



World Organisation
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Report of the 25th SEACFMD National Coordinators Meeting (3 to 5 October 2022)



WOAH Sub-Regional Representation for
South-East Asia

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The WOHAI would like to thank all the participants from the Members (SEACFMD and non SEACFMD Members) and Partners who attended the 25th SEACFMD National Coordinators Meeting in person and virtually, and in particular those participants who delivered presentations and who assisted in moderation of various interactive sessions (Group work and World Café session).

The organization of this meeting and preparation of this report was coordinated by Karma Rinzin, Ashish Sutar, Bolortuya Purevsuren, Kinley Choden and Onsiri Benjavejbhaisan under close supervision of Ronello Abila.

This meeting was made possible through the generous fund support of the Government of the People's Republic of China, Government of Australia and Government of Japan.

EXECUTIVE SUMMARY

Within the SEACFMD Campaign, the SEACFMD National Coordinators annual meeting is an important platform to discuss current FMD risk situation, share experience in FMD surveillance and control, review progress of SEACFMD campaign and formulate action plan in view of both country context and regional cooperation.

The 25th SEACFMD National Coordinators Meeting was held in the island of Bali in Indonesia, from 03 to 05 October 2022. It was the first in-person SEACFMD Governance meeting since the 23rd edition (in 2019). The two and half day meeting was attended by 70 participants from Member Countries, non SEACFMD Countries in the Asia Pacific region (Japan, Korea, Timor Leste and Papua New Guinea), partner organisations such as Food and Agriculture Organisation (FAO), WOA Reference Laboratories, donors (Australia, China, New Zealand) and Academic Institutions (Massey University, University of Sydney) and Livestock Industries. Participants from China including the Lanzhou Veterinary Research Institute (WOAH FMD Reference Laboratory) attended all the sessions virtually.

The 25th SEACFMD National Coordinators was officially opened by the Dr Ir. Nasrullah, Delegate of Indonesia; and Director General of the Directorate General of Livestock and Animal Health Services (DGLAHS) of the Ministry of Agriculture (MoA). DG described recent occurrence of the disease in more than 30 years as difficult times for Indonesia's animal health system and expressed the determination to overcome these challenges with the in-country efforts; cooperation and support of the SEACFMD Members and Partners.

Dr Ronello Abila, WOA Sub-Regional Representative for South-East Asia during his opening remarks provided historic overview of the SEACFMD campaign and its progress since 1997 to prevent and control FMD in South-East Asia. He also highlighted the challenges the sub- region faces with the incursion and spread of Transboundary Animal Diseases (TADs) other than FMD. Dr Abila underscored the need to study and subsequently manage drivers responsible for the introduction and spread of FMD.

The meeting reviewed the SEACFMD Campaign progress, FMD epidemiological situation amongst the members as well as the regional, and global situation. The highlights of the first day was a Word Café session focused on FMD Preparedness and Response with an introductory presentation from DGLAHS Indonesia where they shared the lessons learnt from the recent incursion of FMD in Indonesia. The World Café session provided an opportunity for the participants to work together in a group and facilitated interaction to review the challenges and mitigation measures on key components mainly to enhance prediction, prevention, rapid detection, and rapid response.

Day 2 of the meeting witnessed WOA and its partners including FAO, Australian Centre for Disease Preparedness (ACDP), Lanzhou Veterinary Research Institute (LVRI), Pakchong FMD Laboratory and Massey University who provided the updates on wide range of topics including surveillance, diagnostic tools, FMD vaccine and research development, laboratory activities, Post vaccination monitoring, FMD preparedness and response activities etc. During the roll out of the SEACFMD roadmap (2021-25) session, WOA presented the background and outline of the Monitoring and Evaluation (M&E) framework in line with SEACFMD roadmap 2021-2025 implementation plan at both regional and country level. The pre-meeting online survey findings which were focused on obtaining the baseline information for the M&E indicators were shared with the members. The presentation was followed by the group exercise in which participants had an opportunity to review the relevancy of M&E Indicators to measure the progress of SEACFMD Campaign. Moreover, groups provided their feedback on how to measure these indicators,

shared ideas to enhance collection of data/ information for the M&E Indicators. The focused group discussion moderated by Dr Peter Windsor and Dr Harish Tiwari (Consultant's carrying out the evaluation of SEACFMD Campaign from 1997 to 2020) was organised among the participants. The discussion primarily focused on recommendations for the future of the SEACFMD campaign for each of the 11 identified domains.

Day 2 concluded with another group activity in which the members and partners reviewed the existing status, discussed challenges and provided solutions to address those challenges on 3 topics namely strengthening collaboration and coordination among FMD free countries and other neighbouring FMD endemic countries; Progression to next PCP stage during the sixth phase of SEACFMD Campaign; and How Public-Private- Partnership can support FMD Prevention and Control? The nominated rapporteur of each group provided the highlights of the group work during panel discussion.

The SEACFMD portal and toolbox on the SharePoint was launched during Day 3 of the meeting followed by the demonstration of the navigation and various features of the portal to the meeting participants.

The next session focused on enhancing timely reporting and detection during which Malaysia and Thailand shared case studies of their respective National Animal Health Reporting and Animal Health Information System. Furthermore, WAHIS reporting was covered through the video presentation titled reporting to the World Animal Health Information system: updates on WAHIS/WAHIS+. The importance of reporting was further emphasized with the benefits of timely detection and reporting of FMD including opportunities of developing smart and intelligent system, encouraging real time data sharing including ARAHIS integration into WAHIS to strengthen early warning. The mentimeter session captured the challenges in timely reporting and practical solutions to improve regional reporting, early warning and mechanisms of early detection and timely reporting.

The closing session of 2.5 days meeting provided the summary of the priority actions for the next 6-8 months for the SEACFMD members such as high-level advocacy and policy brief to reaffirm support from highest Authorities; improving timely reporting and promoting transparency; enhancing early warning and prediction; and explore possibility to set up regional FMD viral Antigen and Vaccine Bank etc. The participants went through the draft recommendations of the meeting and provided feedback. The meeting concluded with the closing remarks by the WOAHS Sub-Regional Representative, SEACFMD Sub-Commission President (Malaysia) and by the host country. The meeting requested Malaysia to host 27th SEACFMD Sub-Commission Meeting back-to-back with 26th SEACFMD National Coordinators Meeting which was principally agreed.

MEETING RECOMMENDATIONS

Considering

- the accomplishments made in the region since the creation of the Sub-Commission for FMD control in South-East Asia in 1994, the launching of SEAFMD Campaign in 1997, its expansion to become a SEACFMD campaign following inclusion of China PR and Mongolia;
- the endorsement of the SEACFMD Roadmap 2021-2025 by 25th SEACFMD Sub-Commission Meeting in December 2020;
- the endorsement of the SEACFMD Roadmap 2021-2025 by ASWGL in May 2021 and SOAM-AMAF October 2021;
- the endorsement of the Monitoring and Evaluation (M&E) framework for SEACFMD Roadmap 2021-2025 by the 26th SEACFMD Sub-Commission in March 2022;
- the importance of regional coordination for the effective control of FMD;
- the existing FMD status of the SEACFMD member countries including FMD PCP stages and FMD situation at the global and regional level;
- the recent incursion of FMD in previously FMD free country; and
- the challenges faced in the region to control FMD and other TADs.

The 25th SEACFMD National Coordinator Meeting held in Bali, Indonesia from 3 to 5 October made the following recommendations for better implementation of the SEACFMD Roadmap activities; and to guide free countries and zones to prevent introduction and develop capabilities for early warning and early reaction:

➤ **For all countries, WOA and partners**

1. to explore possibility of setting up of vaccine / antigen bank for the region, to address difficulties in obtaining quality vaccines in the face of emergencies due to supply, regulatory and distributor contractual issues;
2. to promote access to quality FMD vaccines through awareness of the policy makers, streamlining the registration and procurement process and encourage the use of a vaccine compliant with the Chapter [3.1.8](#) of the *OIE Terrestrial Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*;
3. to strengthen bilateral/multilateral trusts / relationships / arrangements during peacetime (e.g. through regional animal health network, technical level/informal engagement) to enhance information sharing and better understanding of the risk of FMD and other TADs between and among countries.
4. to identify and develop synergies between FMD control and other TADs or other livestock production/health activities;
5. to review the objective of SEACFMD campaign based on the findings of the evaluation of the SEACFMD campaign from 1997 to 2020 and align with emerging needs;

➤ **For SEACFMD Members:**

6. to implement monitoring and evaluation framework /process to generate consistent data to measure the progress of the SEACFMD campaign at the country level by adapting the M&E framework for the SEACFMD Roadmap 2021-2025, including establishment of baseline and targets for the M&E indicators;
7. to enhance timely information sharing through WAHIS and ARAHIS, especially on FMD virus circulation that could assist the entire region in decisions on risk mitigation and, consequently, progress along the FMD Roadmap for the region;
8. to review, revise and enforce legislations related to prevention and control of FMD and related TADs;
9. to utilize the resources and tools available on SEACFMD Portal particularly SEACFMD toolbox and SEACFMD dashboard to enhance FMD prevention and control through easy and timely access of these resources by the members and stakeholders;
10. to conduct high level advocacy of the Policy Makers to reaffirm support from highest Authorities on prevention and control of FMD and other related TADs;
11. Advocate priority actions and recommendations through the existing ASEAN mechanism such as ASWGL and SOM-AMAF;
12. to explore means to increase wider vaccination coverage to reach protective herd immunity by strictly implementing that only vaccinated animals shall be sold or transported, and by enhancing support from farmers and traders;

➤ **For FMD free countries:**

13. to enhance early warning/ prediction, conduct rapid risk assessment, risk analysis to assess possible entry of FMDV and to identify high risk areas, targeted surveillance in high- risk areas, and initiate epidemiological intelligence system to trace any suspected FMD cases including rumours;
14. to enhance prevention, monitor FMD situation in the neighbouring countries, improve cross border biosecurity, strict regulation of the import of animals and animal products, strengthen bilateral relation to build trust during the peace time, through bilateral agreements and informal relationships;
15. to enhance rapid detection, conduct refresher course for animal health staff, awareness to animal owners, conduct targeted surveillance and develop laboratory diagnostic capacity;
16. to enhance rapid response, review and test contingency plan, conduct simulation exercises, improve Incident Command System, develop emergency vaccination plan etc;

➤ **For infected countries**

17. to conduct immediate outbreak investigation and sampling for FMD to increase the number of outbreaks are serotyped by ensuring sufficient quantity and quality of sample collection, transportation and submission to the National laboratories in a timely manner;
18. to immediately report any FMD outbreaks and continue to regularly share information on FMD virus circulation (different FMDV serotypes and strains) that could assist the entire region in decisions on risk mitigation and, consequently, progress along the FMD Roadmap for the region;
19. to explore approaches to enhance timely reporting and to conduct detailed outbreak investigations of reported outbreaks (ARAHIS, WAHIS and National Information System);

➤ **For WOA and its partners**

20. to map the resources available with different partners through close liaising and collaboration, where possible promote cost sharing so as to maximize to impact to the beneficiary countries;
21. to continue building capacity of the members /VS in the region, and provide technical assistance/ advise for emergency preparedness planning; zonation and compartmentalization;
22. Continue to develop and update digital communication tools to assist members to improve public and key stakeholder awareness on FMD Prevention and Control;
23. To develop and maintain active collaboration between the partners for prevention and control of FMD and other related TADs;

➤ **Request**

24. Request Malaysia to host 27th SEACFMD Sub-Commission Meeting back to back with 26th SEACFMD National Coordinators Meeting;

➤ **Acknowledgement:**

25. THANK the Government of Indonesia for its successful hosting of the 25th Meeting of the SEACFMD National Coordinators;
26. THANK the Governments of Australia, China, Japan and USA for their continuous financial support to the SEACFMD campaign;
27. THANK all participants from SEACFMD Members, non SEACFMD Members and Partners for their active participation in the meeting.

MEETING REPORT

Introduction

Background

The World Organisation for Animal Health (WOAH, founded as OIE) continues to work towards controlling foot and mouth disease (FMD) and its negative effects on economies and livelihoods in South-East Asia, China and Mongolia, through the South-East Asia and China Foot-and-Mouth Disease (SEACFMD) Campaign. The SEACFMD Campaign initiated in 1997 is implementing its 6th phase under the 2021-2025 SEACFMD Roadmap. The SEACFMD Campaign coordinates FMD control activities between its member countries, provides technical advice, ensures coherent regional strategies and enlists political and resource support to FMD activities. SEACFMD has been globally recognised as a model in the regional control of a priority transboundary animal disease.

Within the SEACFMD Campaign, the SEACFMD National Coordinators annual meeting is an important platform to discuss current FMD risk situation, share experience in FMD surveillance and control, review progress of SEACFMD campaign and formulate action plan in view of both country context and regional cooperation.

Due to COVID 19 pandemic, the 23rd and 24th SEACFMD National Coordinators were held virtually with focus on priority topics. Besides, in response to recent FMD incursion in Indonesia, Special Meeting of SEACFMD National Coordinators focused on FMD Preparedness and Response was held virtually on 9 June 2022.

The 25th SEACFMD National Coordinators Meeting was held at Bali in Indonesia from 3 – 5 October 2022. This meeting focused on providing an update on the latest global and regional FMD situation, to review progress and share their latest experience in implementing the SEACFMD Roadmap 2021 – 2025. The meeting also deliberated on the M&E indicators to measure the progress of SEACFMD campaign, in particular SEACFMD Roadmap 2021-2025, and finalized the baseline and targets for the M&E indicators. The Meeting also provided a platform to share experiences and challenges faced by FMD free countries and countries with free zones in their FMD preparedness and response and came up with measures to prevent introduction and develop capabilities for early warning and for early reaction to such disease.

Objectives of the Meeting

- Review the SEACFMD campaign progress, regional FMD risk situation and current FMD epidemiological situation amongst member countries.
- Discuss and finalize SEACFMD Roadmap 2021-2025 M&E Indicators targets and baselines at the country and regional level.
- Enhance the access to technical resources electronically through SEACFMD Portal, SEACFMD toolbox and other platforms.
- Discuss and come with measures to enhance preparedness to incursion of FMD in free countries and zones and new strains of FMDV in endemic countries.
- Explore approaches to enhance timely reporting and detail investigation of reported outbreaks (ARAHIS, WAHIS and National Information System).

Session 1: Opening Session

Welcome remarks by host country

Dr Nuryani Zainuddin, Director of Animal Health, gave a welcome speech on behalf of the Government of Indonesia. She welcomed all participants to the first physical event after nearly three years, as we could not organise physical meetings during the COVID-19 pandemic, and thanked the organisers for making it happen. She said that the National Coordinators' meeting is timely and critical since Indonesia is recently confronted by FMD incursion after its absence for more than 30 years. The emerging outbreak led to a better understanding of FMD epidemiology, updating their knowledge, and discussing the best way to control FMD. Dr Nasrullah said that Indonesia was pleased to share their experience, effort, and lessons learned with other members under this SEACFMD platform and hoped for a successful meeting.

Welcome remarks by WOAHA Sub-Regional Representative for South-East Asia

Dr Ronello Abila, WOAHA Sub-Regional Representative for South-East Asia welcomed the SEACFMD National Coordinators, Representatives from various Partners and resource persons to the 25th SEACFMD National Coordinators Meeting. He shared the brief background of SEACFMD Campaign which was established in 1997 with the aim to control and, eventually, eradicate FMD in the sub-region. The key driver for countries to launch the SEACFMD Campaign was the understanding that FMD, as with any other transboundary animal diseases (TADs), can only be controlled when countries work together in a coordinated manner to control the disease. Dr Ronello Abila stressed that SEACFMD members face several challenges apart from the COVID-19 Pandemic, such as incursion of LSD and ASF in the sub-region; and FMD incursion in Indonesia after a long period of freedom. These new challenges call for a better collaboration and coordination among the members and SEACFMD model can be used and applied to address challenges faced during the implementation of other prevention and control in the sub-region.

Opening Remarks by Director General of Livestock and Animal Health Services

Dr Nasrullah welcomed the participants and opened the meeting officially. He highlighted the importance of organizing this meeting in Indonesia which is facing a severe challenges in fighting with new FMD introduction and spread in the country. He emphasised that Indonesia will learn from the different experiences shared by other Members and Experts as well as expect excellent recommendations on how to best control this outbreak and recover its free status. He mentioned that the livestock sector is a critical pillar of the food safety and security, a significant source of livelihoods and has played a major role in maintaining sustainable food system. Therefore, animal diseases such as FMD are a considerable threat to the livestock sector which has substantial social and economic impacts. Finally, he wished for a fruitful discussion leading to providing sound guidance for members and successful implementation of the SEACFMD Roadmap 2021-2025. Dr Nasrullah declared 25th SEACFMD National Coordinator's meeting as officially opened with drum hits.

Session II: Introductory session and Update on FMD situation

Review of SEACFMD campaign progress and follow-up of the earlier recommendations – Dr Karma Rinzin

Dr Karma Rinzin, Regional Animal Health Coordinator, WOAHSRRSEA, presented [the Progress of the SEACFMD Campaign](#) in year 2021 to 2022 for each of the roadmap outcomes under objective 1 and objective 2. Number of studies were conducted which includes feasibility study to establish regional animal price monitoring, socioeconomic study in Laos and Myanmar, study to assess the implementation of FMD vaccination by the SEACFMD Members, study to assess animal health information system and to assess emergency preparedness and response level of the member countries and socio-economic study in Laos and Myanmar. Dr Karma Rinzin highlighted that Member countries have aligned their National FMD control plan with the SEACFMD roadmap 2021-2025, and the evaluation of the SEACFMD from 1997 to 2020 is in very advance stage. In 2021 and 2022 number of capacity building programmes were conducted to enhance capacity of the members such as TOT on outbreak investigation and response, Geographical Information System, epidemiological study design and simulation modelling. The digitalization of FMD communication materials and development of SEACFMD portal and dashboard were done to facilitate easy sharing of resources to the Members. He concluded his presentation by reporting the status of the implementation of the SEACFMD meeting's recommendations ([Presentation available here](#)).

Global FMD disease situation: risks and new development WRLFMD - Dr Donald King

Dr Donald King, from the WOAHSRRSEA Reference Laboratory for FMD in Pirbright presented the WOAHSRRSEA/FAO Laboratory network activities on the collation and exchange of FMD data, a review of FMD risk relating to FMDV trans-pool movement, test improvement and harmonization, and support to GF-TADs regional roadmaps. He explained the dominance of O/ME-SA/Ind-2001e with the virus origins and multiple introductions in Pool 2, Russia and Kazakhstan, indicating that the virus spread widely across the regions.

Dr King introduced a new sequencing tool named MinION, a rapid, portable sequencing method for full genome sequencing, and the protocols that can be applied to the O/ME-SA/Ind-2001e lineage. The Pirbright can assist in setting up these methods and assist in analysing data for the Member countries. Finally, he shared the online training opportunities for FMD laboratory investigation conducted by Pirbright in collaboration with EUFMD/FAO ([Presentation available here](#)).

Update on the regional FMD situation - Dr Bolortuya Purevsuren

Dr Bolortuya Purevsuren, Project Officer, WOAHSRRSEA, gave an online presentation to update the Regional FMD situation using the PowerBI SEACFMD situation dashboard. The presentation summarized FMD outbreaks reported by SEACFMD members from 2019-2022. As of October a total 128 outbreaks were reported in 2022, which indicates significant reductions in FMD outbreaks in the endemic area during the COVID19 pandemic. However, the main epidemiological changes included a new FMD incursion in Indonesia caused by O/ME-SE/Ind2001e serotypes.

The presentation illustrated the SEACFMD dashboard with the FMD situation dashboard, filtering monthly cases with observed temporal patterns from 2019 to 2022, with genotype and topotype graphs based on the laboratory reports, FMD-affected species, and PCP stages of member countries. Dr Bolortuya Purevsuren highlighted that the observation from the cumulative heatmap analysis where FMD occurred in the same places over the years, may require further detailed investigation. She reminded Member countries that data discrepancies in the animal health information systems and country reports might need to be validated and corrected ([Presentation available here](#)).

Session III: Country Reports (FMD endemic countries)

Indonesia

Dr Nuryanu Zainuddin, Director of Animal Health, DGLAHS, Ministry of Agriculture, presented the FMD situation in Indonesia where the disease was introduced in May 2022 after more than 30 years of freedom from FMD. The first case was detected in May 2022 and it continuously spread throughout the islands. Based on ISIKHNAS report more than 58,000 outbreaks were reported from 24 provinces in Sumatra, Java, Kalimantan, and Sulawesi Islands. However, some islands that maintain FMD Free zones without vaccination were not affected. A single serotype, O/ME-SA/Ind2001e, caused these outbreaks, as confirmed by National Reference Laboratory for FMD and DIC Wates and Regional Reference Centre for Bioinformatics supported by Pirbright FMD Laboratory (WOAH FMD Reference Laboratory). Most affected animals were cattle and buffaloes; however, FMD cases in pig and goat populations were also reported. Indonesia applied different prevention and control measures, including supportive treatment for sick animals, awareness and education campaigns, promoting biosecurity and FMD vaccination (ring and blanket vaccination) for dairy cattle and buffaloes. The main challenges encountered during the FMD outbreak management were the temporary closing of the local markets, movement control of animals between islands and accessing the approved vaccine supplies in a short time ([Presentation available here](#)).

Cambodia

Dr Bun Chan, Deputy Director of National Animal Health and Production Research Institute, General Directorate of Animal Health and Production, delivered a presentation on the FMD situation and Campaign progress in Cambodia. Cambodia reported 17 FMD outbreaks in 17 provinces from January to September 2022. Cambodia has conducted vaccination campaigns in the targeted areas. FMD slaughterhouse surveillance was conducted in 12 regions, and an event-based reporting system in 25 provinces. Dr Bun Chan highlighted the need of training on good vaccination practice and biosecurity measures targeted for the village animal health workers and technical staff. Other ongoing activities are outbreak investigation, sera-and event-based surveillance, vaccination, animal movement control, and improvements in biosecurity ([Presentation available here](#)).

China

Dr Youming Wang, SEACFMD Coordinator, China Animal Health and Epidemiology Centre (CAHEC), gave a presentation virtually since the Delegation from China could attend the meeting in person. China has reported four outbreaks with 24 affected animals since January 2021 in Xinjiang, Guangdong, Qinghai, and Guangxi provinces. Those outbreaks were caused by O/ME-SA/Ind2001 and Cathay serotypes which mainly affected cattle and pigs. In addition, FMD clinical, serological, and pathological surveillance are in place, with laboratory confirmation and tracking of the variation of FMDV strains in targeted areas. Dr Youming Wang reported that Julin, Hainan, and Shandong provinces had passed the national assessment

and certification, which showed FMD-free zone with vaccination at the national level. China will continue to carry out compulsory immunisation, PVM, surveillance, FMD prevention and control by regions, and synergizing control programmes with FMD and other priority TADs in 2023 ([Presentation available here](#)).

Lao PDR

Dr Souryasack Chayavong, Director of the Veterinary Service Division, Department of Livestock and Fisheries, Ministry of Agriculture and Forestry presented the updates on the Lao FMD situation and FMD prevention and control related activities. He explained the information flow chart for FMD reporting and implementation of FMD prevention and control activities. He also raised some of the critical issues including delay in reporting of FMD outbreaks, under reporting, and missing critical epidemiological data. Dr Souryasack Chayavong informed that Lao PDR reviewed disease control strategies on FMD surveillance, biosecurity, outbreak investigation, and risk communication, and identified needs on IT structure and skills at both National and subnational levels to facilitate remote meetings and training during the pandemic. Lao PDR established an FMD free zone with vaccination in Laungnamtha province, bordering China based on the trade agreement with China. Finally, he presented the main challenges faced by Laos in implementation of FMD prevention and control which included the lack of legislation enforcement for animal and animal production movement, limitations in human resources, equipment, veterinary facilities, and funding ([Presentation available here](#)).

Malaysia

Dr Jamaliah binti Senawi, Head of Animal Disease Control and Zoonosis Section, Department of Veterinary Service, presented the FMD status in Malaysia. She showed the FMD temporal pattern in 2022, indicating that most FMD outbreaks have occurred during the traditional “hajji” festival during 4 months period. Therefore, DVS Malaysia introduced compulsory vaccination of animals moving from north to south, which resulted in a significant reduction in FMD clinical cases. She also reported that 90% of FMD outbreaks were in non-vaccinated animals. She emphasized that five different clades of the O/ME-SA/Ind2001e serotype were isolated from Malaysia and would represent a significant epidemiological change in the country, and it is suspected that this serotype is propagating in Malaysia. Malaysia continues to conduct FMD surveillance, PVM and follow up with NSP reactors with probang sampling, vaccination, and planning to establish FMD free zones with vaccination in Johor and on the island of Langkawi ([Presentation available here](#)).

Mongolia

Dr Bodhisaikhan Khisgee, Senior Specialist (SEACFMD National Coordinator) shared current FMD situation and progress of its control in Mongolia. He reported that FMD has spread to 170 soums of 20 provinces in Mongolia since March 2021 with four major waves. This is due to the nature of nomadic pastoralism, climate change and uncontrolled migration of livestock. The Pirbright Institute confirmed that FMD outbreaks were caused by FMDV O-serotype Ind-2001e lineage which was reported for the first time in Mongolia. In order to limit the spread of FMD, vaccination were implemented in two stages. In the first stage, 2.2 million susceptible livestock in 17 provinces were vaccinated in order to limit the outbreak spread. In the second round, a total of 6.5 million head of susceptible herds in 21 provinces and the capital were vaccinated. As a result of the good vaccination coverage, the incidence of FMD has decreased dramatically ([Presentation available here](#)).

Myanmar

Dr Ye Tun Win, WOAHA Delegate of Myanmar, Director General of the Livestock Breeding and Veterinary Department, presented the FMD situation in Myanmar. Only four outbreaks were recorded in the country in 2021, however, he reported that some areas of the country could not be investigated, contributing to under reporting. Myanmar aims to reach their FMD PCP stage at 3 in 2025 by thorough investigation of FMD outbreaks, establishing and expanding Control Zones by reducing FMD clinical cases, and maintaining FMD control zones. He highlighted the vaccination program in the dry zone of Myanmar conducted by the NZ FMD Control Project from 2016 to 2019 that continued in 2021 using the Government budget, resulting in 80% FMD vaccination coverage. He elaborated the results of vaccination in Control Zones with vaccination coverage ranging from 70%-90% followed by sero-surveillance using NSP kits, accounting for 30-40 % of sampled animals ([Presentation available here](#)).

Thailand

Dr Tosapol Dejyong from Department of Livestock Development, began his presentation by introducing the FMD temporal situation in Thailand. Thailand reported 55 FMD outbreaks in 2022, which refer to the village as an epidemiological unit. The number of FMD clinical cases was reduced significantly, which is assumed to result from solid responses to LSD outbreaks that may support the FMD control activities. Early in 2022, Serotype A was detected, however following outbreaks caused by serotype O. Thailand's FMD interventions cover establishing a temporary epidemic zone with 5-km radius within a province, ring vaccination, animal movement control through disinfection check points, surveillance, quarantine, and treatment of the sick animals. Thailand is developing an FMD Control Strategy 2023-2026 with expert consultation, which mainly targets a risk-based control strategy, reflecting GAP and cost effectiveness analysis ([Presentation available here](#)).

Vietnam

Dr Nguyen Thanh Phuong, Laboratory Manager of Regional Animal Health Office No 6 (RAHO6), Department of Animal Health, delivered a country presentation on behalf of Dr Phan Quang Minh, SEACFMD National Coordinator. Vietnam reported six outbreaks in 2022, a considerable decrease from the 89 outbreaks recorded in 2021. He noted that a significant decline in FMD cases/ outbreaks could result from high immunity in the suspected population, proved by post-vaccination monitoring. The Department of Animal Health enhances the use of high-potency FMDV vaccines and implements a compartmentalisation approach which accredited 623 farms free from FMD with vaccination. Dr Nguyen Thanh Phuong highlighted that FMD samples are frequently sent to the Pirbright Laboratory for confirmation of the national laboratory's diagnosis, subtyping, and vaccine matching test ([Presentation available here](#)).

Session IV: Country Report – SEACFMD Members (FMD free countries)

Brunei

Dr Raihan Zulkifli, Veterinary Officer, Department of Agriculture and Agrifood presented Brunei's FMD preparedness. Brunei Darussalam only allows import of live animals from FMD-free countries and animals must be compulsorily quarantined at the onsite holding yards before entering the country. Brunei introduced a new restriction recently which prohibits transit of live ruminants from Sarawak, Malaysia, to prevent FMD incursion. Dr Raihan Zulkifli elaborated details of the early warning system in the country

which consists of passive and active surveillance, namely negative reporting, clinical, serological and ante- and post-mortem observations at slaughterhouses. The Department of Agriculture and Agrifood planned to revise the list of animal diseases under an Animal Disease order whereby FMD is listed as a notifiable disease and to strengthen the Veterinary service including laboratory capacity and review of FMD preparedness and contingency planning ([Presentation available here](#)).

Philippines

Dr Arlene Vytiaco, SEACFMD National Coordinator, Bureau of Animal Industry, presented the key activities for maintaining FMD free status in the Philippines. The country implements annual and bi-annual surveillance to monitor FMD free status; however, this strategy is being changed into risk-based surveillance to maximise the optimum using of resources and to ensure sensitivity in detecting suspected cases in the prevention system. Dr Arlene Vytiaco highlighted the continued implementation of monthly clinical surveillance, negative reporting, animal movement control, and local transport monitoring through the ruminant and pig value chains. The Bureau of Animal Industry synergises its resources for FMD prevention with other TADs activities, conducting risk analysis on the importation of live animals and meats, and establishing the technical working group for the review and revision of the FMD EPP manual ([Presentation available here](#)).

Singapore

Dr Christine Lee, Senior Veterinarian, Veterinary Forensics and Pathology Centre for Animal and Veterinary Science, briefly introduced the FMD prevention and preparedness activities. The core activity includes compulsory reporting of suspected cases and routine surveillance of all susceptible animals to enhance early detection. In addition, Singapore is implementing an accreditation system for meat products in exporting countries aligned with WOAHA compartmentalisation guidelines, enhancing inspection (ante- and post-mortem) and testing the thereby by promoting early warning system. Dr Christine Lee highlighted about the synergized surveillance of FMD and other TADs including the first detection of an LSD outbreak in the country and strengthening biosecurity measures at the national and farm levels. Singapore plans to review their national legislation, including a contingency plan for FMD and other diseases, conduct follow-up simulation exercises for stakeholders and conduct PVS self-evaluation ([Presentation available here](#)).

Session V: Country Report – Updates from Non SEACFMD Members

Japan

Dr Kazuki Morioka, Deputy Group leader of the Exotic Disease Research Group, National Institute of Animal Health (NIAH), shared their experience of FMD prevention and preparedness in Japan. Japan has been free from FMD without vaccination since 2011. Japan has strict border control and quarantine measures for importing live animals and products that detect ASFVs from meat products in 2022. The basic FMD prevention measures are an early warning system with immediate reporting from the farmer or clinical veterinarian to the prefectural government, on-site farm inspection by field veterinarians and definite diagnosis by NIAH. Dr Kazuki Morioka elaborated on a highly sensitive on-site antigen detection kit developed by researchers and utilised by the prefecture veterinarians for detecting cases and reporting the use of rapid kits ([Presentation available here](#)).

Korea

Dr Subeom Lee, FMD and Large Animal Health Control Division under Ministry of Agriculture, Food and Rural Affairs, has informed the FMD situation and prevention measures in Korea. The last outbreak was reported in 2019 since Korea has restricted control measures at the seaport and airport to prevent FMDV incursion and control risk pathways, including wild animal movement. Korea implements mandatory vaccination of all susceptible livestock, including cattle, pigs, and goat population, which occurs twice a year in April and October, followed by SP antibody testing for vaccination monitoring. Dr Subeom Lee elaborated on the clinical, serological and antigen surveillance results, followed by the import control procedures, including animals isolated for 15 days with clinical examination and testing and disinfection for people who contacted the livestock industry at the airport and seaport ([Presentation available here](#)).

Timor Leste

Dr Joanita Jong, National Director of Veterinary/ WAOH Delegate, Ministry of Agriculture and Fisheries, presented FMD prevention activities in Timor Leste. Dr Joanita Jong explained the import and export regulations in a country with the development of a new Sanitary and Phytosanitary regulation that will be approved soon by the Ministerial council to be effective. Timor Leste implements cloud-based surveillance, including Epicollect5 passive management with remote data input on animal diseases in collaboration with Australia, supported by local veterinarians and livestock technicians who can collect 900 surveillance data after one year of implementation. In addition, Timor Leste initiated a surveillance network based on the WhatsApp application among livestock technicians who can report any suspected cases immediately. Dr Joanita Jong reported that the veterinary laboratory could run LAMP-qPCR for ASF, CSF, FMD, AI, ND, LSD and public awareness activities at the border area ([Presentation available here](#)).

Session VI: World Café Session

The World Café session was organized to discuss key elements of Preparedness and Response through collaborative dialogue, encouraging everyone's participation, interact and understand diverse perspective review, offer inputs and feedback to teams, share collective teamwork, and reach common understanding. The Plenary session started with an introductory presentation from Indonesia focused on the [Lessons learnt during the recent FMD incursion](#) after 30 years of its absence.

Participants were offered brief [introduction](#) about the objective and task to be performed during the World Café session. The participants were divided into four groups while each group were assigned with one booth with different topics (Enhance Prediction, Enhance Prevention, Enhance Rapid detection and Enhance response), and Moderator to facilitate the discussion. After 20 Minutes of brainstorming, group were asked to move to next booth where they worked for **10** Minutes to make any supplementation. After 10 Minutes, each group then moved to other booth, and they were asked to review and add any missing points in **7** minutes. After 7 Minutes the group moved to the last booth to add any missing points in **5** minutes. Rapporteurs/ Facilitators for each Group will summarized the main discussion during the Plenary session. The outputs of the World Café session can be referred in [Annex 3](#).

Session VII: Updates on Pilot FMD Control

Lessons learned from NZ FMD Control Project – Dr Ashish Sutar and Dr Art Subharat

The lesson learnt from the ASEAN Regional Strengthening of FMD Control Project was delivered jointly by Dr Ashish Sutar, WOAHS SRR SEA and Dr Art Subharat, the Massey University, New Zealand. The presentation covered the outcomes of the Project during the entire length of the Project from Sept 2015 to May 2022. The results, accomplishment and the lesson learnt of the Project at both regional and country level activities in Lao PDR and Myanmar were presented during the meeting. The second component of the Project covered the Final Evaluation which consist of the assessment of the Project from its design to its implementation. The presentation highlighted the enhancement of capacities, establishment of FMD control tools, methods and procedures which laid the solid foundation for future initiatives in FMD control in targeted countries. The importance of strengthening mechanism of M&E, lessons sharing to improve and adopt was emphasized with an examples and findings of the evaluation. The strength of sustained regional dimension and emphasised the strategic importance of taking a regional, as well as whole of society approach to FMD control was discussed during the presentation ([Presentation available here](#)).

Session VIII: Updates from the Partners

FAO FMD activities in South-East Asia – Dr Paolo Motta, Huachun Li and Luuk Schoonman

The presentation outlines the FAO's priority and guiding principles for the regional action to enhance better preparedness, enhanced early warning and improved control; described specialised programmes at centralised and decentralised level and multi-stakeholder coordination. The presentation listed the online courses organised through RAP Virtual Learning Centre (VLC) and EuFMD V-learning. Additionally, FMD control, and emergency response at regional and national level were explained including emergency response activities in Indonesia. Under regional priorities, the activities under SSSC TAD TAD project in supporting FMD risk management for safe cattle trade in GMS were explained. The presentation concluded with the challenges in the area of surveillance, and control, and critical factors for effective preparedness and control ([Presentation available here](#)).

Novel tools to assist with FMD preparedness and response – Dr Wilna Vosloo, ACDP, Australia

Dr Wilna Vosloo presented the Novel tools to assist with FMD preparedness and response including surveillance, diagnostics and control. She emphasized on the advantage of using modelling to prepare for outbreaks and post outbreak surveillance. The Australian Animal Disease Spread Model (AADIS) was illustrated to prepare for outbreaks and post outbreak surveillance. AADIS application can be used for mapping the FMD hotspots and spread, map vulnerable areas to infection and determine the areas for stamping out to reduce the risk of uncontrolled outbreaks, investigate where vaccination is likely to be useful, investigate new approaches to post outbreak surveillance, and to support economic analysis. Similarly, she talked about the tools to assist during outbreaks using big data application such as SPREAD1 web-based system to visualise FMD outbreaks and models assessing the role of wind dispersion in local spread, and implementation of routines for the automated next-gen sequence assembly and construction of genomic networks assessing farm-to-farm transmission of FMDV. She concluded her presentation by briefly introducing ACDP International Program to support control of FMD and other TADs in the region ([Presentation can be referred here](#)).

Technical supports on FMD Control in China – Dr He Jijun

Dr He Jijun from Lanzhou Veterinary Research Institute updated the detection and analysis of field strains in China suggesting that multiple strains are circulating in China including dominance of O/Ind-2001 circulating particularly in cattle, O/CATHAY strain in pigs. O/Mya-98 is still circulating in pigs, though no cases reported since 2021 and Type A (Sea-97 strain) is not detected since 2019. The vaccine matching test suggested very good match with circulating strain of FMDV in cattle in 2020-21 while indication of new candidate vaccine strain Re-O/17002 has been effective for pigs. The updates on FMD vaccine research were provided with the development of Novel vaccine using reverse genetic system and ongoing research on VLP's /subunit, mucosal vaccines. Dr He Jijun highlighted that O-Cathay strain is circulating and spreading in South-East Asia-China for a long time, however this strain is not well matched by commercial vaccine strains. The proposed suggestions to overcome the challenges are sharing samples/strains, genomic sequences, information of vaccine matching test and collaborative research. He provided the updates on training organised and international coordination meetings attended by LVRI ([Presentation available here](#)).

Progress of the Pakchong FMD Laboratory Activities in 2022 – Dr Kingkarn Boonsuya Seeyo

Dr Kingkarn Seeyo presented the Pakchong FMD laboratory activities which consist of laboratory diagnostic work, quality management, laboratory improvement, and research and collaboration. The existing lab diagnostic capabilities of the Pakchong FMD laboratory are antigen and antibody testing, strain characterisation, and reagent production. FMDV detection and analysis results of field strain in Thailand and vaccine matching results were shared with participants by means of r value of serotype O compared with O-189, Serotype A, with A/Sakol (Thai) strain by LPB ELISA and VNT as well as Serotype A compared with A/Lopburi/ Thai vaccine strain by LPB ELISA. The activities for the year 2022 focused on quality management including laboratory renovation project. The phase 2 of the Project consist of BSL 3 facility building which will be completed in 2023. Various National and International collaborative initiatives are being undertaken by Pakchong i.e. with Kasesart University for rapid test kit, collaborative research with WRL-WOAH to improve technical skills, with MORU to develop C-ELISA and SATREPS Project (JICA-JAPAN) (2021-2024) ([Presentation available here](#)).

Insights from post-vaccination monitoring for FMD vaccination strategies in Lao PDR – Dr Art Subharat

The presentation provided results of post-vaccination monitoring study in Lao PDR to evaluate the vaccination strategy and identify possible factors that contributed to the observed high FMD incidence since Incidence of clinical FMD was reported in the area despite the vaccination campaign (2016-20). The study revealed that the Protective immunity was higher in target villages than in non-target villages specific immunity increased due to vaccination. NSP prevalence suggested frequent circulation of FMDV in 2019-20 (40-52%; 18months). The logistic regression model results showed that that the household vaccinated within last 3 months demonstrated 75 % protective immunity or 75% less likely to get FMD. Low vaccine coverage and dropout from booster vaccines may be responsible for the FMDV circulation in the study area of Lao PDR during 2020. Thus, highlighting the need for incentivising farmers for vaccination and emphasising importance of up-to-date routine vaccination ([Presentation available here](#)).

Session IX: Rolling of SEACFMD Roadmap 2021 – 2025 M&E Logical Framework and Key Performance Indicators

Session IX focused on monitoring and evaluation (M&E) framework for the SEACFMD Roadmap 2021-2025. The M&E framework provide guidance to monitor the efficiency and effectiveness in the implementation of the Roadmap activities. Following the series of deliberations, a total of 20 Key indicators for the objective, outcomes and outputs were developed.

A **baseline** was set for each indicator for the first year of the SEACFMD Roadmap implementation (2021) by using existing data, and by through surveys. The short survey was rolled out to collect baseline information for 12 indicators (those indicators without existing data) from the SEACFMD Members. Dr Karma Rinzin presented the [findings of the survey](#) at the meeting (Presentation available here).

Following the presentation, participants were divided into four groups where each group were asked to review the relevancy of proposed indicator, propose any new indicator and on how enhance collection of data and information for the M&E indicators for those indicators assigned to the respective groups. The outputs of the Groupwork is presented in [Annex 4](#).

Session X: Evaluation of SEACFMD Campaign 1997 to 2020

Dr Peter Windsor and Dr Harish Tiwari from University of Sydney presented the progress of ongoing SEACFMD Campaign evaluation from 1997 to 2020 which was undertaken since beginning of 2022. The evaluation involves desktop review of the available literatures and reports, surveys and discussion with key people from the relevant stakeholder ([Presentation available here](#)).

As part of SEACFMD campaign evaluation, the focus group discussion was organised among the participants attending the 25th SEACFMD National Coordinators meeting held in Bali, Indonesia, October 3-5, 2022. The discussion primarily focused on recommendations for the future of the SEACFMD campaign, as this was a section of the formal surveys where few responses had been received. The participants were divided into the three 'status' groups of: (i) FMD-free countries; (ii) FMD-infected countries; and (iii) those belonging to international organisations. Flip charts were used to record the discussion points from each group, and the discussions were moderated by Professor Peter Windsor and Dr Harish Tiwari, with support from WOAHSRRSEA staff when required. The outputs of the focused group discussion are presented in [Annex 5](#) of this report.

Session XI: Enhancing FMD Prevention and Control

During [session XI](#), the participants were divided into three groups to discuss and brainstorm on three identified topics namely Group 1 - Strengthening collaboration and coordination among FMD free countries and other neighboring FMD endemic countries; Group 2: Progression to next PCP stage during the sixth phase of SEACFMD Campaign; and Group 3: How Public-Private- Partnership can support FMD Prevention and Control. The members and partners had an opportunity to discuss the current state of play, key challenges faced and solutions to address those challenges for the identified topics by the respective groups. The highlights of the Group Work session were presented by the Rapporteurs during the plenary session. The outputs of the each of the Groupwork are available in [Annex 6](#).

Session XII – Launching of SEACFMD Portal

Dr. Ronello Abila provided a brief introduction of the SEACFMD portal. Several enhancements have been made thus far since its initiation in March. He stated that the portal's goal is to gather all of the SEACFMD resources in one platform for the benefit of its users, the SEACFMD members (Delegates, national Coordinators, laboratory network and other stakeholders). He added that the portal aims to provide knowledge-based support and strengthen networking and coordination amongst SEACFMD Members and partners. The SEACFMD portal will be updated periodically and will serve as a comprehensive library for FMD resources.

All attendees were then shown a brief movie introducing the Portal and its contents. The link to the portal was then sent to participants, and it was confirmed that it could be accessed. The contents of the portal website were then shown in live demonstrations. Participants were advised to get in touch with WOAHP to resolve any issues if they couldn't access the portal.

Session XIII: Enhance timely reporting and detection

Disease Reporting system in Malaysia - Dr Jamaliah Senawi

Dr Jamaliah provided an overview of the disease reporting system in Malaysia, starting with the legal basis and SOPs in place for disease reporting. She also showcased the information flow between levels and different sectors in the country ([Presentation available here](#)).

Thailand's National animal health information system - Dr Tosapol Dejyong

Dr Tosapol showcased a summary of the disease reporting workflow in Thailand and the systems that are used in various levels along with an application that is being used by public for notification of diseases y ([Presentation available here](#)).

Reporting to the World Animal Health Information system – Official data and epidemic intelligence activity – Dr Paolo Tizzani

WOAH epidemic intelligence activity was presented by Dr Paolo Tizzani, which is aimed at improving the quality of information reported by Members to the World Animal Health Information System. This is supported by tracking of information on animal health through various sources (platforms and media) wherein it goes through the process of authentication and triage followed by immediate notification published by WOAHP. He ended the presentation with challenges and opportunities on this activity ([Presentation available here](#)).

Regional Disease Reporting System – Dr Bolortuya Purevsuren

Dr Bolortuya presented the regional disease reporting system starting with ARAHIS timeline and the process of authentication of data. She also presented opportunities to improve the regional disease reporting system.

Questions were raised on the inter-operability of the systems developed in the region and the global system to which the development of new functions on the ARAHIS is being worked upon. Discussions could be held with other networks like laboratory networks to share data and link the systems y ([Presentation available here](#)).

Mentimeter Session

Using mentimeter, participants were invited to share their views on the following questions: 1) Challenges in timely reporting 2) How can we enhance timely reporting and 3) how to improve regional reporting system?

A summary of responses are provided below:

Challenges in timely reporting	How can we enhance timely reporting	how to improve regional reporting system?
<ul style="list-style-type: none">• Willingness to report• Lack of awareness• Regulations	<ul style="list-style-type: none">• Increased awareness/communication and networking• Simplify process• Resources and good feedback	<ul style="list-style-type: none">• Simplify the system and process• Networking and collaboration – enhance communication• Advocacy – within govt policies• Connect with other global reporting systems

Detailed Menti results can be found in [Annex 7](#).

Following the Mentimeter session, participants deliberated on the importance of timely reporting of disease event including the follow-up reports as well as different steps to enhance and improve reporting at the country and regional level. Dr Abila reiterated the importance of timely reporting to regional or global platforms and for Members to update the information shared to ARAHIS.

Session XIV: Closing of the Meeting and Way Forward

Summary of Priority Action Plan

Dr Abila presented the priority actions to be implemented in the next 6 to 8 months including Advocacy, communications, improving early reporting, enhancing disease prediction and access to quality vaccines in the region.

Conclusions and Recommendations

Dr Karma Rinzin presented the draft recommendations of the 25th SEACFMD National Coordinators Meeting for review of the participants. Twenty three recommendations were eventually proposed and endorsed in plenary: 5 for all countries, WOA and partners; 7 for SEACFMD Members; 4 for FMD-free countries; 3 for FMD-infected countries and 4 for WOA and partners.

Closing of the Meeting

Dr Ronello Abila, Sub-Regional Representative for South-East Asia, thanked the Government of Indonesia for hosting the first physical meeting after COVID, and making this a historical and memorable event. He also thanked all the participants (presential and virtual participants), donors and non-SEACFMD members for contributing to the fruitful sessions of the meeting and for fostering a network of SEACFMD, working together to control FMD. He added that more work will be done in building trust and advocacy. He also added that the next 6-12 months will be challenging to implement the key priorities and recommendations that were agreed upon and that we look forward to working together as always, until the next NC meeting which will be conducted together with the SEACFMD Sub-commission meeting.

On behalf of SEACFMD Sub-Commission President, Dr Jamaliah Senawi thanked SEACFMD Members, partners and donors for all the hard work that has been done till now to make good progress in the SEACFMD campaign and for the wished for the similar hard work and commitment in the coming years. She also highlighted the importance of building trust and working with each other.

On behalf of the host country Indonesia, Dr Pebi Suseno expressed their gratitude to WOAHA for holding this important event in Indonesia and to participants for their presence and contributions for the effort to control FMD in the region. Noting that Livestock contributes to food security, poverty reduction, and agriculture development, he added that we must make sure that our efforts to control FMD, as the biggest threat to Livestock development, can be implemented effectively and sustainably in all countries in the region.

ANNEXURES

Annex 1: Meeting Programme of the 25th SEACFMD National Coordinators Meeting

Day 1: 3 October 2022

Time	Topics	Speakers/ Responsibility
8.00 – 8.30	Registration of Participants	
Session I	Opening Session	
8.30 – 9.00	Opening session <ul style="list-style-type: none"> • Welcome remarks by host country • Remarks by WOAHA Representative • Official opening by the Delegate of Indonesia 	DGLAHS WOAH DGLAHS
Session II	Introductory session and Update on FMD situation	
9.0 – 10.00	<ul style="list-style-type: none"> • Objective of the meeting • Review of SEACFMD campaign progress – follow-up of the earlier recommendations • Global FMD situation • Regional FMD situation 	WOAH SRR SEA WOAH SRRSEA Pirbright WOAH SRRSEA
10.00 – 10.30	Coffee break	
Session III	Country Reports	
10.30 – 12.00	SEACFMD Members (endemic countries) <ul style="list-style-type: none"> • Cambodia • China • Laos • Malaysia • Mongolia • Myanmar • Thailand • Vietnam Q&A session	SEACFMD National Coordinators
12.00 – 13.00	Lunch	
Session IV	FMD Preparedness and SEACFMD Campaign Progress	
13.00 – 14.30	SEACFMD members (FMD free countries) <ul style="list-style-type: none"> • Brunei • Philippines • Singapore Non-SEACFMD members (FMD free countries) <ul style="list-style-type: none"> • PNG • Timor Leste 	SEACFMD National Coordinators
14.30 – 15.00	Coffee Break	
Session V	Enhance FMD preparedness and Response	

15.00 – 17.00	<p>Lesson from FMD incursion in FMD free countries</p> <p>Lessons from incursion of new strains of FMDV in endemic countries</p> <p>World Café Session</p> <ul style="list-style-type: none"> • Enhance Predict • Enhance Prevention • Enhance Rapid detection and response 	<p>Indonesia</p> <p>WOAH SRR SEA</p> <p>Participants</p>
	Reception dinner	

Day 2: 4 October 2022

Time	Topics	Speakers/ Responsibility
Session VI	Updates from the Partners	
9.00 – 10.00	<ul style="list-style-type: none"> • Food and Agriculture Organizations • Australian Centre for Disease Preparedness • Lanzhou Veterinary Research Institute • Pakchong FMD Laboratory 	TBC
10.00 – 10.30	Coffee Break	
Session VII	Updates on the findings of the studies undertaken in the region	
10.30 – 12.00	<ul style="list-style-type: none"> • Research Institutions • Partners/ Private Sectors • SEACFMD Campaign Evaluation Team 	TBC
12.00 – 13.00	Lunch	
Session VIII	Rolling of SEACFMD Roadmap 2021-2025	
13.00 – 14.00	<p>Implementation of SEACFMD Roadmap 2021-2025</p> <ul style="list-style-type: none"> • Regional level • Country level 	WOAH SRR SEA National Coordinators
14.00 – 15.00	<p>M&E Framework and indicators</p> <p>Finalise M&E Indicators baseline and targets</p> <ul style="list-style-type: none"> • Country level • Regional level 	WOAH SRR SEA National Coordinators
15.00 - 15.30	Coffee Break	
Session IX	Break Out Session	

15.30 – 17.00	<p>Group 1: Strengthening collaboration and coordination among FMD free countries from SEACFMD and non SEACFMD countries and other neighboring FMD endemic countries including those countries with recent FMD incursion to enhance early warning and reaction.</p> <p>Group 2: Progression to next PCP stage during the sixth phase of SEACFMD Campaign</p>	<p>FMD free countries and neighbouring countries</p> <p>FMD endemic countries</p>
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Day 3: 5 October 2022

Time	Topics	Speakers/ Responsibility
Session X	SEACFMD Portal and Tool Box	
9.00 – 9.30	Introduce and launch <ul style="list-style-type: none"> • SEACFMD Portal • SEACFMD Toolbox 	WOAH
Session XI	Enhance timely reporting and detection	
9.30 – 10.30	Explore approaches to enhance timely reporting and detail investigation of reported outbreaks (ARAHIS, WAHIS and National Information System).	National Coordinators and Participants
10.30 – 11.00	Coffee Break	
Session XII	Closing and Way Forward	
11.00 – 12.00	Conclusions and Recommendations Closing of the Meeting	WOAH SRR SEA

Annex 2: Participants lists

Country/Organisation	First name	Family name	Position
BRUNEI	Diana	Dennis	Head of Livestock Industry and Veterinary Services (National Coordinator for SEACFMD)
BRUNEI	Raihan Zuhairah	Haji Zulkfili	Veterinary Officer
CAMBODIA	Chan	Bun	Deputy Director of National Animal Health and Production Research Institute
CHINA	Dang Wen		Associate Researcher
CHINA	Youming	Wang	
CHINA	Quangang	Xu	
CHINA	Shengbin	Gao	
CHINA	Victor-ZhangWei		
CHINA	Jijun	He	
INDONESIA	Nuryani	Zainuddin	Director of Animal Health
INDONESIA	Pebi Purwo	Suseno	Senior Veterinary Officer
JAPAN	Kazuki	Morioka	Deputy leader of Exotic Disease Group
KOREA	Subeom	Lee	assistant director
LAO PDR	Souryasack	Chayavong	Director of Division of Veterinary Service
MALAYSIA	Jamaliah	Senawi	FMD National Coordinator for Malaysia
MYANMAR	Ye Tun Win		Director General
PAPUA NEW GUINEA	Ilagi	Puana	CVO
PHILIPPINES	Arlene Asteria	Vytiaco	Head, Veterinary Epidemiology Section, Animal Health and Welfare Division
SINGAPORE	Hui En Christine	Lee	Senior Veterinarian
THAILAND	Tosapol	Dejyong	Veterinarian (Professional)
THAILAND	Kingkarn Boonsuya	Seeyo	Veterinary Officer
TIMOR LESTE	Joanita Bendita	Da Costa Jong	National Director of Veterinary, Ministry of Agriculture and Fisheries of Timor-Leste, WOA Delegate
VIETNAM	Nguyen	Thanh Phuong	Manager Laboratory of Regional Animal Health Office No 6 (RAHO6)

Country/Organisation	First name	Family name	Position
BOEHRINGER INGELHEIM	Emilie, Madeleine	VEILLAT	Boehringer Ingelheim, VPH Head of ASEAN
CSIRO	Wilna	Vosloo	Group Leader
CSIRO	Phoebe	Readford	Group Leader - International Program, Australian Centre for Disease Preparedness
DAFF	Beth	Cookson	Deputy Australian Chief Veterinary Officer
DAFF	Gary	He	Senior Veterinary Officer
DFAT	Donna	Bennett	Counsellor (Biosecurity) Australian Embassy Jakarta
EVALUATION TEAM	Peter	Windsor	Professor Emeritus
EVALUATION TEAM	Harish	Tiwari	Consultant
FAO	Lucas	Schoonman	FAO ECTAD Indonesia Country Team Leader
FAO	Huachun	Li	Animal Production and Health Officer
FAO	Paolo	Motta	Regional Animal Health and Production Specialist
MASSEY UNIVERSITY	Supatsak	Subharat	Senior Lecturer
MLX	Simon	Quilty	Managing Director
MSD	Irfan Wahyu	Wijaya	Intervet Indonesia/MSD AH Indonesia
PIRBRIGHT	Donald	King	Head of WRLFMD
WOAH	Ashish	Sutar	Capacity Building Coordinator
WOAH	Bolortuya	Purevsuren	SRR Project officer
WOAH	Jacqueline	Lusat	Animal Health Information Officer
WOAH	Karma	Rinzin	Regional Animal Health Coordinator
WOAH	Kinley	Choden	Animal Health Officer
WOAH	Onsiri	Benjavejbhaisan	Finance Officer
WOAH	Ronello	Abila	Sub-Regional Representative
INDONESIA - OBSERVER	Aprizal	Panus	Subkoordinator Informasi Veteriner
INDONESIA - OBSERVER	Arif	Wicaksono	
INDONESIA - OBSERVER	Azfirman	-	Observer
INDONESIA - OBSERVER	Dinar		
INDONESIA - OBSERVER	Edy Budi	Susila	Head of Center For Veterinary Biologics (Pusvetma)

Country/Organisation	First name	Family name	Position
INDONESIA - OBSERVER	Enny	Saswiyanti	
INDONESIA - OBSERVER	Hendra	Wibawa	Director of Disease Investigation Center Wates
INDONESIA - OBSERVER	I Nyoman	Dibia	
INDONESIA - OBSERVER	Ira	Firgorita	
INDONESIA - OBSERVER	Irpansyah	Batubara	
INDONESIA - OBSERVER	Maidaswar		
INDONESIA - OBSERVER	Margaretha	Rere	Veterinary officer
INDONESIA - OBSERVER	Mario	Lintang Pratama	
INDONESIA - OBSERVER	Megawaty	Iskandar	Medik Veteriner
INDONESIA - OBSERVER	Muhammad	Hidayat	Senior Vet Officer
INDONESIA - OBSERVER	Mujiatun	-	Quarantine Veterinarian
INDONESIA - OBSERVER	Putut	Eko Wibowo	
INDONESIA - OBSERVER	Rudi	Harso Nugroho	Observers
INDONESIA - OBSERVER	Sapto Rini	Budi Prasetyowati	Center for Veterinary biological
INDONESIA - OBSERVER	Suryantana		
INDONESIA - OBSERVER	Syamsul	Ma'arif	
INDONESIA - OBSERVER	Wisnu	Wasisa Putra	
INDONESIA - OBSERVER	Yulizar		
INDONESIA - OBSERVER	Yuni	Yupiana	veterinary officer

Annex 3. Outputs of the World Café Session – enhancing FMD Preparedness and Response

Booth	Challenges	Measures
Booth 1 – Enhance Prediction	<p>Awareness of the various stakeholders in the entry points</p> <p>Complacency Diagnostic exclusion</p> <p>Geographical situation in each country</p> <p>Online trade</p> <p>Dynamic changes of livestock trading</p> <p>Under resourcing</p> <p>Climate influence</p> <p>Religious celebration</p> <p>Lack of the transparency between countries</p> <p>Communication</p>	<p>IEC to all stakeholders</p> <p>Advocacy for priority of FMD and other diseases</p> <p>Identify high risk entry/exit points</p> <p>Identify illegal routes</p> <p>Setting up system to monitor trading system (market analysis)</p> <p>Targeted regulations</p> <p>More budget</p> <p>Networking</p> <p>Cross-Border communication and bilateral relations</p> <p>Good record keeping practices/reporting and real time analysis</p> <p>Invest disease/climate modelling</p> <p>New technologies to detect eg..Artificial intelligence capability</p> <p>SOPs animal movement system</p> <p>Additional elements:</p> <p>Identify risk pathways</p> <p>Disease scanning</p> <p>Monitoring prices</p> <p>Value chain analysis</p>
Booth 2 – Enhance Prevention	<p>Lack of finding /human resources with trained</p> <p>Lack of transparency</p> <p>Insufficient Regulatory environment</p> <p>Lack of the effective coordination and risk communication/regular communication between two countries</p> <p>Lack of the political support</p>	<p>Awareness</p> <p>Sustainable training /implement enforcement /enhance veterinary authorities district level</p> <p>Cost benefit analysis/Socio economic impact</p> <p>Advocation for regulatory/decision makers</p> <p>Improving legislation</p> <p>Improve border security</p> <p>Risk analysis, Risk modelling, Risk based Management</p>

	<p>Lack of early detection/information/surveillance/disease monitoring system</p> <p>Lack of balance between intervention priorities</p> <p>Lack of animal control movement control</p> <p>Increase disease burden</p> <p>Lack of the evaluation on the impact</p> <p>Poor biosecurity</p> <p>Lack of disease understanding</p> <p>Access quality of vaccine, incorrect vaccine administration, low coverage, low immunity</p>	<p>Disease surveillance border area, regional agreement controlling animal movement</p> <p>Collaboration/communication multiple stakeholders/sectors</p> <p>Sustainable approach</p> <p>Lack of the control live animal market</p>
Booth 3 - Enhance Rapid detection	<p>Lack of funding</p> <p>Lack of information system</p> <p>Lack of disease understanding /Acceptance disease and tests</p> <p>Limited trained manpower</p> <p>Geographical barrier/remote area hard to access</p> <p>Lack of lab diagnostic capacity including reagents, human resources and tools,</p> <p>Testing time, cost of test, lack of expertise, poor samples,</p> <p>Rapid test is not available for the field</p> <p>Report delays from farmers</p> <p>Lack of response from local authorities</p> <p>Stakeholders' agreement has different drivers</p> <p>Lack of incentives</p> <p>Lack of awareness small scall farmers</p> <p>Lack of active, passive surveillance</p>	<p>Legislation for reporting, support reporting by farmers, negative reporting, Incentives for reporting/Understanding the drivers not reporting , Provide information system, invest new technologies</p> <p>Good and sustainable planning</p> <p>Surveillance high risk area</p> <p>Lab capacity building/training on collect samples/clinical diagnosis/stock piling reagents</p> <p>Drone surveillance/harmonize test methods between laboratories/syndromic surveillance /Regional lab support</p> <p>More funding</p> <p>Public awareness, advocacy decision makers,engaging social media campaign, influence customers</p> <p>Sharing best practices</p>
Booth 4 - Enhance Rapid response	<p>Limited human resource</p> <p>Lack of effective coordination</p> <p>Lack of quality samples</p>	<p>Data sharing on animal movement/disease data</p> <p>Initiate target-access resources.</p>

	<p>Limited emergency fund Hard to access Vaccines Administration bureaucracy Lack of epidemiological investigation Lack of animal movement control Lack of data sharing Lack of technical resources Miss allocation of funding Lack of biosecurity Lack of understanding on response -No SOPs Unclear legislation Lack of time to collect and test samples Geographical challenges to get to animals Lack of integration IT system</p>	<p>Response/Plans&SOPs and legislation in place, update and test regularly Strict enforcement of animal and animal products Vaccine banks-establish strategically Political mandate Adequate funding IEC /Coordination Regional partners /Public awareness Clear communication between Government agencies for coordination Enable easy to access to emergency funds Clear positive cost benefit of the control policy</p>
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Annex 4: Outputs of the Group Work to assess M&E indicators for the SEACFMD Roadmap 2021 – 2025

Objective/ Outcome/ Outputs	Indicator	Relevancy	How to measure?	Data collection
Strategic Objective 1: Reinvigorated FMD prevention and control in SEACFMD member countries.	I.1 PCP-FMD stage, progress within a stage or FMD-free status, of each SEACFMD member country, annually.	Yes, because it is established tool. Harmonized approach	WOAH, FAO and PCP pathway	Annually, Written frequency,
Outcome 1: Improved surveillance, movement control, vaccination, and preparedness/ response to FMD.	I.2 Prevalence of FMD at national, zone, and regional levels, annually/ Number of FMD outbreaks reported by the Members	Yes, depends on the accuracy of the data, depending on the epi unit of the respective country, time to report. Indicator not match the outcomes	ISIKNAS, national reporting system, validated with WAHIS, epicollect5	Realtime data
Output 1.1: Fit-for-purpose and sustainable FMD surveillance system established	I.3 Percentage of reported outbreaks with full investigation including virus characterization, annually.	Yes, accuracy and completeness of the data, percentage not be relevant because it will be depend on the outbreak (proportion)	Based on the reported cases	Realtime data, laboratory data
Output 1.2: Incentives and pathways of livestock movements understood, and official animal movements promoted	I.4 Number of agreement signed between the countries to facilitate livestock trade and legal movement of livestock	Yes, relevant to both countries to facilitate safe trade and legal animal movement	Information sharing through official government gadget	
Output 1.3: Robust vaccination strategy developed, including access to quality vaccines and vaccination data management and analysis	I.5 Number of targets in the National Vaccination Strategy achieved annually at country level	Vaccination strategy includes; vaccination coverage, vaccination policy, need to check on harmonisation in the region	Vaccination records, type of vaccines, vaccination protocols,	Annually, veterinary services provides the data, Realtime

<p>Output 1.4: Preparedness and response capacity to both endemic and new FMD viral strains developed.</p>	<p>I.6 Members have functional preparedness and response capacity to endemic and new FMD viral strains.</p>	<p>Understanding strains is critical</p> <ul style="list-style-type: none"> - FMD vaccine provide protection against specific serotype and strains <p>Countries in the region are challenged by endemic and exotic viruses, ex. 2001E</p> <p>Laboratory support to characterise circulation of viruses</p>	<p>Regulations</p> <p>Availability of laboratories with adequate capability</p> <ul style="list-style-type: none"> - lab proficiency test to assess capability - trained manpower <p>Regional specific material exchanged to harmonise results</p>	<p>Number of samples submitted and characterised</p> <p>Number of people trained in laboratory techniques, sample collection, and transport</p> <p>Regional exchange of data (surveillance and vaccine matching)</p>
<p>Outcome 2: Improved ownership and enabling environment at national level</p>	<p>I.7 National FMD Plan aligned with the SEACFMD Road Map (2021-2025) that has been endorsed by their Ministries with a budget allocation.</p>	<p>Yes quite relevant</p>	<p>How many countries have control measures that have been revised that align with SEACFMD Road Map by 2025.</p> <p>Have Scenarios or simulations to test it.</p> <p>A measure of increase in budget allocation</p> <p>A measure of increase in workforce – resource availability and capacity.</p>	<p>Interviewing the Ministerial level / Presidential level – endorsement by Ministerial level.</p> <p>Post-mortem assessment / Evaluation of what have been done in the scenarios.</p> <p>Documentation of lessons learnt – can make use of academia / PhD studies to do research on it.</p>

Output 2.1: Country ownership of the SEACFMD Campaign enhanced.	I.8 National FMD Control Programme is endorsed by the Ministries/ Government	Yes very relevant Endorsed quite a big word. So may state as delivered or demonstrated instead of just endorsed.	Progress towards along the same PCP or moving up to next step in PCP Ladder	Data on monitoring and scientific disease investigation. Committee may propose scientific way of moving along and moving towards the PCP as well – evidence-based.
Output 2.2: National Veterinary Service capacities assessed and recommendations from PVS Evaluation implemented.	I.9 Number of PVS self evaluation or external follow-up evaluation conducted	Yes highly relevant. May want to change the wording from evaluation only to evaluation conducted and action.	Numbers of actual evaluations done and follow up evaluations whether internal or external.	Cost-benefit analysis invested in biosecurity or veterinary services and its return. Program to work towards self- or external evaluation of PVS
Output 2.3: National legislation related to FMD (and other related TADs) reviewed and revised.	I.10 National legislation related to FMD (and other related TADs) have been reviewed and revised.	Legislation will need to be endorsed. May alter the wording to include implemented.	Number of compounds have been issued.	Biosecurity compounding data. Records of enforcement e.g. animals seized or returned. Press articles for awareness purposes and social media articles.

<p>Output 2.4: Multi-disciplinary and multisectoral efforts implemented for control of FMD (and other related TADs).</p>	<p>I.11 Number of activities/ partnerships co-organized with the public and private sectors.</p>	<p>Optimising limited resources is critical Exchanging best practices and synergies Stakeholders knowing their roles</p>	<p>One common task force Well layer out policies, regulations, and SOP Engagement of stakeholder to influence policy Number of relevant stakeholders and private sectors Number of meetings of stakeholders</p>	<p>Regular surveys (published) Regular of policies, regulation, SOPs (published)</p>
<p>Output 2.5: Cost-efficient synergies with other livestock activities implemented</p>	<p>I.12 Number of activities identified and implemented that are in synergy (FMD and other TADs activities)</p>	<p>Flexibility of response, prevention, and detection (efficiency) Better utilisation of all resources (saving money and time) Ability to prioritise</p>	<p>Comparing time response within country and across See point 2.4</p>	<p>Collect response time See point 2.4</p>
<p>Output 2.6: Pool of regional experts actively involved in SEACFMD activities.</p>	<p>I.13 Number of national experts who have been included in regional and national FMD activities, annually.</p>	<p>Relationship (build trust) to share data Updated information (transboundary information) - timely Builds confidence in stakeholder (farmers, etc) - credibility</p>	<p>Updated information of webs sites/regional document Succession planning for new/future experts peer reviews of selection process</p>	<p>Number of hits on websites/contacts/queries Regional meetings (workshop and seminars) – organised and attended Engagement of other expert in FMD regions (pools meetings)</p>
<p>Outcome 3: Improved regional coordination.</p>	<p>I.14 Number of key decisions/ initiatives implemented to enhance FMD and other related TADs control through various</p>	<p>Relevant. Setting of specific target for recommendations implemented?</p>	<p>Instead of number, to measure %. Member questionnaires,</p>	<p>SEACFMD Coordination Meetings</p>

	<p>regional collaboration and coordination</p> <p>I.14a Number of SEACFMD-agreed recommendations from regional coordination meetings are translated/adopted to national plans</p>	<p>Difficulty of capturing qualitative data (e.g. level of transparency in meetings)</p>	<p>surveys on national implementation plans</p>	
<p>Output 3.1: ASEAN support reaffirmed, including allocation of appropriate resources</p>	<p>I.15 Endorsement of the SEACFMD Roadmap by the ASEAN SOM-AMAF.</p> <p>I.16 Members use this roadmap / succeed in using the roadmap to secure fund commitment from their respective Govt.</p>	<p>Relevant.</p> <p>Relevant.</p>	<p>Meeting reports, Country reports</p>	<p>SEACFMD Coordination Meetings</p>
<p>Output 3.2: Regional coordination platforms effectively functioning.</p>	<p>I.17 Actionable decisions and recommendations agreed at SEACFMD coordination meetings (Sub Commission, National Coordinators, LabNet and EpiNet), and that were implemented annually.</p> <p>I.17a Regularity of SEACFMD coordination meetings conducted</p>	<p>Relevant. How to measure if regional platforms are providing value/benefit to member countries?</p> <p>Relevant.</p>	<p>Instead of number, to measure %.</p> <p>At least 1 SEACFMD Sub Comm, NC, LabNet and EpiNet meeting every year. Meeting reports, Country reports</p> <p>Regular member questionnaires/ surveys of benefit,</p>	<p>SEACFMD Coordination Meetings</p>

	I.17b Active and sustainable SEACFMD Platform (e.g. for sharing of information, data resources)	Relevant to promote information sharing and collaboration outside of SEACFMD meetings	improvement of data-sharing platform. Level of usage/visitation of SEACFMD Platform for data-sharing.	
Output 3.3: Active collaboration established and maintained with key partners for the prevention and control of FMD and other related TADs.	I.18 Number of joint or collaborative activities implemented with partners to enhance FMD and TADs control I.18a Number of studies/research or training and capacity building involving species related to FMD	Relevant. Joint sharing of examples of bilateral activities relevant to FMD (e.g. for specific regions, Indonesia – Timor Leste joint surveillance).	Meeting reports, Country reports, Research presentations	SEACFMD Coordination Meetings
Output 3.4: Cooperation with non-SEACFMD members established.	I.19 Number of non- SEACFMD members who participate in the SEACFMD sub-commission annual meetings. I.19a Number of joint or collaborative activities/studies/research or training and capacity building implemented with non-SEACFMD members (i.e. South Asia) (based on trans-pool movement)	Relevant.	Meeting reports, Country reports, Research presentations	SEACFMD Coordination Meetings

Annex 5: Outputs of the Focused Group Discussion on the evaluation of the SEACFMD Campaign from 1997 to 2020

The participants were grouped in their origin and affiliations, representing: (a) FMD free countries; (b) FMD endemic countries; and (c) those from international organisations. The recommendations from this FGD for each the domains were:

i) Disease surveillance

The endemic countries recommended an improvement in real time reporting and frequent implementation of active surveillance activities. It was observed that surveillance activities suffer from lack of funding, with provision of adequate resourcing and support through international cooperation is essential for a robust surveillance system. The FMD free countries recommended improving resources and capacities for disease surveillance, favouring advanced technologies and conducting of studies to *determine* existing drivers and constraints to reporting. Other recommendations for enhancing surveillance include increasing the collection, analysis and sharing of disease risk information, *with* regular revision of regional perspectives on surveillance capabilities.

ii) Border quarantine facilities:

Improved facilities for border quarantine ranked high on the priority list of all stakeholders. The endemic countries recommended improvement in the capacity and capability of border checkpoints to prevent incursions. This could be achieved through greater resourcing of routine inspections and the conduct of risk analyses. The FMD-free countries suggested increasing the penalties for individuals and traders not complying *with* the provisions of border checks. International organisations suggested advocacy for increased governance of and assistance to, bilateral and multilateral agreements between countries sharing borders for mutually agreed border protection procedures. Overall, it was considered very important to reinvigorate initiatives aimed at understanding the pathways for FMD and other TAD transmission, to assist in designing suitable biosecurity interventions including border checks, quarantine, animal identification and mandatory vaccination certification.

iii) Public awareness

In addition to existing approaches to improve public awareness, using social media tools and IEC, were suggested as strategies that enable ready-to-use resources to be created for rapid deployment. The emphasis should be on developing systems that incentivise disease reporting, facilitate passive surveillance, and provide a trusted information sharing mechanism.

iv) Animal disease diagnostic facilities:

Improvement of the quality and capacity of diagnostic facilities was recommended by all stakeholders, including: introducing novel tools, enhancing laboratory and epidemiological networks, provision of equipments and reagents, and improving diagnostic techniques, the sharing of data, and the upgrading information systems to support early detection and reporting.

v) Advocacy for political commitment:

There is an urgent need to enhance communication approaches to the political leadership of member countries, promoting clearly defined goals and tangible outcomes in TAD preparedness and response (e.g., progression on the PCP) . Despite consideration that national priorities and objectives are a sovereignty concern, advocacy plans that are tailored to member country needs and that includes cross-sectoral impact along with prioritising FMD control, should be designed. Developing training programs and workshops for veterinary leadership to learn tools of brief but effective communication of key points to political leadership, may be of assistance.

vi) Biosecurity

Despite substantial progress on improving biosecurity practices in animal husbandry, it is important to continue to sustain and promote the mechanisms to avoid institutional and operator memory loss. The use of regular public awareness campaigns on biosecurity, updating of the existing SoPs on good biosecurity practices, and incentivising the supply chain participants to adopt improved biosecurity, is highly recommended.

vii) FMD vaccination:

It is recommended that existing vaccination strategies be evaluated, especially consideration of prophylactic vaccinations in free areas that are vulnerable to FMD incursions and promotion of the importance of a second vaccination when vaccinating a naive population. There is a need for regular mapping of vaccine developments, including identification of companies, target species, geographies covered, and costs incurred. Strategies for appropriate vaccine selection and specifications, post-vaccination monitoring and assessment of strategies should be developed.

viii) Regional alignment of national FMD policies

Whilst alignment of national policies towards regional objectives is an essential goal, it requires regularly revisiting of individual TAD national policies. It was also recommended that studies be instituted to improve understanding of: cross-border marketing systems; barriers to implementation of national TAD policies; and promotion of increased application of existing WOAHA tools (e.g., PVS/PCP). At the regional level, the communication mechanisms between regional and national bodies needs revision to promote improved bilateral and regional collaborations. It is suggested that a guideline/SoP be developed to achieve effective alignment of policies at the regional level.

ix) Veterinary animal health services

Improvement of the animal health services across the region is a challenge that needs mitigation through improved training and resourcing of the frontline workforce and supporting services. It can be achieved through provision of continual programs of online training and face-to-face workshops, whilst adhering to the recommendations from the PVS evaluations and regularly visiting FMD national plans. The improvement of cross-sectoral communication within the veterinary services and increasing public private partnerships to facilitate increased engagement and coordination to improve animal health was recommended. Another important suggestion was to improve cooperation between developed and developing countries during periods of TAD crises, leveraging the services from those countries in the region with more advanced veterinary services.

x) Advocacy for financial commitment

The suggestions to attract financial commitment for the campaign varied between stakeholders from international organisations and from that of endemic countries. The representatives from FMD endemic countries recommended sustained funding through: identification of potential national/international donors interested in social license issues (animal welfare/One Health/food security); instituting cost-benefit analysis and ensuring sustainable funding; establishing realistic targets and demonstrating economic and social benefits; and wider publicity of success stories of countries that have achieved successful beneficial financial commitment from TAD control and eradication. Those *from* international organisations recommended *reduced* reliance on external funding and *promotion of* feasible business options for livestock farmers, increasing *their* professionalism.

xi) Animal movement control

Animal movement control within and across affected countries could be improved through increased penalties, delivery of more effective policies and regulations; instituting value chain and risk mapping studies; and developing and delivering an integrated regional animal traceability system to improve *regional TAD biosecurity*.

Annex 6: Outputs of the Group work on enhancing FMD Prevention and Control

Group 1: Strengthening collaboration and coordination among FMD free countries and other neighboring FMD endemic countries

Participants: Indonesia, Malaysia, Timor Leste, Singapore, Philippines, Australia, CSRIO-ACDP, New Zealand, Massey University

Current state of play	Main challenges	Solution/ Recommendations
<p>Vaccine stocks Difficulty in obtaining vaccines in the face of an outbreak due to supply, regulatory and distributor contractual issues</p> <ul style="list-style-type: none"> - Vaccine matching - Post-vaccination monitoring and surveillance <p>Diagnostic capacity to confirm FMDv strains</p> <ul style="list-style-type: none"> - Training for provincial / local laboratories <p>Building Trust among the SEACFMD network</p> <p>Practical application of WOAHA standards</p> <ul style="list-style-type: none"> - Sharing of experiences on how to establish/set up FMD free zones (without vaccination) or containment zones / protection zones 	<ul style="list-style-type: none"> - Lack of vaccine buffer stock - Difficulty in handling multiple serotypes - Limited laboratory capacity for testing - Speed of decision to action 	<p>Vaccines stocks</p> <ul style="list-style-type: none"> - Revisit possibility of vaccine / antigen bank for the region, to also meet minimum quantity for manufacturer distribution - Mechanism to prevent wastage of stock-piled vaccines (e.g. rolling stocks) - Pre-qualification/registration of vaccines for emergency use (e.g. pre-identification of serotypes) <p>Diagnostic capacity</p> <ul style="list-style-type: none"> - Standing arrangements with other laboratories to confirm FMDV - Establish and test SOPs for collecting / handling / testing samples <p>Building Trust</p> <ul style="list-style-type: none"> - Strengthen bilateral trust / relationships / arrangements during peacetime (e.g. through regional animal health network, technical-level/informal) <p>Standards and guidelines</p> <ul style="list-style-type: none"> - Need for supporting countries to understand local context - More training on zoning / compartmentalisation arrangements: - Sharing of training / practical experiences on zoning/compartmentalization - Need to understand industry / local context

Group 2: Progression to next PCP Stage during the sixth phase of SEACFMD Campaign

Participants: Cambodia, Laos, Myanmar, Vietnam

Country	Key strategies	Key challenges	Solution/ Recommendations
Cambodia Current PCP stage – 1 PCP Stage Target in 2025 – 2	Improve epidemiological data collection, National Reporting system, (ADB; Lab capacity, LIMS), Develop Risk Based Strategic Plan (RBSP) plan to move to PCP stage 2.	Not enough vaccine, HR (Related Government), Budget, New staff by contract only,	RBSP plan; International to develop and improve Take note: Motivation and Driver amongst VS and policy makers to move or maintain the PCP stage
Laos Current PCP stage – 2 PCP Stage Target in 2025 – 3	Planning, Data collection (Regional reporting), Vaccination, RBSP implementation, Donor; (ADB project)	Budget(Not enough Vaccine, Less HR (Experient and Staffing problem, Limitation of position about approval)	Related with Budget(PPP), Explore to collaborating private company, Training for village level,
Myanmar Current PCP stage – 2 PCP Stage Target in 2025 – 3	National plan; Control Zoning plan and implementation (Surveillance, Data, awareness, communication) 40 Division, 35 District	Access to Quality Vaccine, Not enough vaccine, Budget for sus	Collaboration with PPP, Production of vaccine could be support from partner
Vietnam Current PCP stage – 3 PCP Stage Target in 2025 – 4	Vaccination, PVM, Funding, Buffer Zone/ High risk at the along international border, country/ Government Funding; Access to vaccines- BI, Domestic company and Argentina), Biosecurity and Biosafety farm did not use vaccine, Government support domestic farm. Prime Minister decree (legal mechanism in place) for national FMD control plan	New FMDV strain changing relate Illegal movement, not operation cost of vaccine), Not coverage vaccine in the country	Capacity training, New strain differentiate information, Vaccination Plan at the high- risk vaccination (Pig, Cattle, Buffalo); Twice per year. Take note: Motivation and Driver amongst VS and policy makers to move or maintain the PCP stage.

Group 3: How Public-Private- Partnership can support FMD Prevention and Control?

Participants: Mongolia, Thailand, China, Japan, ACDP, FAO, Australia, Vaccine Manufacturers, Livestock Industry Group, Massey University

Current state of play	Main challenges	Solution/ Recommendations
<ul style="list-style-type: none"> 2. PSCC at regional level 3. Private sectors have some involvement in FMD control in some Members (e.g. Thailand, Indonesia) 4. Different type of private stakeholders need to be regarded and engaged specifically (livestock holders, traders, AH service providers, VMP producers and distributors) 5. Communication and engagement with private sector stakeholders is weak and benefits of FMD control for livestock stakeholders are poorly communicated 	<ul style="list-style-type: none"> 1. Regulatory frameworks differ between countries (e.g. vaccine registration procedures), could prevent PPPs? 2. Mandate of public sector AH service providers vs private sector AH service providers for disease control (e.g. allowed to use vaccines?) 3. Sustainability and viability of collaborations 4. Nagoya Protocol and its implications for vaccine development 	<ul style="list-style-type: none"> 1. Promote enabling environment for vaccines procurement & distribution mechanisms by private AH service providers 2. Mapping national regulatory frameworks and environments to identify options for regionally applicable options/solutions 3. Promote business models that offers incentives for vaccinations (e.g. movement permits based on vaccination status) 4. Long-term commercially viable mechanism for relevant livestock stakeholders

Annex 7: Outputs of the Mentimeter session and discussion to enhance FMD reporting and detection

1. What are the challenges in timely reporting?

Mentimeter

Recognition of clinical signs in the field	Differential diagnostic	Capacity and the capability of the field technician in order to carry out the diagnosis
Farmer recognition of disease and notification to authorities, bureaucrats	Fear for the control measures that will impact them	notification awareness
Lack of urgency among relevant agencies and farmers lack to know clinical signs	Lack of incentives/ potential disincentives for reporting by producers	Lack of incentives for reporting (treatment, vaccination, reduced impact)

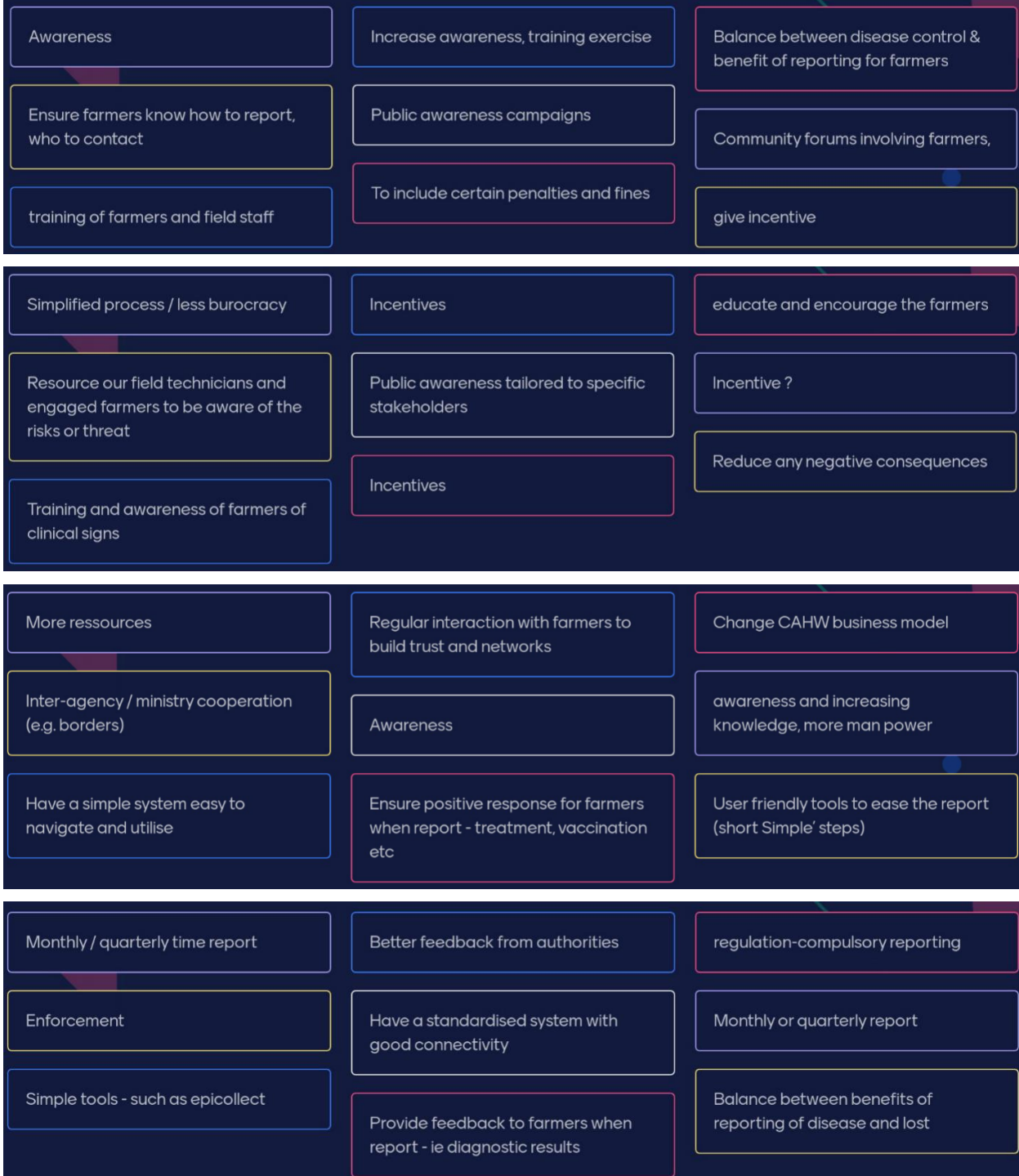
reluctance of farmers to report	Lack of awareness of farmers	willingness to report
If the farmer is not affected economically e.g. beef farmers they may not report the disease	Delayed reporting from the field/regional/provincial offices	Farmers concern impacts of reporting
reporting mechanism, channel	Low compensation results in low willingness to report	Lack of animal health resources to access disease outbreaks

Variety of signs in different species	farmer not give the information because they not aware	(1) Manpower - lack of experience staff, (2) info confidential and sensitivity, (3) geographical and IT technical constraint
motivations to report vs not reporting	Official incentive	lack of awerness for reporting at farm level
Communication systems	Afraid of the consequence	FMD just not of importance to farmers

Public awareness programmes	Link the disease with economic ramifications for the farmer to understand importance of timely reporting
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2. How can we enhance timely reporting?

Mentimeter



2. How can we enhance timely reporting?

Mentimeter

Promote improved productivity impacts of disease management

Awareness raising

Address institutional memory loss through better succession planning

when animal sick and appear symptom

3. How can we improve regional reporting system?

Mentimeter

Reduce complexity

building trust

All stakeholders involved in design

Build trust among partners

Sharing of data

Standardized tool linked to country system

Easy and friendly user tools

Simplify system and align with global system (WAHIS)

Building trust

Advocacy to policy makers

Network and collaboration

Make sure information is properly annotated

Need to know how country will obtain benefits from the system?

Ensure backed by Govt policies

Promote transparency

convenient tools

Members work in a team, not individual

user-friendly interface, simple apps

To give regional platforms that is easily accessible

Standardised formats

Efficient/effective process between operational work, data collection, and entry into information systems.

Appoint specific staff to work across countries

Understand the drivers and motivation

One platform to report

Use web based tools to display these data

One system easy to access and input data

Easy reporting system - reduce layers/step of reporting

Align reporting systems and address privacy regulations

Need to prioritise this at high level leadership