease should be detected rapidly whenever and wherever it occurs and every outbreak should trigger a response to limit the onward spread of FMDV. The focus shifts from control in a key livestock sector, to eventually elimination of FMD in all susceptible livestock in the country or zone.
- A written Official Control Programme endorsed by the government and accepted by the RAG is required for the country/zone to progress to Stage 3.

Stage 3

- **STAGE FOCUS: "Progressive reduction in both outbreak incidence and virus circulation in at least one zone of the country".**
- **Minimum requirement for inclusion in Stage 3:** Completion of previous Stages, and results are available from activities working towards Key Outcomes 1 to 8 below.
- **Requirement to remain in Stage 3:** The country should be able to provide evidence that there is provision for the rapid detection and response to all FMD outbreaks.
- **Key Outcomes:**

1. Ongoing monitoring of risk in different husbandry systems.
    - *Quality indicators:* Enhanced understanding of risk is applied to eliminate progressively the FMD virus in domestic animals through the effective use of available control options.
    - *Typical activities:* The country should maintain activities described in Stages 1 and 2, and analyse the resulting data to ensure that control measures are feasible, effective and acceptable to stakeholders. Further, control measures should be changed or refined if they are not as effective as expected.
2. The Official Control Programme developed to conclude Stage 2 and to enter into Stage 3 is implemented, resulting in rapid detection of, and response to, all FMD outbreaks in at least one zone in the country.
    - *Quality indicators:* Compared to the RBSP implemented during Stage 2, this plan is more aggressive and the focus moves from reducing the impact of FMD in a key livestock sector or sectors to also progressively reducing the level of virus circulation and thus including all susceptible livestock in the country or zone targeted for FMDV elimination.
    - *Typical activities:* As for Stage 2 control activities, plus enhanced focus on disease reporting and response – e.g. public awareness campaigns, provision of reporting incentives, dedicated phone lines etc. Every outbreak should trigger a response to limit the onward spread of FMDV (culling of infected livestock, tracings, and movement restrictions, strategic vaccination [e.g. ring or other barrier]). Full epidemiological investigations into all outbreaks should be carried out, generating complete reports that specifically address the source and spread (spatial, temporal) of infection and develop conclusions as to the most likely mechanisms of disease transmission responsible. Review of the vaccination programme to ensure its proper implementation and factors that might contribute to outbreaks in vaccinated populations (PVM reference[8]). Representative virus isolates from each outbreak should be characterized, with results of genotyping and vaccine matching against vaccines in use in the programme made available in the public domain, at least on an annual basis.

[8] http://www.fao.org/3/a-i5975e.pdf

3. The incidence of FMD is progressively reduced in domestic animals in at least a zone in the country.

    - *Quality indicators:* Credible epidemiological evidence that FMD virus elimination is progressively being attained in domestic animals and that control measures are effectively reducing the risk of the incursion and/or spread of FMD from wildlife or a foreign country.
    - *Typical activities:* Analysis of data from surveillance system (active and/or passive) including serological surveys.

4. There is further development of an enabling environment for control activities

    - *Quality indicators:* In Stage 3, the Veterinary Services should have the capability to sustainably carry out their duties with autonomy and free from commercial, financial, hierarchical and political influences that may affect technical decisions. A procedure for animal and animal products identification and movement control should exist. An early detection system, including resources for emergencies, should be in place and the veterinary services should have the resources and competency to respond to emergencies. A table that links the PCP-FMD with the 36 required critical competencies of the OIE-PVS Tool at Stage 3 can be found in the annexed document (Annex 1).
    - *Typical activities:* As for Stages 1 & 2. The legal framework is in place including animal identification and which enables the restriction of movements of animals and their products, to prevent the spread of an outbreak. Ante- and post mortem inspection and collection of disease information are undertaken for major establishments producing meat for distribution throughout the national or international market. The Veterinary Services are able to exercise control for most significant FMD risks associated with animal feed. Arrangements for compensation are in place when culling is a necessary part of outbreak response. The national laboratory capability is sufficient and based on quality assurance. The Veterinary Services has the capacity to regulate the veterinarians and para-professionals involved in the control activities and to monitor and evaluate the efficacy of their activities. Early-warning system by reporting of suspected FMD cases is encouraged and accepted by all stakeholders.

5. There is a body of evidence that FMD virus elimination in domestic animals within the country or zone is being progressively achieved,

    - *Quality indicators:* There is evidence of high-quality FMD surveillance activities over all regions and husbandry systems – surveillance activity must be demonstrably capable of detecting FMD outbreaks should they occur (e.g. consistent with the requirements of the OIE Terrestrial Animal Health Code on surveillance). Incidence of FMD is reduced. All outbreaks are fully investigated and quickly resolved. Monitoring of vaccination programmes and population immunity is routinely and successfully implemented.

    - Typical activities: Analysis of virological data, analysis of outbreak investigation data including identification of outbreak source, and analysis of serological survey, and PVM data.

6. Contingency (emergency preparedness) plans are available and ready for full implementation.

   - *Quality indicators:*

     The plans should indicate how the Veterinary Authority will respond to events where virus transmission is unable to be contained by the routine response and an animal health emergency occurs or is likely to occur, such as the incursion of a new serotype or strain which is not covered by available vaccines.

   - Typical activities: Development of plans, stakeholder meetings and agreement, testing through table top and field simulation exercises, analysis of the outcome of simulation exercises

7. Some FMD control activities are combined with other TAD control activities.
   - *Quality indicators:* The reduction of the incidence of FMD progresses in parallel to the incidence of other TAD control
   - *Typical activities:* The calendar of some of the FMD control activities are coordinated with other TAD control activities. The surveillance system and outbreak investigation protocol consider FMD and other TADs.

AND TO PROGRESS TO STAGE 4

8. The country has received endorsement of its Official Control Programme from the OIE.

Stage 4 - OIE Endorsement

STAGE FOCUS: "To continue to implement the endorsed national official control programme and achieve OIE recognition of freedom with vaccination".

Beyond Stage 4 –

(i) OIE Official Status of freedom with vaccination

(ii) OIE Official Status of freedom without vaccination.

ANNEX 1

Relevant Critical Competences and level of advancement (from 1 to 5) of the PVS evaluation tool relevant for each of the PCP-Stage.

Please click here for the detailed description of each of the critical competences and the expected level of advancement
http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/pdf/PVS_A_Tool_Final_Edition_2013.pdf

Critical competences	PCP1	PCP2	PCP3
I.1.A. Veterinarians and other professionals	2	3	3
I.1.B. Veterinary para-professionals and other technical personnel	2	3	3
I.2.A. Professional competencies of veterinarians	3	3	3
I.2.B. Competencies of veterinary para-professionals	/	3	3
I.3. Continuing education	3	3	3
1.4. Technical Independence	/	/	3
I.5. Stability of structures	/	/	3
1.6.A. Internal coordination (chain of Command)	/	3	3
I.7. Physical resources	2	2	3
I.8. Operational funding	/	3	4
I.9. Emergency funding	/	/	3
I.11. Management of resources and operations	/	3	3
II.1A Access to veterinary laboratory diagnosis	2	2	2
II.1B. Suitability of national laboratory infrastructures	/	2	3
II.2. Laboratory quality assurance	/	/	2
II.3 Risk analysis	3	3	3
II.4 Quarantine and border security	/	/	3
II.5.A. Passive epidemiological surveillance	/	2	3
II.5.B. Active epidemiological surveillance	/	2	3
II.6 Emergency response	/	/	3
II.7 Disease prevention, control and eradication	/	3	3
II.8B Ante- and post mortem inspection at abattoirs and associated premises	/	/	3
II.9. Veterinary medicines and biologicals	/	3	3
II.11 Animal feed safety	/	2	3
II.12.A. Animal identification and movement control	/	/	3
II.12.B Identification and traceability of products	/	/	2
III.1 Communications	2	3	4
III.2 Consultation with interested parties	3	3	3
III.3 Official representation	2	3	3
III.5.A. Veterinary Statutory Body authority	/	2	3
III.5.B. Veterinary Statutory Body capacity	/	2	3
III.6 Participation of producers and stakeholders in joint programs	2	3	3
IV.1 Preparation of legislation and regulations	2	2	3
IV.2 Implementation of legislation & stakeholder compliance	/	2	3
IV.6 Transparency	2	3	3
IV.7 Zoning	/	2	3

/ Critical competence that will be critical at later stages.