LAHORE, FRIDAY DECEMBER 27, 2024

LIVESTOCK & DAIRY DEVELOPMENT DEPARTMENT
GOVERNMENT OF THE PUNJAB

NOTIFICATION

No.6-51/SO(P)/L&DD/2024: In pursuance of the Progressive Control Pathway for Foot and Mouth Disease (PCP-FMD) and with the objective of effective control of FMD across Punjab. the "Foot and Mouth Disease (FMD) Control Strategy in Punjab (2024-2029)" is hereby notified with immediate effect:

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FOOT AND MOUTH DISEASE (FMD) CONTROL STRATEGY IN PUNJAB
(2024-2029)

LIVESTOCK & DAIRY DEVELOPMENT DEPARTMENT
GOVERNMENT OF THE PUNJAB

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"The Foot & Mouth Disease (FMD) control strategy has been developed in consultation with experts, national and provincial authorities, policymakers, development partners and private industry. The lessons learned in advanced stages of FMD control have been analyzed and incorporated. The FMD control strategy described in this document is not solely aimed at disease control, but also to strengthen the veterinary services of the province, which is the basic requirement of World Organization for Animal Health (WOAH) to move from FMD Progressive Control Pathway (PCP) stage 2 to stage 3. It is also necessary to control other priority animal diseases in a sensible and cost-effective combination of activities for the production of healthy meat and milk for human consumption."

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1. INTRODUCTION

Foot and mouth disease (FMD) is a highly contagious, most important transboundary animal disease (TAD) that affects cloven-hoofed animals such as cattle, buffalo, sheep, and goats. It is caused by a virus of the genus Apthovirus from *Picronaviridae* family. FMD is highly contagious and spreads primarily through direct contact with infected animals via saliva, mucus, or milk. It can also transmit indirectly through contaminated objects, equipment, feed, or clothing. Airborne transmission is possible over long distances, especially in humid conditions. The virus can survive in the environment for extended periods, increasing the risk of spread. Movement of infected animals, products, or people can facilitate rapid outbreaks across regions.

FMD is a significant problem in Pakistan's livestock industry, where it causes substantial economic losses, both directly in the form of decreased milk production, abortion, reduced fertility, mortality, loss of body weight, and indirectly involving trade restrictions, cost of prevention and treatment. The disease is well known for its ability to severely affect and indeed disrupt regional and international trade in animals and animal products. However, in developing countries with endemic FMD, the production losses are usually underestimated.

FMD causes significant losses in the global trade of livestock products, hindering access to markets and fair prices for these goods. The milk losses of Pakistan due to Foot and Mouth Disease are around USD 6-8 Billion annually (USAID feasibility report 2017, FAO Pakistan). It has been reported that FMD losses are about 300 USD per animal. The FMD is considered as the top priority disease for control and eradication worldwide. Therefore, a comprehensive strategy for Foot and Mouth disease control is vital for the livestock production system.

FMD control strategy is basically a strategic plan to control disease in Punjab for quality food production, stability of our food supply chain, food security, minimizing the financial losses, wellbeing of livestock farmers and increasing the exports of meat and meat products to contribute to the economy of the country.

The Livestock department is currently using two vaccination strategies for FMD control in Punjab since 2016-17 due to limited budget and limited local production of FMD vaccine. The Foot & Mouth Disease Research Centre Lahore (FMDRC) is producing only 10 Million doses annually by conventional production technology.

i. In Bahawalpur division mass vaccination in large animals is being practiced since 2016-17 by using FMD purified vaccine procured through a formal agreement of

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Unilateral Trust Fund (UTF) between Food & Agriculture Organization Pakistan (FAO) and the L&DD Department South Punjab. The purpose of this vaccination is to reduce the FMD virus circulation in the area, leading towards the development of FMD free zone considering a great potential for raising meat animals and export of meat in the region.

ii. While in other regions of Punjab (North, South & Central Punjab), locally produced vaccine is used under the following strategy since 2016-17.

a. In case of FMD outbreak, ring vaccination as emergency in a limited area using FMD purified vaccine procured through the FAO Pakistan, without meeting the requirement of 3-5 Km area around the outbreak due to limited availability of vaccine.

b. Risk-based vaccination using locally manufactured FMD Oil-based vaccine as preventive vaccination in identified hotspots and the high-risk areas of FMD.

The current vaccination policy envisages progressive control of the FMD in all the districts of the Punjab other than Bahawalpur division where the ongoing mass vaccination will be continued for establishing FMD free zones.

Keeping in view the potential of meat export to different countries and global food supply chain, the Government of Punjab and stakeholders are of the opinion that progressive FMD control activities should be enhanced by establishing FMD free Zone and the Compartments as per international requirement. It will not only provide the enabling environment for livestock growers and meat exporters, but also to meet the requirements of World Organization of Animal Health (WOAH) and FAO, to move from stage 2 to stage 3 of the Global FMD progressive control pathway.

2. OBJECTIVES OF THE STRATEGY

The objectives of FMD control strategy are:

1. To progress on World Organization for Animal Health (WOAH) endorsed Foot & Mouth Disease Progressive Control Pathway (FMD-PCP) for enhancing the production and export of meat.
2. To improve animal production, food security and economic opportunities to alleviate poverty, increase income generation and improve the livelihood of small farmers and general human wellbeing.
3. To establish FMD free zone and compartments to facilitate commercial and corporate farming for meat and dairy sector.

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4. To establish animal identification and traceability system in Punjab.
5. Strengthening of veterinary services to meet the WOAH requirements for disease control.
6. Awareness and trainings of livestock farmers, veterinarians, traders on the disease reporting, biosecurity, sanitation, animal movement and disease control.

3. GAP ANALYSIS

3.1 Vaccine shortage:

In developing countries like Pakistan, where disease is endemic, the use of FMD vaccine to susceptible population is the most effective way to control this disease. Unfortunately, this coverage is exceptionally low as compared to its total demand of almost 80 million doses per year. This can be gauged by the fact that in Punjab only 12% of cattle and buffalo population is being vaccinated with locally manufactured non purified vaccine, whereas the coverage is not more than 25% including imported vaccine. The main reason for insufficient production of local FMD vaccine is old stationary culture technology, which is obsolete in the world. The Government of the Punjab has spent Rs. 7.0 billion for the import of 74.65 M doses of customized and purified FMD vaccine during a span of 6 years (2016-2017 to 2021-2022) as a stop gap arrangement. The imported vaccine has been used for mass vaccination of cattle and buffalo in Bahawalpur division and Cholistan. As a result, the disease incidence has reduced to a significant level in those areas.

3.2 Veterinary Services:

There is a significant network of 36 district diagnostic labs throughout the province. The staff of these labs is well trained to diagnose the FMD clinically as well as has enough skills to collect the samples from affected animals and transport those samples to the divisional diagnostic labs for FMD diagnosis through ELISA. The samples are also sent to Provincial Diagnostic Lab (PDL) Lahore and Foot and Mouth Disease Research Centre (F&MDRC), Lahore for molecular diagnosis, characterization of FMD virus and vaccine matching tests. The lab staff is also trained to collect the serum samples for post vaccination monitoring at Divisional Diagnostic labs, Provincial Diagnostic Lab and F&MDRC Lahore.

Although provincial diagnostic lab is ISO-17025 accredited for some tests but FMD related ELISA tests at PDL Lahore, FMDRC Lahore needs to be accredited from PNAC Islamabad for the reliability of the results and recognition at international level. Further rapid response units need to be strengthened by the provision of human resource, logistics and trainings to respond quickly for each disease outbreak and make necessary arrangement

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for the control of disease, disinfection of the area and the emergency vaccination to risk animals. The livestock staff needs to be strengthened for the legal enforcement of disease control activities.

FMD is one of the 15 Trans boundary Animal Disease (TAD) and require at least level 3 compliance to 33 Critical Competencies (CCs) to move from FMD PCP Stage 2 to stage 3 as illustrated in table below. This shows Pakistan status of shortcomings for the 33 required competencies of veterinary services assessed by OIE in 2014; the shortcomings in four areas need to comply minimum of level 3 for movement on FMD PCP from Stage 2 to 3 according to PVS Tool.

Table: Pakistan status of shortcomings in required 33 competencies of veterinary services (assessed by OIE in 2014); These shortcomings in four areas were below the level 3 and thus require to comply minimally the level 3 to move on FMD PCP from Stage 2 to stage 3 according to PVS Tool 2019.

I. HUMAN, PHYSICAL AND FINANCIAL RESOURCES		**II. TECHNICAL AUTHORITY AND CAPABILITY**	
I.2. A.	Professional competencies of veterinarians including OIE Day 1 Competencies	II-1. A.	Access to veterinary laboratory diagnosis
I-3.	Continuing education	II-2.	Laboratory quality assurance
I-6. B.	External coordination	II-3.	Risk analysis
I-8.	Operational funding	II-4.	Quarantine and border security
II-5. B.		Active epidemiological surveillance	
II-8. B.		Ante and post mortem inspection	
II-12. A.		Animal identification and movement control	
III. INTERACTION WITH INTERESTED PARTIES		**IV. ACCESS TO MARKETS**	
III-1.	Communications	IV-1.	Preparation of legislation and regulations
III-2.	Consultation with interested parties	IV-2.	Implementation of legislation and regulations and compliance thereof
III-4.	Accreditation/authorization/delegation	IV-6.	Transparency
III-6.	Participation of interested parties in joint programs	IV-7.	Zoning
IV-8.		Compartmentalization	

Recently a technical feasibility was conducted by FAO Pakistan to establish a FMD Free Zone with vaccination in Bahawalpur Division where detailed assessment was conducted to identify the critical gaps that might prevent its establishment and to identify the priority actions required for the achievement of the objective (*Feasibility Report FMD Free Zone FAO 2023*).

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Table: Summary of Compliance scores, FMD Free Zone Bahawalpur division (FAO,2023)

FMD epidemiological situation in Bahawalpur	1	2	3	4	5
Geographical attributes, artificial and natural borders	1	2	3	4	5
Presence of legal items at federal and provincial level	1	2	3	4	5
Implementation of legal items in Bahawalpur	1	2	3	4	5
Laboratory network and functions	1	2	3	4	5
Surveillance model	1	2	3	4	5
FMD prevention and control through vaccination	1	2	3	4	5
Animal identification and traceability system	1	2	3	4	5
Livestock movement control strategy	1	2	3	4	5
Biosecurity measures at farm and market level	1	2	3	4	5

(*Compliance score from 1-5, low to high, the gray areas show FMD free zone BWP score*)

3.3 ADRS Info Disease Reporting system:

The Animal Disease Reporting & Surveillance (ADRS)-info system, real time disease reporting system is well in place and being utilized for disease reporting from livestock farmers, veterinary hospitals and other stakeholders throughout Punjab. The sample collection is also recorded through generation of sample collection reports (SCR) and lab testing reports (LTR) with all identifiers for ensuring traceability of these samples.

The existing ADRS Info system is ICT based for real time disease reporting and lab performance management. This system lacks the online monitoring of the area for forecasting disease incidence, animal movement monitoring, bio-security alerts, weather change alerts etc. the existing ADRS info system will be integrated to the Artificial Intelligence (AI) and Information Technology (IT) powered Disease Surveillance and Information System (DSIS) for detection, prevention of FMD threats in the area, risk management, bio-security and animal movement monitoring, data analysis of FMD etc. As a pilot project, AI tools (Machine learning Algorithms) will be used for effective control of FMD in one of the FMD free compartment/zone.

3.4 Progressive Control Pathway for Foot and Mouth Disease (PCP-FMD):

Pakistan is also a signatory of EU-FAO-WOAH global program "Progressive control of FMD". The Progressive Control Pathway for Foot and Mouth Disease (PCP-FMD) has been developed to assist and facilitate foot-and-mouth disease (FMD) endemic countries to progressive bely reduce the impact of the disease and extent of FMD virus circulation. The country is at 2nd stage of this plan and striving to move at stage 3 and it is mandatory to establish at least one FMD free zone with vaccination (Purified vaccine) following the WOAH guidelines. To achieve this mile stone national/provincial level Foot and Mouth disease control program is required for the early disease detection and control to minimize the disease

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incidence.

Similarly, establishment of check posts with quarantine units for the control of animal movement, ear tagging and registration for traceability and FMD vaccination of all susceptible animal population are the basic requirements for the success of the FMD free zone.

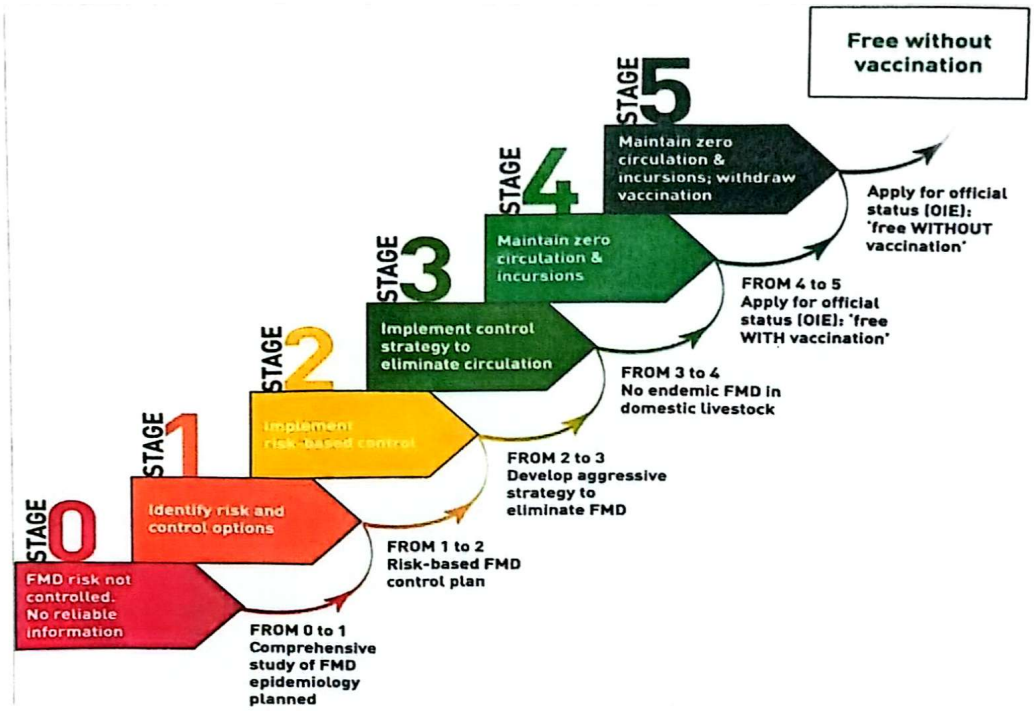

Figure-1, various stages of PCP-FMD

3.5 FMD Free Compartments and Zones

Recently a FMD control compartment has been established at Sheikhupura District, to export the buffalo embryos to People's Republic of China. The requirements of FMD control are being fulfilled in this area including usage of purified vaccine, movement control, and animal registration etc. This compartment has been recognized by General Administration of Customs of the People's Republic of China (GACC). However further FMD free compartments need to be established throughout Punjab to facilitate the production of FMD free meat for export market.

Keeping in view the economic importance of the FMD and to enhance of meat and dairy products export, it is a need of the time to establish FMD free compartments and zones in the Punjab province having approximately more than 65% of the Livestock sector in Pakistan. Moreover, to comply with the FMD progressive control pathway (PCP), it is right

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time to move from stage 2 to stage 3 of the PCP for international compliances.

4. CONSTRAINTS/CHALLENGES

Foot and Mouth Disease (FMD) is endemic in Pakistan. It severely affects livestock production and trade associated animals and animal products regionally and globally. The disease causes direct and indirect losses not only to the farmer but also to the economy of the country. As per previous FMD outbreaks data (Directorate ADDRS, Punjab) about 2100 FMD outbreaks have been reported during last three years, affecting a large number of cattle and buffalo population.

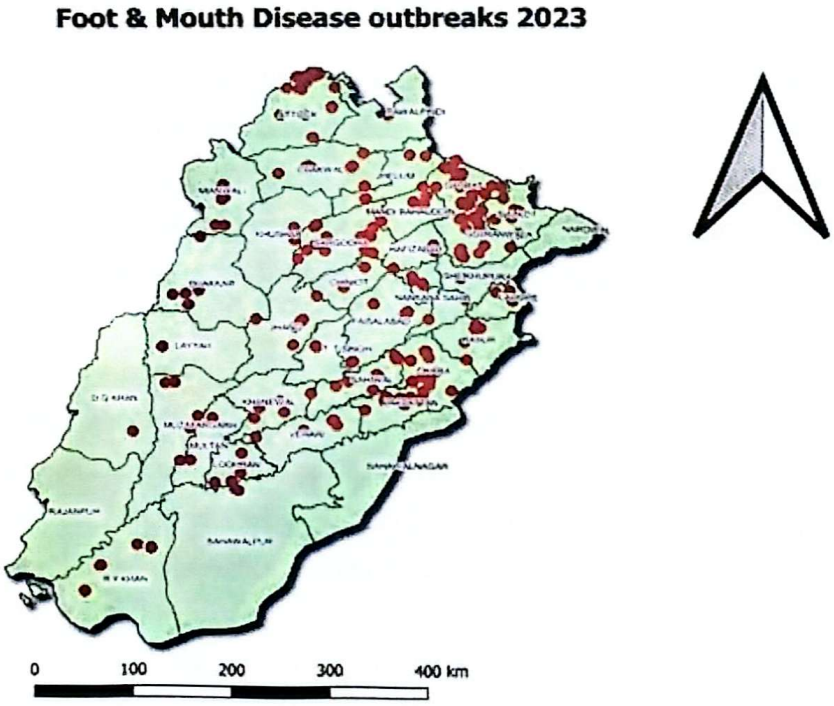

Figure-2, Map showing FMD outbreaks in different areas of Punjab during 2023

A number of factors have been identified as challenges on the way to control FMD in Pakistan. These have been briefly described in the following paragraphs;

4.1.1 Absence of a National Foot and Mouth Disease Control Program (NCP)

FMD is a national issue and it can only be addressed through national coordination involving all the stakeholders in all federation units. There is no effective coordination mechanism between federal, provincial veterinary services for effective control of FMD. Moreover to progress on PCP for FMD, National Control Program is mandatory. Currently the office of Animal Husbandry Commissioner Islamabad (AHC) has proposed a National FMD Control Program through PSDP for five years (2024-25 to 2028-29). However effective disease control system at national level is not functional.

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4.2 Legal Framework:

The Punjab Animal Health Act, 2019 and Rules 2021 have been promulgated to regulate prevention, control, containment and eradication of scheduled Animal diseases and compliance of International Standards for import and export of animal products. No such enactment has been made at national level. International agencies like WOAH have recommended a national level approved document. Recently National Animal Health, Welfare and Veterinary Public Health Bill, 2024 is being finalized at national level but not notified yet.

4.3 Dwindling Follow up of FMD-Progressive Control Pathway

The PCP-FMD tool has been designed to guide countries / regions in the planning and management of efforts to increase the level of control of FMD from the early stages up of disease control to disease free recognition. Pakistan is at stage 2 of this program since 2015. The progress to move on to stage 3 is very slow. Efforts have been made to progress on PCP-FMD to establish FMD free zone through application of purified FMD vaccine, but a lot of work still needs to be done on infrastructure, animal movement control, tagging and traceability in the selected zone.

4.4 Paucity of Funds

This matter relates to the policy and commitment of the Government to control FMD and other Transboundary animal diseases. In recent past, funds have been allocated by the Punjab govt. for the import of vaccine for Bahawalpur division but much more funds are required to control disease throughout the province.

4.5 Vaccine Availability

FMD is endemic in Pakistan and can only be controlled through quality vaccine with other disease control measures. Unluckily the coverage of susceptible population (cattle/buffalo) through vaccination (indigenously manufactured vaccine) is not more than 6% which is quite low as compared to WOAH guideline, which recommends that at least 80% susceptible animal population should be covered through vaccination for an effective disease control program.

4.6 Sluggish implementation on WOAH Veterinary Services Pathway

The performance of Veterinary Services (PVS) Pathway is a national program that helps countries build and improve their Veterinary service capacity. WOAH mission has visited Pakistan twice for the evaluation of PVS. The delegation pointed out the deficiencies in this regard. To make up those shortcomings, the progress is very slow resulting, into

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ineffective control of animal diseases.

4.7 Uncontrolled Animal Movement

There is no restriction or control on animal movement in the country. This disease is highly contagious and animal movement plays important role in disease spread. The disease incidence increases when animals move from one area to other like in cattle markets and Eid event. This component is also linked to animal registration and identification. The free movement of animals causes vast circulation of FMD virus throughout the country. This requires legal framework and its implementation.

4.8.1 Lean Research and Development (R&D)

The R&D is the backbone for developing a strategic control of any disease especially Transboundary animal diseases which, unfortunately is bit neglected and inadequately attended area in Livestock sector of this country. Regrettably, it is also worth mentioning here that the budget allocated for R&D in the livestock sector is of negligible value which does not cater the needs of the sector.

4.9 Less focused Public Awareness

Public awareness is one of the key components contributing towards a successful disease program. Although the field formation of L&DD Department is sensitizing the farmer community about various diseases of livestock, however, the efforts lack the necessary focus and intensity needed to maximize their impact.

5. PROPOSED FMD CONTROL STRATEGY

The FMD control strategy has been devised keeping in view the requirements of FMD progressive control Pathway stage-3. The main focus is "Progressive reduction in both outbreak incidence and virus circulation in at least one zone of the country". The FMD compartments will also be established in the province to facilitate meat export. Due to limited resources risk based FMD control strategy has been devised for the whole province other than the areas selected for FMD free zone and the compartments where mass vaccination strategy with NSP free purified vaccine will be adopted to eliminate virus in the target zone.

5.1 Risk Assessment for FMD:

Risk assessment for Foot-and-Mouth Disease (FMD) is a critical process for understanding the likelihood and potential impact of the disease on livestock, economy and the community. It involves evaluating factors such as the prevalence of FMD, the effectiveness of biosecurity measures, and the volume of trade in animals and animal products. The likelihood of an outbreak is influenced by factors like livestock movement, inadequate vaccination

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coverage, and potential virus transmission through wildlife or contaminated equipment. The consequences of an FMD outbreak can be severe, including reduced livestock productivity, economic losses from trade bans, and significant costs for eradication efforts such as culling and emergency ring vaccination in the surroundings. A comprehensive risk assessment helps to identify FMD hotspots and high-risk areas by analysis of data about the epidemiology of the FMD and to define possible interventions for mitigating FMD virus entry and spread.

5.1.1 FMD Strategic / Risk based Vaccination:

Strategic vaccination for Foot-and-Mouth Disease (FMD) is a targeted approach to immunize livestock populations to effectively control and prevent outbreaks through efficient utilization of the resources. This strategy is typically used in endemic areas, high-risk zones, or regions with sporadic outbreaks to reduce virus circulation and prevent further disease spread.

Apart from other requirements, the administration of purified FMD vaccine is the basic requirement to move from PCP program stage 2 to stage 3. Moreover, the meat importers from high end markets demand meat either from FMD free countries or from FMD zones or compartments where NSP free vaccine is used following WOAH guidelines. Further Pakistan is also a signatory of EU-FAO-WOAH global program "Progressive control of FMD" and international requirements related with vaccination are also to be followed.

5.2.2 Ring Vaccination

During outbreaks, ring vaccination in 3-5 Km surrounding area or in the epidemiological unit will be rapidly deployed to contain the disease and limit its spread. Movement restrictions and surveillance will accompany the ring vaccination.

5.2.3 Mass Vaccination:

In FMD free zone and compartments including buffer area of 5km, all susceptible livestock population will be vaccinated with purified FMD vaccine and virus circulation will be regularly monitored.

5.1.2 Disease Surveillance for FMD

Disease surveillance for Foot-and-Mouth Disease (FMD) is a critical component of its prevention, control, and eradication. It is essential part of the strategy to move towards disease elimination and the establishment of FMD free zone. It involves systematically collecting, analyzing, and interpreting data to detect outbreaks early, monitor disease dynamics, and evaluate control measures. Effective surveillance helps policymakers and veterinarians to respond swiftly to limit the spread of FMD and mitigate its economic and social impacts.

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5.3.1 Passive Surveillance for FMD

The objective is to strengthen the disease surveillance system such a way that every FMD outbreak is detected, investigated and responded timely. The passive disease surveillance of FMD will be carried out by different means. In case of disease outbreak the concerned Assistant Disease Investigation Officer (ADIO) of the district along with field formation will take immediate action for the control and confinement of the disease by adopting all bio-security and sanitary measures as per SOPs. Different sources of passive surveillance are given below:-

i. **Clinical Observation at CVD/CVH or Field:**
These include the outdoor cases with the complaint of active FMD in the area. The concerned veterinary officer will be responsible to inform the relevant offices by the use of ADRS-Info system or directly for prompt response. The concerned officer will also take necessary measures related to bio-security, disinfection and animal movement control to confine the disease and perform necessary ring vaccination of the risk animals in the epidemiological unit

ii. **ADRS-Info. Disease Intimations:**
The disease intimation from the farmer / veterinary assistant and the confirmed report by concerned veterinary officer of the area are an important source of information that requires rapid response to curtail the spread of the disease.

iii. **Village Committees:**
It is useful source for prompt reporting of the disease and information about new animal entry in the area. The Directorate General (Extension) will notify the village committee for the effective reporting of the disease. These committees will be given training on disease reporting on ADRS-info, bio-security, disinfection and the movement control to stop the disease spread. The committee will comprise of minimum five members of that village or unit including concerned Lumberdar, Imam Masjid and progressive farmers.

iv. **Helpline calls and direct farmer complaints:**
These are also an important source of disease outbreak information about the disease outbreaks.

v. **Diagnostic Labs:**
Sometimes farmers submit disease sample or information directly to the lab. Such disease reports will also be included in the disease surveillance.

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vi. **Disease information from social media, print media, electronic media:**
These are also important source of information about the disease in the area and will be verified and responded for rapid detection and the control measures.

vii. **Cattle Markets and slaughter houses**:
Cattle markets are important areas in disease spread and will be monitored for any clinical case. The animals purchased from cattle markets will be subjected to quarantine to avoid disease outbreaks. Similarly at slaughter house the affected animals might be observed. The concerned people should be given training on disease reporting.

The information received from passive disease surveillance system will be considered as emergency and the concerned ADIO of the Lab will coordinate with the local CVH/CVD team for providing all necessary services to handle outbreak. The ADIO will also collect clinical samples of the outbreak and also submit to PDL Lahore and FMDRC Lahore for virus isolation, genotyping and vaccine matching test and other R&D work. The Virus samples will also be preserved for further studies in FMDRC Lahore.

The concerned ADIO will be responsible to generate complete disease investigation report of each disease outbreak with forward and backward tracing of the source of infection and will share information to the quarter concerned for control activities.

5.3.2. Active Surveillance

5.3.2.1. Sero-surveillance for Detection of FMD Virus Transmission

Sero-surveillance of FMDV will follow approved plan and WOAH guidelines in all districts of the province. Sample sizes will be calculated epidemiologically based on each district's livestock population, and blood samples tested using NSP ELISA at Divisional Diagnostic Labs, with positive samples sent to the Provincial Diagnostic Lab for confirmation. A structured questionnaire will collect data on animal characteristics, vaccination status, herd dynamics, FMD outbreaks, and access to veterinary services. All data will be uploaded to ADDRS system for centralized processing and analysis.

5.3.2.2. Monitoring of FMD Vaccine Effectiveness

Monitoring the effectiveness of FMD vaccination will be conducted regularly using the SP ELISA test for Serotypes O, A, and Asia-1. Post-vaccination blood samples will be collected from targeted livestock populations to measure specific antibody levels against these serotypes. The test assesses immune response to vaccination, identifying gaps in coverage or immunity. Results will be analyzed to evaluate vaccine efficacy, guide booster schedules and inform adjustments in vaccination strategies to ensure optimal protection against FMD outbreaks.

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5.3.3 Participatory Disease Surveillance (PDS)

The PDS teams will be constituted to strengthen the disease surveillance in the province for the identification of hotspot and effective implementation of risk-based FMD control strategy. The Mobile Veterinary Dispensaries (MVD) in-charge will work as team leader of the PDS team. The MVDs will be strengthened by the provision of training, literature and other resources. The concerned ADIOs/DI&COs will collect the PDS reports and submit to ADDRS office for further analysis. The Director ADDRS will submit consolidated reports of surveillance to DG (Res) quarterly.

5.1.3 Early disease detection, Reporting and Response

The early disease detection, reporting and response are the backbone of the FMD disease control program. This disease is highly contagious and requires a quick response of the field and lab staff for the control measures. The veterinary services will be strengthened by provision of logistics, resources and trainings to respond for control measures. In case of any FMD outbreak the Infection zone will be declared by the concerned district lab with intimation to concerned VO and DDL. The area of the infection zone will be declared on the basis of epidemiological information. The concerned CVD/CVH will take all disease control measures like separation of sick from the healthy animals, biosecurity, sanitation, movement control and emergency ring vaccination of the epidemiological unit or the area.

5.1.4 Establishment of FMD Free Zones

Establishment of FMD free zone is requirement in the progressive control pathway for Foot and Mouth Disease. There are multiple factors/ international requirements needed to be fulfilled for establishment of FMD free zone with vaccination as per WOAH guidelines.

i. Zone should have physical or geographical barriers that separate the animal population inside and outside zone.
ii. Application of bio-security measures that prevent the entry of FMD virus into the free zone including check posts for the movement control of animals and animals products into the zone.
iii. Compulsory systematic vaccination is undertaken in the zone with purified vaccine prepared as per WOAH standards.
iv. Have a record of regular and prompt animal disease reporting and surveillance as per Animal Health Code Articles **8.8.40** to **8.8.42**.
v. There has been no case of FMD during the past two years; and there has been no

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evidence of FMDV transmission during the past 12 months.

vi. There is animal identification and traceability system in the zone

vii. The country has an official FMD control programme preferably endorsed by the WOAH (stage 3 of internationally recognized PCP).

5.1.5 Establishment of FMD Free Compartments

FMD-free countries such as those in Europe, Australia, America and Japan require certification of FMD-free zones with vaccination, as recognized by WOAH. In contrast, countries like China, Malaysia, other Southeast Asian nations, and Arab countries do not currently require such certification. Meat exports from FMD-endemic countries are permitted if bilateral SOPs are established for trade from FMD-free compartments or zones. The WOAH does not restrict bilateral agreements for trade in livestock and livestock products between countries. Pakistan, as an FMD-endemic country, can negotiate trade conditions with importing nations. To support meat exports, the government will notify FMD-free compartments in accordance with the Punjab Animal Health Act, 2019 and subsequent Punjab Animal Health Rules, 2021.

5.7 Interdepartmental Coordination

Effective control of Foot-and-Mouth Disease (FMD) requires strong interdepartmental coordination among Livestock, Agriculture, Punjab Board of Investment and Trade, Local Governmental, Police and Punjab Highway, Irrigation and border control authorities. Collaborative efforts are essential to align surveillance, vaccination campaigns, and biosecurity measures with national FMD control policies. Regular communication ensures synchronized actions in outbreak management, monitoring, and export certification processes.

5.8 Farmer's Awareness & Community Mobilization

Farmer awareness and community mobilization are vital components of the FMD control program. Various initiatives, such as farmer gatherings, livestock Baithaks, school programs, and training buses, will be used to educate communities on FMD prevention, vaccination, and timely disease reporting. Awareness messages will be displayed at veterinary institutions, while print, electronic, and social media platforms will disseminate information through supplements, TV commercials, GSM messages, and radio broadcasts. All awareness activities, including risk communication for farmers and stakeholders, will be supervised by the Directorate of Communication & Extension L&DD Punjab.

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6. EXPECTED OUTCOMES OF THE STRATEGY

1. Reduction in FMD virus circulation in the field and control of FMD outbreaks
2. Establishment of FMD free zone with vaccination and FMD free compartments.
3. Reduction in economic losses of the livestock growers / farmers.
4. Facilitation of the meat export industry
5. Strengthening of veterinary services and surveillance system in Punjab.

(SAQIB ALI ATEEL)
SECRETARY
GOVERNMENT OF THE PUNJAB
LIVESTOCK & DAIRY DEVELOPMENT DEPARTMENT

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Copy is forwarded for information and necessary action to:

1. The Chief Secretary, Punjab.
2. The Chairman Planning & Development Board, Punjab.
3. The Principal Secretary to Governor, Punjab.
4. The Principal Secretary to Chief Minister, Punjab.
5. The Animal Husbandry Commissioner, M/o National Food Security & Research, Islamabad.
6. The Vice Chancellor, University of Veterinary & Animal Sciences, Lahore.
7. The Vice Chancellor, Cholistan University of Veterinary & Animal Sciences, Bahawalpur.
8. The Director General (Ext./Res./Prod.) L&DD, Punjab, Lahore.
9. The Director General (ERP), L&DD, South Punjab, Bahawalpur.
10. All Directors of Livestock working in Punjab.

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SECTION OFFICER (PLANNING)

CC:

i. PS to Secretary L&DD, Punjab, Lahore.
ii. PS to Special Secretary L&DD, South Punjab, Bahawalpur.

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