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First South Asia transboundary animal diseases coordination meeting for peste des petits ruminants, foot-and-mouth disease and lumpy skin disease

Joint meeting report

Paro Bhutan, 8-12 May 2023



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animal diseases coordination meeting**
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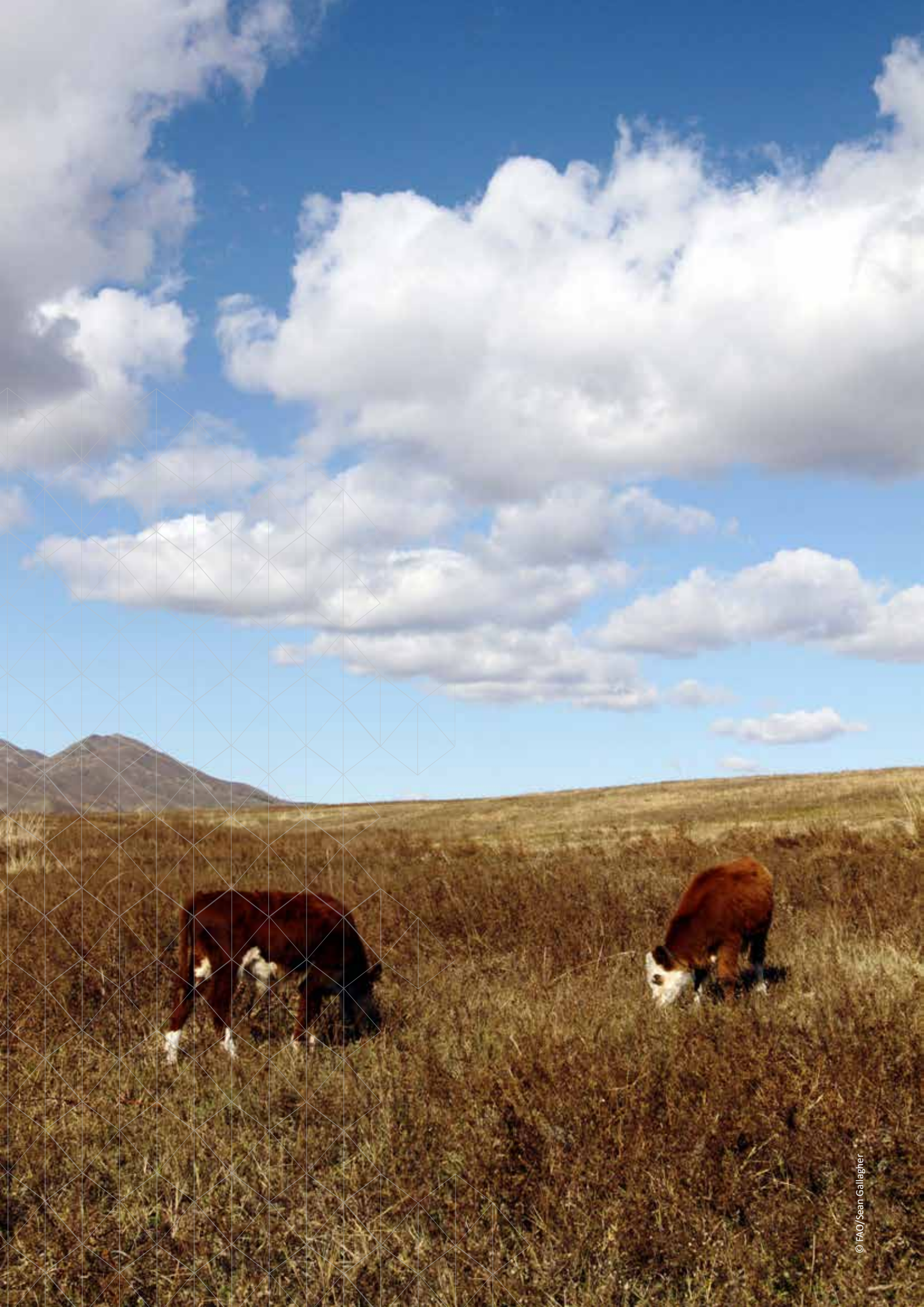
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Executive summary

Major ongoing socioeconomic transformations in South Asia - rapid urbanization, market growth, changing diets and increasing incomes - are contributing to a rising demand for animal proteins in the region. To meet this demand, livestock production is expected to increase through a combination of improved production efficiency and livestock population growth. Transboundary Animal Diseases (TADs) are a major constraint for the sustainability of livestock farming in South Asia, where livestock accounts for 30% of the regional agricultural gross domestic product and more than 60% of livestock are owned by smallholder farmers. The most significant impacts of TADs are losses in production, utility and income, which, together with the growing climate change risks, create a compounding effect on livelihoods, food security and nutrition of smallholders. Additionally, these diseases disrupt trade in animals and animal products. During this meeting, representatives from South Asian countries met to share information and identify areas of collaboration to reduce the impact of three of the most important TADs: Peste des Petits Ruminants (PPR), Foot-and-Mouth Disease (FMD) and Lumpy Skin Disease (LSD), and in particular agreed to eradicate PPR in the region by 2030.

Peste des Petits Ruminants remains one of the most important Transboundary Animal Diseases (TADs) in South Asia where it poses a serious impediment to small ruminant value chains and a tremendous threat to sheep and goat health, food security, and the social wellbeing and livelihoods of smallholder producers. The control and eradication of PPR is technically possible, provided that the resources are available for accurate diagnosis, surveillance, and vaccination with the availability of high-quality vaccines, coupled with stakeholder engagement, political will, and advocacy. The disease is endemic in most South Asian countries (Bangladesh, India, Nepal, and Pakistan,) although Maldives and Bhutan have not reported PPR cases in the last 2 years while Sri Lanka is historically free from PPR.

During the 1st South Asia TADs meeting, it was highlighted that the countries in the region should take an effort in revising their National Strategic Plans in line with the PPR Blueprint, thus focusing the countries' PPR activities towards the eradication of the disease by 2030. Key activities lined up for PPR eradication were highlighted as the delineation of the PPR episystem, targeted surveillance and vaccinations supported with Post

Vaccination Monitoring, enhanced diagnostic support, the establishment of vaccine quality assurance and stakeholder involvement. Regional harmonisation of PPR activities was emphasised for countries to move in unison towards eradication.

Foot and mouth disease is endemic in South Asia countries with 3 serotypes circulating (O, A and Asia1) and multiple strains within these serotypes. The region is globally important since FMD virus lineages from the region have been documented to spread into new geographical regions such as the Middle East and Southeast Asia. Available FMD vaccines provide variable levels of protection against the different circulating strains; thus, it is critical to ensure that good quality vaccines are used with a booster regime (where this is recommended) with good coverage in target host populations. Although vaccination is an important component of FMD control in the region, to control FMD most effectively it must also be accompanied by other measures such as movement controls and improved biosecurity. Discussions during the meeting highlighted several areas where improved regional coordination and cooperation would be beneficial, including information sharing, cross-border movement control and harmonized vaccination.

Following the unprecedented and rapid LSD spread in Asia since mid-2019, most of the countries in South Asia are now actively engaged in LSD control, however new and more effective approaches will be required to obtain sustainable results. This meeting represented the first opportunity for public and private sector stakeholders to jointly review and discuss regional LSD risks, policies and control options. Critical knowledge gaps about LSD risks and control options are limiting effective management of the disease in South Asia. These include the lack of cross-border and regional coordination, information sharing, surveillance, and control measures. Importantly, the availability of safe, effective, accessible, and affordable vaccines also remains a key constraint. In particular, the efficacy of commercially available LSD vaccines (both homologous and heterologous) is not regularly and independently evaluated, hence vaccine quality control and assurance remain a critical challenge for effective LSD control in South Asia.

The focus on specific diseases and the format of the meeting highlighted the potential for synergies in disease control activities. Technical recommendations concerning



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surveillance, movement controls, vaccine safety and quality, and vaccination strategies were elaborated for all the diseases. Consensus has emerged about the benefits of more holistic approaches for TADs control in South Asia, assessing and exchanging information on disease risks and control options, and exploring synergies for disease management and formulation of harmonized programs for these priority TADs. Countries considered the development of harmonised protocols across borders, mutual technical assistance, also supported by veterinary medicine manufacturers, and to explore

joint resource mobilisation. Importantly, this will also strengthen national advocacy, governmental engagement, stakeholder mapping and increase resource mobilisation opportunities. The results from this meeting confirm that a systematic regional approach to address TADs in general would be an effective way forward, as already previously suggested in other instances and aligned with FMD and PPR strategies pillars 2 and 3. The use of virtual meetings to engage and update participants proved to be an efficient approach to level up knowledge of participants and prepare them for in person active discussions.



Purpose and objectives of the meeting

The purpose of the 1st TADs South Asia TADs Coordination Meeting was to encourage countries to make progress on the control of FMD and LSD, and eradication of PPR, in particular to encourage countries to make progress on disease control/eradication, through international recognition of control stages for FMD and PPR, by providing technical support and by providing a safe environment for Member States and other relevant stakeholders to share information and discuss common challenges and opportunities.

THE OVERALL OBJECTIVES OF THIS EVENT WERE:

1. To share information and expert knowledge about (i) regional and national disease situations, (ii) changes in drivers and risks for FMD, LSD and PPR spread across countries and (iii) prevention measures and control options;
2. To assess and map the countries' progress in FMD and PPR control and eradication through international recognition (under the respective GF-TADs Global Strategies), and review the current management of LSD in South Asia; and
3. To identify priorities for regional and cross-border coordination and synergy to reduce FMD, LSD and PPR impacts, moderate risks for their spread and support regional progress in their control and eradication.

The event was organized in a hybrid format composed of two phases: (i) a virtual preparatory phase hosted on the FAO Virtual Learning Center (VLC) for Asia and Pacific (RAP) between (24 April - 8 May 2023) and a (ii) live in-person event in Paro, Bhutan (8-12 May 2023).

PREPARATORY PHASE OBJECTIVES:

1. To share and review the FMD, LSD and PPR epidemiological situation and recent changes in diseases' risks and drivers of spread in South Asia;
2. To refresh participants' knowledge about the PPR Global Eradication Programme Phase II, the PCP-FMD principles, and provide updates about the support mechanisms and tools for assisting and guiding countries in the development and implementation of national strategies;

3. To provide guidance to participating countries in preparation for the in-person event and to gather relevant information and data about the national control programs. In particular:
 - conducting the PPR monitoring and assessment tool (PMAT) and the FMD self-assessment (SAT) for reviewing progress in the respective control programmes; and
 - collecting information about FMD, LSD and FMD vaccines and vaccination programmes and post-vaccination monitoring activities.

FACE TO FACE MEETING OBJECTIVES:

1. To assess the progress of each country along the PPR and FMD Regional Roadmaps and update the membership of Regional Advisory Group(s) for 2023-2025 to monitor and follow up the regional roadmaps and recommendations;
2. To review the key capacity gaps and challenges in FMD, LSD and PPR prevention and control in South Asia and inform technical assistance and capacity building collaboration and support;
3. To identify synergies to improve national and cross-border approaches for the formulation of harmonized FMD, LSD and PPR control programs and exchange of information on virus circulation, vaccination and other control initiatives;
4. To define specific recommendations to improve FMD, LSD and PPR prevention and control in South Asia, including to improve mechanisms to ensure the sufficient availability, accessibility and use of safe and effective vaccines.



A concise disease specific summary

PESTE DES PETITS RUMINANTS (PPR)

PPR Secretariat presentations highlighted the eradication of PPR by 2030 with an emphasis on the PPR GEP (II and III) Blueprint presentation focusing on new concepts such as the “**episystem approach**” in the PPR eradication process. However, the episystem approach requires understanding of the regional movement/spread of the PPR virus in South Asia through genomic (partial/full genome) sequencing of the virus from the various outbreaks identified by communities through participatory epidemiology, and consequently inform the regional approach for PPR disease eradication. Advocacy for PPR disease eradication needs to be evidence-based backed by PPR disease socio-economic impact analysis studies and country disease status reports to the WOAAH WAHIS platform, as the Treasuries of Member countries and donors require this information to inform their investment decisions. The PPR Secretariat emphasized the need to align PPR Nation Strategic Plans (NSPs) with the PPR Blueprint and thereafter develop PPR investment plans out of the NSPs. Further presentation from the PPR Secretariat sought to give guidance to Members on their PPR eradication activities with a specific focus on PPR Post Vaccination Monitoring, while an analysis of the Vaccination Survey was presented. Finally, the participants were taken through the PPR Monitoring and Assessment Tool (PMAT), User Guide, and awareness of the roles and responsibilities of the Regional Advisory Group (RAG).

Five technical presentations were delivered focusing on the global and regional situations of PPR, Episystem, PPR diagnostics, vaccine implementation and WOAAH guidelines on PPR-free status and endorsement of official PPR control programmes dossier preparation. The PPR situation and vaccine implementation talks were delivered by the PPR secretariat Laboratory and Vaccine specialist Professor Satya Parida, and the Episystem presentation was made by Dr Jeff Mariner, a member of the PPR Core Expert Team. Dr Zhiliang Wang from the China Animal Health and Epidemiology Center (CAHEC), a WOAAH/FAO PPR Reference Laboratory, delivered the presentation on PPR diagnostic support and PPR molecular epidemiology. The fifth technical presentation on WOAAH Standard Operating Procedures for official recognition of PPR-free status and endorsement of official PPR control programmes was delivered by Dr Yoenten Phuentshok of the WOAAH Status Department. As some countries gear towards preparing a dossier to seek official freedom from the disease (PPR)

questions arose on the number of samples required in the surveillance process to prove the absence of circulating virus. However, Members were advised that the general approach is not to have too prescriptive requirements and definite values regarding surveillance within the WOAAH *Terrestrial Animal Health Code*, as the context is different in every country and therefore the responsibility to develop a comprehensive surveillance system lies with the country’s epidemiologists.

The South Asia countries' presentations on the implementation status of their PPR National Strategic Plan (NSP) revealed that the majority of the countries (Bangladesh, India, Nepal and Pakistan) are PMAT stage II and endemic with PPR infection while Maldives and Bhutan have not reported PPR cases in the last 2 years and Sri Lanka is historically free from PPR. Key highlights of the follow-up actions to gaps identified in countries' presentations were:

- Countries with no cases reported should carry out disease risk analysis and stop the importation of vaccinated animals;
- Institute traceability and movement control measures;
- Set up a strong surveillance system for livestock and wildlife;
- Establish buffer zones on both sides of the cross-border region;
- Strengthen diagnostic systems;
- Countries with endemic PPR need to establish episystems to carry out risk-based PPR control activities such as vaccinations backed up with Post Vaccination Monitoring. Countries should consider the use of DIVA vaccines when they become available;
- Determine cessation of PPR vaccination;
- Ensure stakeholder involvement at all levels; and
- Develop border collaboration and harmonise cross-border activities.

During the country presentations, the issue of smaller dose PPR vials for the avoidance of waste was discussed with pros and cons, highlighting that larger doses of the vial are important in pastoral settings, while smaller dose vials are useful in smallholder/small-stock farmers. Experts noted that smaller dose vials increase the costs of vaccinations by increasing production costs and logistics costs (transport and cold chain space).

Finally, the election of the PPR RAG was carried out. The composition of the RAG is AHC, India as the Chair, CVO, Bhutan and DG, Nepal as Co-Chairs along with Bangladesh and Pakistan for Laboratory Network and Epidemiological Network members, respectively.

The countries' vaccination surveillance highlighted that the South Asian countries' national governments support their own vaccination strategies. When few of the National Governments were able to support vaccine doses to all small ruminants in their countries, many of the countries are not able to provide vaccines to all the small ruminants in their countries which highlighted the requirement for resource mobilization for the same purpose. The quality of the vaccine is usually tested internally, and the additional benefits of having an external quality control unit in the region was discussed. Many countries need to build laboratory capacity for the rapid detection of PPR, including the ability of molecular sequencing to support the episystem approach of PPR Blueprint. A summary table for vaccination surveillance has been appended to the document.

The PPR recommendations arising from the meeting appear in Annex 1.

FOOT AND MOUTH DISEASE (FMD)

During the FMD component of the meeting, the GF-TADs FMD Working Group (WG) provided presentations on the Global FMD Control Strategy, the Progressive Control Pathway for FMD (PCP-FMD) and tools and mechanisms available to support countries. The results from the PCP-FMD Self-Assessment Tool (SAT v2) and the FMD vaccine and vaccination questionnaire were also presented in Annex 2. The WRL-FMD and ICAR-NIFMD as WOA regional reference laboratory for FMD, presented their activities and the FMD situation in the region. Participating countries gave presentations on their FMD situation and control strategies; Pakistan also shared information virtually. All presentations can be accessed by the meeting participants on a dedicated [Moodle page](#), hosted by the VLC-RAP.

Participants elected the Regional Advisory Group (RAG) for South Asia for the period 2023-2025. The voting members elected are the CVO, Bhutan, CVO, Nepal, CVO,

Sri Lanka, Epidemiology Leader, Bangladesh, and Laboratory Leader, India. Non-voting RAG members are the FMD-WG members, FAO and WOA Regional Representatives and the World Reference Laboratory for FMD (WRL-FMD) representative.

Three parallel group discussions were held. The topics discussed are listed below and the meeting recommendations reflect the actions agreed within the 3 parallel groups and were presented by the new RAG Chair (CVO Bhutan).

- The CVO group discussed RAG functionality, TADs synergies, cross-border collaboration for TADs control, and specifically, FMD vaccines and vaccination;
- The Epi group discussion identified the following technical priorities: study of drivers of cross-border livestock informal mobility, in particular at India's terrestrial borders; sharing of information on FMD suspicions and confirmed cases (through regular meetings and/or reactivation of the SADIS platform) and vaccination schedule; need for capacity development on risk assessment, surveillance design, statistical analysis and socio-economic impact assessment;
- The laboratory group discussed the national lab capacities, reagents/kits procurements, proficiency testing schemes and referral diagnoses. This group also agreed to develop test algorithms for clinical case investigation/confirmation and characterization, for post-vaccination monitoring and sero-surveillance and identification of un-disclosed infections. A follow-up meeting will be organized in a month to develop a regional laboratory action plan.

A new version of the PCP-FMD SAT (SAT-v2, issued in 2023) was piloted to understand how well a country is progressing on PCP-FMD Stages 1, 2 and 3. Although there was considerable variation observed between the 6 responding countries in the self-assessed scores, general trends are shown in table.

Meetings were held with the non-voting RAG members and representatives from Nepal, Bhutan, Sri Lanka, and Bangladesh to discuss their FMD situations and inform

TABLE 1. General trends on strengths and gaps of the countries on SAT components

SAT Components	Livestock Sector	Surveillance and Diagnostics	Prevention and Control	Veterinary Services
Strengths	<ul style="list-style-type: none"> • Stakeholder engagement • Info about livestock distribution 	<ul style="list-style-type: none"> • Passive surveillance • Case definition 	<ul style="list-style-type: none"> • Border control* 	Regulating vaccines
Gaps	<ul style="list-style-type: none"> • Socio-economic impact • Value chain mapping 	<ul style="list-style-type: none"> • Active surveillance • Outbreak investigation • Data analysis 	<ul style="list-style-type: none"> • PVM • Vaccine matching • Animal identification • Early Warning 	<ul style="list-style-type: none"> • Budget • Manpower and resources

* It was noted during the discussions that quarantine and border control were identified as gaps in the region, in contradiction with the SAT self-evaluations.

the PCP-FMD 2023 assessment; PCP-FMD statuses were assessed by the RAG for these countries and discussed expected progression up to 2027. India did not participate as they are recognized in PCP-FMD Stage 4 under the WOA domain. The roadmap table summarizing outcomes of the discussion is presented (Table 2).

Finally, the GF-TADs Partnering and Financial Panel was presented by the GF-TADs Global Secretariat.

Overview of global and regional FMD situation, regional risks and vaccines recommendations

[D. King/Pirbright Institute on behalf of WOA/FAO FMD Laboratory Network (<https://foot-and-mouth.org>)]

The global circulation of FMD is represented by seven endemic pools that maintain specific viral lineages. S. Asia countries comprise the entirety of Pool 2 with two additional countries (Pakistan and Afghanistan) located in Pool 3. Trans-pool movements of FMD viruses when they occur influence regional risks and can have significant impacts on vaccine selection. In this context, Pool 2 is globally important since FMD virus lineages from the region have been documented to spread into new geographical regions such as the Middle East (Pool 3) and Southeast Asia (Pool 1). One of these lineages (O/ME-SA/Ind-2001e) has become the most dominant serotype O lineage in Southeast Asia, from where it has recently spread to cause new

outbreaks in Indonesia, Mongolia, Kazakhstan, and Russia. Within Pool 2, a new lineage (called O/ME-SA/SA-2018) has been detected in India, Bangladesh and Sri Lanka, and its detection during 2021 in UAE and Oman provides an early indication that this lineage has potential to spread and become established in other regions. Table 3 defines the FMDV serotypes and lineage that are circulating in South Asia countries.

There are a diverse range of FMD vaccines and vaccine strains used in S. Asia countries (including those from international suppliers and local sources), although in Pool 2, many countries utilise the vaccine strains (O/IND R2/1975, A/IND40/2000, and Asia1/IND63/1972) produced by Indian manufacturers. This presentation summarised vaccine matching data generated for field viruses, where data for serotype O indicates that O-Manisa, O-3039, O/TUR/5/2009 and O/Campos are well-matched to most O/ME-SA/Ind-2001e, O/ME-SA/SA-2018 and O/ME-SA/PanAsia-2ANT-10 field viruses. In contrast, different vaccines are normally required to cover outbreaks due to A/ASIA/G-VII and A/ASIA/Iran-05 virus lineages. Across the different serotypes, the data reinforces the importance of ensuring that good quality vaccines are used with a booster regime (where this is recommended) with good coverage in target host populations. Further information about the

TABLE 2. FMD provisional Roadmap up to 2027

	Validated stages											Provisional Stages (not validated)			
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Bangladesh	1	1	1	1*	1*	1*	1*	1*	1*	1*	1	2	3	3	
Bhutan	1	1	1	2*	2*	2*	2*	2*	2*	2*	2*	2	3	3	4
India	3	3	3	4	4	4	4	4	4	4	4				
Nepal	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2
Sri Lanka	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2

Legend: PCP-FMD stages

0	1	2	3	4	WOAH
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* Provisional status given to the country. Countries had six months to provide additional information including Control Plan; if not, they will be downgraded to the previous stage, as per the PCP-FMD guidelines.

TABLE 3. FMD viral lineages detected by the FAO/WOAH reference laboratory network in Pool 2

Viral lineage	POOL 2	Pakistan, Afghanistan
O/ME-SA/Ind-2001e	✓	✓*
O/ME-SA/SA-2018	✓	
O/ME-SA/PanAsia-2 ^{ANT-10}	✓ India, Sri Lanka, Bangladesh	✓
A/ASIA/G-VII	✓	
A/ASIA/Iran-05 (multiple clADES)		✓
A/ASIA/G-IX	✓	
A/ASIA/Sindh-08		✓

* In Pakistan.

work of the WOA/FAO FMD Laboratory Network can be found here: www.foot-and-mouth.org, and laboratory and quarterly reports from the WRLFMD can be retrieved from www.wrlfmd.org.

LUMPY SKIN DISEASE (LSD)

During the last day of this 1st South Asia TADs Coordination Meeting the Delegates and Chief Veterinary Officers (CVOs), epidemiology and laboratory experts from participating countries, the regional and international TADs experts, and private sector stakeholders reviewed and discussed regional LSD risks, policies and control options. The key issues highlighted during the consultations and technical sessions of the LSD workshop are listed below:

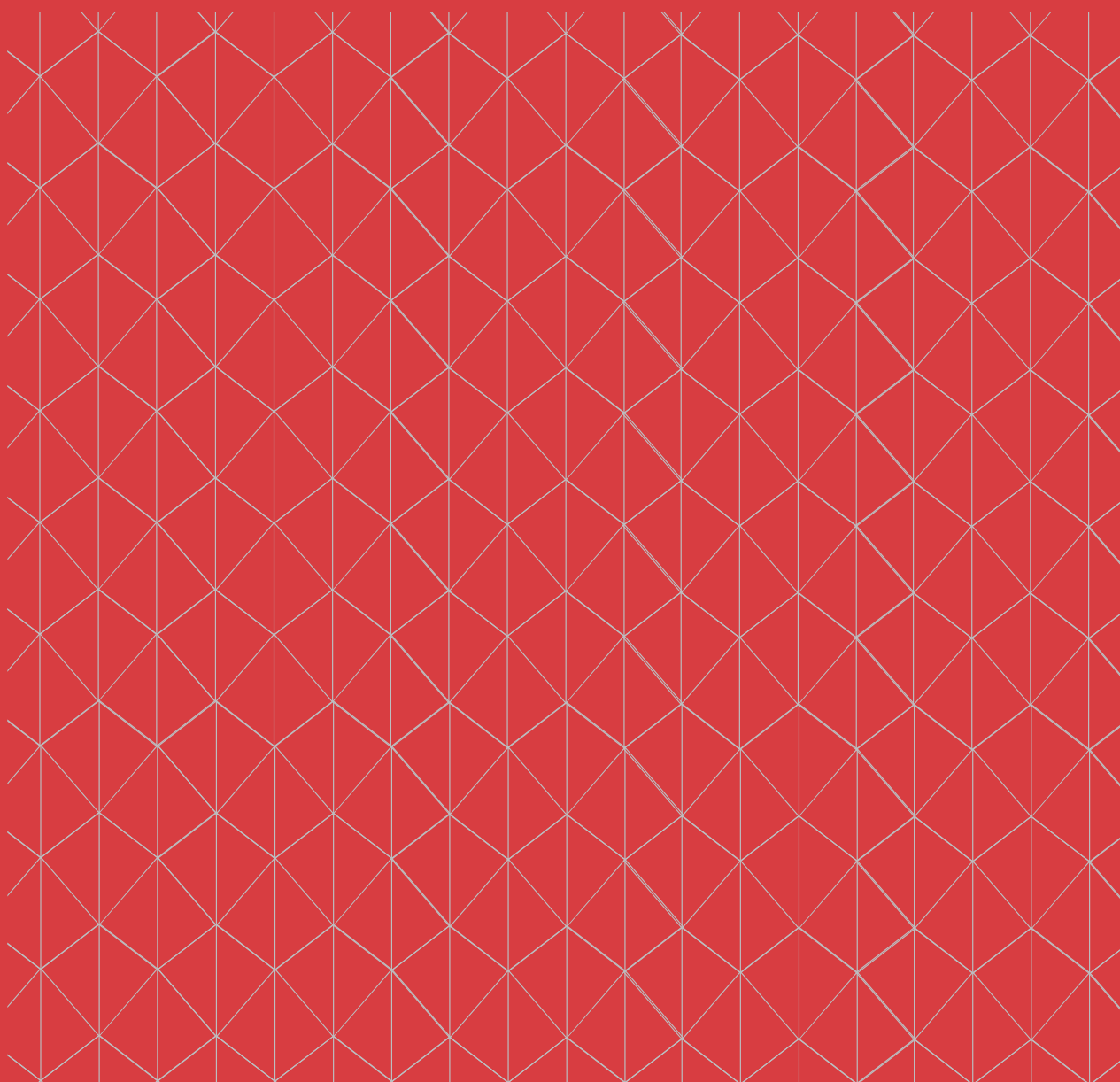
1. The indications for a LSDV spread from the Middle East to South Asia is acknowledged to be in the opposite direction of the usual known flow of commercial live cattle trade and value chains across these regions. While in local terms it appears that transmission routes of LSDV are reasonably well understood there is currently a gap in understanding the risks of spread of the LSDV over long distances. The lack of understanding of the drivers of the eastern direction of LSDV spread from the Middle East to South Asia is also of great concern in consideration of the recent introduction in the Middle East of the FMDV SAT2 Serotype, and the potential for its further spread into completely naïve livestock populations in South Asia;
2. Discussed were the origin of the recombinant LSDV strains (not identified in South Asia) and the lack of knowledge about their impacts on virulence, transmission, and control, in particular on vaccine efficacy. Critical knowledge gaps include the duration of immunity in vaccinated animals (depending on vaccine type) and the duration of viral shedding both in vaccinated animals and in viraemic sub-clinical animals;
3. There is no LSD vaccine quality control and assurance mechanism in South Asia and the safety and efficacy of commercially available LSD vaccines (both homologous and heterologous) is not regularly and independently evaluated. In most countries in South Asia laboratory and challenge testing before large-scale use in cattle against LSD are not conducted, and the assessment of vaccine efficacy in the field is typically overlooked;
4. The participating countries presented their respective LSD management and control approaches highlighting common challenges faced in South Asia. While LSD represents a high priority disease for all countries due to its economic and

welfare impacts, common crucial challenges for effective control are:

- Poor field surveillance and diagnostic capabilities for early virological detection of LSDV, including major gaps in obtaining quality samples from the field in the region;
 - The lack of analysis of LSD risks, particularly through regulated and unregulated transboundary movement of livestock, and poor understanding of the socio-economic impacts of LSD on national, sub-national and local contexts and economies;
 - The limited availability of safe, effective, accessible and affordable vaccines and of clear information and guidance about the efficacy of commercially available vaccines; in particular, of live attenuated vaccines based on Neethling strains and of heterologous goatpox based vaccines, and their effectiveness under field conditions;
 - The operational hurdles to ensure adequate vaccination coverage among susceptible cattle populations and establishment of effective and sustainable distribution logistics;
 - The lack of cross-border and regional coordination in information sharing, disease surveillance, movement control measures and vaccination strategies (including regional vaccination calendars to facilitate harmonization of vaccination schedules in cross-border areas);
 - The lack of experience and guidance about the challenges and opportunities for integrated and harmonized LSD control approaches with other priority TADs in South Asia;
5. The experience of controlling LSD in Southeast Europe was presented and discussed with participants, providing insights about the critical role of communication, collaboration and coordination for successful harmonized regional LSD control strategies;
 6. All country delegations highlighted the need for guidance and support in identifying synergies when combining LSD control with other priority TADs to strengthen national advocacy and resource allocation through stronger governmental engagement for sustainable TADs control.

Specific recommendations for strengthening LSD preparedness and control in the South Asia region originated from these discussions and are presented in Annex 3.

Annexes



All the files of the PowerPoint and recorded presentations provided during the in-person event in Paro (Bhutan) are available to all participants on the FAO Virtual Learning Center (VLC) RAP portal: [South Asia TADs Coordination Meeting Virtual Hub](#). As indicated by participants in the Mentimeter survey, these resources will be made available on this portal indefinitely to enable reference and continued access for all the participants.

Annex I

Recommendations on PPR for the South Asia Sub Region

TO COUNTRIES ENDEMIC WITH PPR

- Review and update the PPR National Strategic Plans (NSP) in line with GEP II/III Blueprint and ensure subsequent dissemination across stakeholders.
- Identify possible PPR episystems (a virus episystem is an interconnected host population capable of maintaining circulation and transmission of the virus indefinitely).
- Target control activities at hypothesised PPR episystems.
- In most cases, the PPR episystem transcends international borders, therefore regional harmonization in PPR surveillance and vaccination could be achieved by establishing cross-border corridor vaccination mechanisms between bordering nations. Neighbouring countries could then vaccinate their susceptible PPR population at least 10-15 km within their countries from the border.
- Develop studies to determine the virus dynamics at the wildlife-livestock interface.
- Develop or strengthen strategies to track and control livestock movements (general recommendations).
- Enhance surveillance activities (active and passive) and consider developing a PPR early warning system.
- Intensify efforts for high-coverage risk-based vaccination and evaluate the effectiveness of the vaccination campaigns (including sero-monitoring).
- Planning/development of regional vaccine quality assurance and procurement mechanisms – this could also be in collaboration with SAARC or other regional bodies. Requirement of establishing a parallel PANVAC in Asia/SAARC.
- Decide upon criteria to be met for cessation of vaccination.
- Use the support of the FAO-WOAH reference laboratories, collaborating centres and IAEA, including for virus partial N/F genes/ full genome analysis.
- Use the revised PMAT (2023) to identify weaknesses and track progress in the stepwise approach to eradication.

- Use available guidelines and resources to support evidence-based NSPs (e.g., Guidelines for Control and Prevention of PPR in wildlife, Annex to PPR GCES on post-vaccination evaluation; PMAT & User Guide).
- Use and promote existing disease reporting mechanisms (e.g., WAHIS) to record and share PPR disease intelligence data. Along with WAHIS, the existing SAARC Animal Health Information System should be made functional and should be networked with WAHIS portal.
- All the newborn population should be encouraged to use DIVA compatibility vaccines as soon as these vaccines are available to improve the effectiveness of sero-monitoring of the PPR control program.

TO COUNTRIES WITH OCCASIONAL INCURSIONS OF PPR

- Establish strong sustainable (active and passive) surveillance systems targeting livestock and wildlife.
- Establish the source of risk, develop risk maps and concomitant episystems.
- Target risk-based PPR control activities in the episystem – consider establishing a buffer zone (at least for 10KM radius zone on both sides)
- Once cases are reported or vaccination has been carried out consider PPR stepwise approach towards eradication.
- Ensure the country has the capacity to regularly assess risks and adapt contingency planning to ensure rapid containment in case of disease incursion
- Establish strong cross-border harmonization in the PPR control/eradication activities.
- Use of DIVA vaccines should be explored, as and when required use vaccination to control disease spread.

TO COUNTRIES THAT NEVER REPORTED PPR

- Obtain evidence for the absence of circulating PPR virus infection.
- Ensure the country has capacity to regularly assess risks and adapt contingency planning to ensure rapid containment in case of disease incursion.

- Consider initiating the formulation of the dossier to apply for official recognition of PPR-free status.
- Request technical support from WOAAH for training and guidance on the dossier preparation procedure for the official recognition of Members' status and the endorsement of official control programmes.
- Request from FAO support to carry out surveillance requirements and laboratory training necessary for attaining PPR-free status and support preparation of the dossier for submission.
- Explore to maintain vaccines bank with DIVA compatibility vaccines, so that those vaccines can be used in case of emergency.

TO THE PPR REGIONAL ADVISORY GROUP (RAG)

- Consider the inclusion of laboratory and epidemiology network leads within the PPR RAG.
- Hold more frequent RAG meetings (twice annually)
- Develop, with the support of the PPR Secretariat, a calendar of future activities and share it in a timely manner with Member Countries.
- Support resource mobilisation in the region i.e., collectively identify the funding options for the region and ensure sustainable funding plans including national commitments.
- RAG to seek support from PPR Secretariat, SAARC, GF-TADs Regional focal points and PFP.
- Ensure regular communication among the Delegates/CVOs of PPR RAG and share the TORs of RAGs.

TO REGIONAL ECONOMIC COMMUNITY - SAARC

- Update the Regional PPR Strategy in line with the PPR GEP II/III Blueprint;
- Support countries to develop harmonised PPR eradication activities in the region including:
 - Laboratory capacity building (sharing reagents, test kits and protocols);
 - Mutual surveillance activities;
 - Plan for simultaneous vaccination programmes between countries;
 - Harmonise procedures monitoring national vaccination programmes; and
 - Conduct simulation exercises to test emergency preparedness at both national and multi-national levels.
- Support countries in resource mobilisation;
- Develop regional proposals for funding; and
- Maintain strong advocacy for PPR eradication.

TO GF-TADS GOVERNING BODIES/ INTERNATIONAL ORGANISATIONS

- Increase the provision of training workshops (in-person and virtual); including on understanding and implementing the episytems concept.
- Support countries for their national epidemiological capacities (e.g., for surveillance design; episytems identification), including Training of Trainers (ToT).
- Support countries for laboratory proficiency testing (PT) and virus molecular characterisation.
- Support coordinated emergency capacities.
- Consider how to support RAG activities.
- Support for dossier preparation for official recognition of control programmes and freedom.
- Prepare a surveillance guideline to help PPR-free countries with dossier preparation to declare freedom.
- The GF-TADs region steering committee to communicate to the WOAAH delegates in the region on the election of India, (Chair), Bhutan and Nepal (Vice-chairs), Bangladesh (Laboratory network) and Pakistan (Epidemiology network) as the new PPR Regional Advisory Group for the next three years.

Annex II

Recommendations on FMD in the South Asia Region

CONSIDERING:

- The adoption of the FAO-WOAH Global Strategy for the control of FMD (Bangkok, June 2012) with its three inter-related components: control of FMD, reinforcement of Veterinary Services and combined control of FMD with the control of other animal diseases;
- The importance of controlling FMD at the regional level and the results of previous FMD regional Roadmap meetings in South Asia (2016) as well as other regions;
- The importance of having a Regional Advisory Group (RAG) for South Asia to analyse and present the results of the assessments to participating countries and to promote regional implementation of the FMD Global FMD Control Strategy;
- That most countries of the region are in PCP-FMD Stage 1 and that moving on to Stage 2 requires presentation of a Risk-Based Strategic Plan;
- The need to improve the availability of high-quality vaccines that are effective against the virus strains that circulate in the region;
- The fact that countries must be assessed by one Regional Advisory Group (RAG) only; and
- That FMD viruses in Pool 2 countries continue to spread to cause outbreaks in other locations such as Southeast Asia, West Eurasia and the Gulf States of the Middle East.

THE FIVE COUNTRIES ATTENDING: BANGLADESH, BHUTAN, INDIA, NEPAL AND SRI LANKA AGREED:

- To elect the CVO/Delegates (or their representatives) of Bhutan (chair), Nepal and Sri Lanka as voting Members of the SAARC Regional Advisory Group for a 3-year period;
- To elect Bangladesh and India representing the Regional Epidemiology and Laboratory technical experts, respectively as voting Members of the South Asia Advisory Group for a 3-year period;

THE PARTICIPATING COUNTRIES MADE THE FOLLOWING RECOMMENDATIONS FOR BETTER IMPLEMENTATION OF THE GLOBAL FMD CONTROL STRATEGY IN THE SOUTH ASIA REGION:

General

1. To continue the Roadmap process for the South Asian countries to work towards the vision of absence of clinical FMD in the region, recognizing the key features and principles of the progressive control of FMD (PCP-FMD) and the need for competent Veterinary Services; noting that the original date of 2025 to achieve this vision is no longer realistic and should be re-evaluated;
2. Sustain Regional collaboration and coordination (high level and technical level). As part of this, countries are encouraged to nominate the representatives, and for these to be connected via a WhatsApp group;

Specific

3. Countries to share their FMD strategic control plan/programme with the FMD-WG, Regional Advisory Group and other South Asian countries to improve best practises and identify opportunities to align activities;
4. For countries to consider requesting a WOAHPVS initial evaluation or WOAHPVS follow-up mission if the initial PVS evaluation was more than 5 years ago, to have an updated understanding of their Veterinary Services capacity to prepare subsequent capacity building activities according to the identified gaps (component 2 of the Global FMD Control Strategy);
5. That member countries identify synergies to combine FMD control with other livestock diseases of priority in line with Component 3 of the Global FMD Control Strategy. These synergies should be clearly described in the FMD strategic control plan/programme;

6. Establish a taskforce to conduct cross-border movement mapping and value-chain studies in order to understand the nature and drivers of these movements; and to inform harmonised control measures to reduce the spread of FMD and other priority TADs through these movements;
 7. Establish a joint committee to discuss cross-border issues including harmonised vaccination;
 8. Countries are encouraged to be proactive in near real-time sharing of information on FMD outbreaks and particularly on the incursion of new virus lineage. This information can be shared on a relevant country website and then will be included and shared in a weekly newsletter compiled by FAO. It should also be considered to utilize existing databases such as WAHIS+ (WOAH World Animal Health Information System), EMPRES-i+, SAARC database (SADIS);
 9. Countries should develop a regional vaccination calendar, to share with other S. Asia countries and vaccine producers. This will facilitate harmonization of vaccination schedules as well as assist with ensuring a stable supply of vaccine;
 10. Countries to ensure that high quality vaccines are used that provide effective protection against the viral strains circulating in the region;
 11. Revitalise the laboratory network via the following activities:
 - Confirmation of national laboratory focal points (with contact details);
 - Completion of a table to define laboratory test capabilities by all countries;
 - Preparation of testing algorithms to show diagnostic test use for different purposes (such as case investigation/confirmation and characterisation, post vaccination monitoring, sero-surveillance and identification of undisclosed infection);
 - Evaluation of lineage-specific real-time RT-PCR assays for rapid characterisation of circulating viruses in the region;
 - To ensure best practice, plan hands-on training in India where financial support would only be required for travel and subsistence. Training to cover FMD diagnostics, lab management and links to field epidemiology;
 - Continued participation in on-line laboratory diagnostic training courses organized by WRLFMD and EuFMD;
 - Implementation of a regular Proficiency Testing Scheme for the region organised by ICAR-NIFMD and/or WRLFMD to identify specific gaps in laboratory performance and capability (subject to funding support for shipment of the panels);
 - Submission of representative samples to International Reference Laboratories for FMD; where submissions to ICAR-NIFMD to test up to 50 samples/year/country will be facilitated by clarifying the requirements for official import permits and funding support to cover shipping costs;
 - ICAR-NIFMD to provide estimate of costs to provide reagents for FMD diagnostic kits that might be provided from India;
 - ICAR-NIFMD will organise the first on-line meeting (within one month) to brief absent members of the group and continue discussions on Network activities and data collation from different countries;
 - Scope to secure financial support to cover unfunded activities (described above) will be taken forward by the CVO forum for the SAARC Directorate, where ICAR-NIFMD will provide an estimate of costs for different activities;
 12. Develop a regional program for resource mobilization for FMD and other priority TADs;
 13. Consider adjusting the format of future meetings to allow more detailed face-to-face discussion between countries on key component activities such as surveillance and epidemiology, vaccination, cross-border movements, laboratory capacity and harmonization and other collaborative activities. This could be achieved by moving more of the presentations to an on-line meeting format prior to the physical meeting;
 14. SAARC Secretariat should convene a meeting of CVOs and seek to revitalize the regional epidemiology and laboratory network;
 15. FAO, WOA, EuFMD to support building capacity and embrace technical skills to the national Points of Contact and other relevant stakeholders in the form of workshops, online courses and webinar series. Identified priorities include:
 - Risk analysis;
 - Socio-economic impact assessment;
 - FMD surveillance;
 - Laboratory diagnostic techniques.
- Meeting participants agreed that material presented at the South Asia TADs coordination meeting, including country and meeting reports, should be published on the GF-TADs websites and VLC-RAP platform.

Annex III

Recommendations on LSD in the South Asia Region

SURVEILLANCE AND EARLY DETECTION:

- Robust surveillance systems to monitor the presence and spread of LSD are required. This should include outbreak investigation, passive and active surveillance (clinical and laboratory).
- Diagnostic capabilities for early virological detection of LSD need strengthening, including laboratory facilities equipped to identify and confirm the disease promptly.
- Regular and timely identification of circulating strains by sequencing, preferentially by whole genome sequencing. Collaboration with international reference laboratories is encouraged.
- Evaluate if LSDV surveillance could be combined with surveillance or vaccination campaigns against other TADs.
- All reference laboratories involved in LSD diagnosis should participate in the annual proficiency testing scheme.

DISEASE REPORTING AND RESPONSE:

- Implement a coordinated and effective emergency response plan, including quarantine measures, movement restrictions, and appropriate control measures in affected areas.
- Establish a rapid reporting system for suspected LSD cases and ensure timely response rates by veterinary authorities.
- Timely report outbreaks to international organizations and establish mechanisms to share information with neighboring countries.
- Conduct epidemiological investigations to determine the source of infection, transmission patterns, and risk factors associated with LSD outbreaks.

EDUCATION AND AWARENESS:

- Educational campaigns targeting livestock farmers and other stakeholders along the cattle value chains to raise awareness about LSD, its clinical signs, disease impacts, prevention, and control measures and the importance of reporting suspected cases.

- Provide training programs to enhance the skills and knowledge of AH professionals in LSD diagnosis, prevention, and control.

VACCINES AND VACCINATION PROGRAMS:

- Homologous live attenuated vaccines based on Neethling strains have been found safe and efficacious in vaccination/challenge studies. They have been shown to work well under field conditions and proved to be most efficient in control and eradication of LSD.
- Some heterologous live attenuated goatpox-based vaccines have also been shown to work well in vaccination/challenge studies under experimental conditions, however, their quality and efficacy may vary greatly (a.o. depending on the strain). It is highly recommended that the efficacy of these vaccines should be independently evaluated. If afterwards used in the field, a close follow-up of their safety and efficacy is warranted.
- Independent vaccination/challenge experiments should be performed for all new vaccines (both homologous and heterologous) before large-scale use in cattle against LSD. Assessment of vaccine efficacy in the field should also be conducted and data collected to evaluate the duration of protective immunity.
- Increased collaboration between national authorities, vaccine manufacturers, international organizations, and research institutions is required to ensure the sufficient availability and accessibility of safe, efficacious, and effective LSD vaccines to meet the demand for disease control.
- Risk-based vaccination programs using vaccines with demonstrated efficacy and safety targeting susceptible livestock populations and procedures to verify coverage and population protective immunity are highly recommended to optimize resources.
- Options for concurrent vaccination against LSD and other TADs should be explored.

INTERNATIONAL COLLABORATION:

- Foster collaboration and information sharing with neighboring countries and international organizations and reference laboratories to coordinate efforts in strain identification, disease surveillance, control, and prevention.
- Promote the development and sharing of a regional vaccination calendar to facilitate harmonization of vaccination schedules and assist sustainable vaccine supply.
- Explore the need for establishment of regional LSD reference centers and regional quality assurance mechanisms to ensure independent evaluation of quality, safety and efficacy of LSD and other priority TADs vaccines.
- Participate in and promote regional and global initiatives for LSD control and eradication to benefit from shared knowledge, experiences, and resources.
- Explore alternative regional options for resource mobilization for priority TADs, including LSD, under the SAARC Development Fund (SDF).

RESEARCH AND INNOVATION:

- Support research initiatives to improve understanding of LSD, including its epidemiology, transmission dynamics, potential reservoirs (in wildlife), and socio-economic impacts.

- Support research addressing priority gaps in South Asia, including vaccines thermo-tolerability studies, duration of protection in field conditions and availability of alternative formulation of vaccine vials for smallholders.
- Foster a holistic approach, identifying synergies in combining LSD control with other priority TADs, and combining these recommendations with effective legislation, adequate funding, and strong governmental support for sustainable TADs control.

RECOMMENDATIONS FOR WOA-H-FAO:

- Support building capacity and upskilling of relevant stakeholders in the form of workshops, online courses and webinar series in risk analysis, socio-economic impact assessment, LSD surveillance and laboratory diagnostic techniques.
- Evaluate if LSDV preparedness and control could be anchored to other well-developed Global Control Strategies for the formulation of harmonized programs and exchange of information on virus circulation, vaccination, and other control initiatives
- Evaluate the relevance of considering the possibility to keep LSDV-free status when doing preventive vaccination in South Asia.

Annex IV

Recommendations made during the side meeting among the Chief Veterinary Officers and Delegates of the South Asian Countries (Bangladesh, Bhutan, India, Nepal and Sri Lanka)

	Recommendation	Action
01.	The importance of having a Regional Advisory Group (RAG) for South Asia to analyse and present the results of the assessments to the participating countries and to promote the regional implementation of the FMD Global Control Strategy	SAARC Secretariat may include this issue in the Agenda of the next CVOs Forum Meeting for discussion and decision
02.	Establish a taskforce to conduct cross-border movement mapping and value-chain studies in order to understand its nature and drivers, and to inform harmonised control measures to reduce spread of FMD and other priority TADs through these movements	SAARC Secretariat may include this issue in the Agenda of the next CVOs Forum Meeting for discussion and decision
03.	Establish a joint committee to discuss cross-border issues, including harmonized vaccination	SAARC Secretariat may include this issue in the Agenda of the next CVOs Forum Meeting for discussion and decision
04.	Countries are encouraged to be proactive in near real-time sharing of information on FMD outbreaks and particularly on the incursion of new virus lineage. This information can be shared on a relevant country website and then will be included and shared in a weekly newsletter compiled by FAO. It should also be considered to utilize existing databases such as WAHIS+ (WOAH World Animal Health Information System), EMPRES-i+, SAARC database (SADIS)	SAARC Secretariat may include this issue in the Agenda of the next CVOs Forum Meeting for discussion
05.	Countries should develop a regional vaccination calendar, to share with other S. Asia countries and vaccine producers. This will facilitate harmonization of vaccination schedules as well as assist with ensuring a stable supply of vaccines	SAARC Secretariat may include this issue in the Agenda of the next CVOs Forum Meeting for discussion
06.	Countries to ensure that high quality vaccines are used to provide effective protection against viral strains circulating in the region	SAARC Secretariat may include this issue in the Agenda of the next CVOs Forum Meeting for discussion and decision

Annex V

Summary Results of PPR Vaccines and Vaccination Survey (online)

Country	SR Population	Vac whole population/ target	2021 vac doses(%)	2022 vac doses(%)	Seromonitoring	Pre vac immunity	Post vac immunity	23-24 vac doses	Cease of vaccination
Pakistan	114.4M	Both	20M (20%)	30M (26%)	ELISA	30%	80%	40M	2026
Sri Lanka	750,000	-	-	-	No survey	-	-	NO Contingency plan?	-
India	223.4M	both	72,747,453	30,897,640	ELISA	61%	73%	225M	2027
Bangladesh	30.5M	Target, one area mass	9,468,500 (18.28%)	8,478,600 (12.25%)	ELISA	18%	80%	50M	2025
Nepal	14.4M	Whole population	7,436,000 (51%)	8,000,000 (55%)	ELISA	Not done, Important	85%	9M	2027
Bhutan	70,271	Targeted vaccination	NA	NA	ELISA/Survey not planned?	NA	NA	NO Emergency vaccine reserve?	2024
Maldives									

Annex VI

Summary Results of FMD Vaccines and Vaccination Survey (online)

Five countries participated in the FMD vaccines and vaccination survey. The highlights and conclusions are as follows:

HIGHLIGHTS:

- All (5) countries reported vaccination in both 2022 and 2023: mass vaccination strategy in 2 countries; emergency vaccination in all (5) countries; risk-based vaccination in 3 countries. All (5) countries are planning to vaccinate in 2023-2024;
- Reported FMD vaccination coverage (min-max over the past 2 years): Large Ruminants: 13-73% (as reported by 4 countries, using different vaccination strategies); Small Ruminants: 332% (as reported by 3 countries); Pigs: 38-41% (as reported by only one country);
- Total FMD vaccine doses used in 5 countries over the past 2 years: 272,324,003 doses. More details in the table below (other species include pigs and buffaloes):

	FMD vaccine doses (in millions)	Heads (in millions)
Cattle 2021	66,52	227,1
Cattle 2022	198,76	
Sheep & Goat 2021	3,43	268,2
Sheep & Goat 2022	3,51	
Other species 2021	0,05	127,5
Other species 2022	0,05	

- All (5) countries reporting vaccination in Large Ruminants every 6 months, with the following schedule; however, none of the countries considered neighbours when planning vaccination.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Bangladesh	x	x				x	x					
Bhutan			x	x					x	x		
India			x	x					x	x		
Pakistan												
Nepal			x	x					x	x		
Sri Lanka	x	x	x				x	x				

- Two countries reporting Small Ruminant (SR) vaccination every 6 months in high risk areas or vaccination zones, otherwise SR are usually vaccinated every 12 months ; 1 country is not reporting vaccination of SR.
- Most often, VPPs administer FMD vaccines (5 countries) followed by local government veterinarians. Livestock owners do not administer FMD vaccines in any of the countries that replied to the survey.

- Three countries replied that vaccination is entirely funded by the government, while 2 countries reported that livestock owners pay some, if located outside of vaccination areas, however in all 5 countries, livestock owners do not pay all vaccination. In one country, vaccines are all purchased from an external project.
- FMD vaccines suppliers (in alphabetical order) were reported as follows: ARRIAH (1 country); Biovet Pvt Ltd. (1 country); Brilliant Bio Pharma (3 countries); Incepta pharmaceuticals and FnF pharmaceuticals (1 country); Indian Immunologicals Ltd. (4 countries); LRI (1 country); and a “local producer” (1 country);
- Serotypes (and strains – when provided) included in FMD vaccine formulation (n=5) are summarized in the table below.

	A	O	Asia1
Bangladesh	A/Armenia/2015	O/Zabaikalsky/2016	1/Shamir/89
Bhutan			
India	IND40/2000	INDR2/1975	IND63/1972
Nepal			
Sri Lanka			

- All (5) countries confirmed NOT having serotype C included in vaccines used or registered nationally; 4 countries confirmed NOT maintaining live serotype C stocks for research, diagnosis, or vaccine manufacturing purposes - 1 country did not respond.
- Two countries submitted samples for vaccine matching either to WRL-FMD and the National Ref Laboratory, and one country shared results of vaccine matching for the following vaccine strains (O : INDR2/1975; O Manisa; O TUR 5/09; O 3039 /A: IND40/2000; A TUR 20/06; A22 IRQ /Asia1: IND63/1972).
- Two countries reported doing potency tests on the vaccine prior to use.
- Four countries reported vaccine effectiveness studies (PVM)- 1 shared summary results.
- Two countries reported outbreaks in vaccinated animals, and 2 other countries are unsure that outbreaks in vaccinated herds occurred.

CONCLUSIONS:

- A majority of livestock in responding countries are not yet protected, although some improvements in FMD vaccine deployment over the past years are acknowledged;
- Vaccines including serotypes O, A, Asia1 are mostly used in the region, but more information needed about specific strains included;
- More surveillance is needed to monitor the most common circulating strains (samples collection and submitting to reference laboratories) and to determine how well the vaccines protect against these strains (vaccine matching, post-vaccination monitoring);
- Targeted vaccination programmes in place, evaluation of impact of vaccination programmes could be emphasized;
- Vaccination against FMD combined with vaccination against major diseases of livestock could be explored (Opportunities/Barriers);
- Although FMD vaccination is a common approach for FMD control in the region, it seems to not be regionally coordinated. Three countries responded that they could not coordinate vaccination with neighbours as no focal points are appointed and there is no sharing of information, therefore stressing the need for regional collaboration and information sharing.

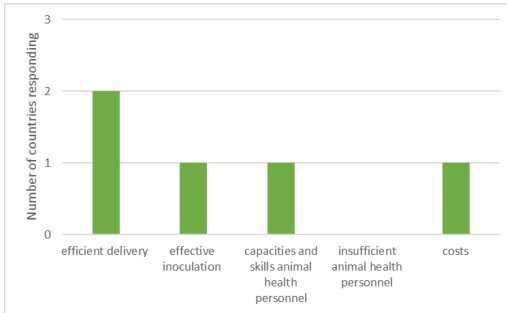
Annex VII

Summary Results of LSD Vaccines and Vaccination Survey (online)

	Bangladesh	Bhutan	Nepal	Sri Lanka
Vaccines used	Hom LAV, GTPV LAV	none	Hom LAV	Hom LAV
Average coverage	12-15%		30.000 doses	Limited N°farms
Objective of vaccination	Emergency vac			targeted
Monitoring effectiveness	Partially, ELISA		no	no
Major challenges for implementation	Inadequate supply, delivery, inoculation material, capacities, and skills		costs	
Combined with other TADs?	Yes, FMD, HS		no	no
Coordination with neighboring countries	no		no	
Costs-who	farmer + state AHA		farmer + local & state AHA	farmer
Vaccination planned 2023-2024	Yes, import + local GTPV		no	no
What could increase vaccination	Lower costs, more availability		Costs, lower dosage, cold chain, WOAHA vaccine bank	costs

Results of the LSD vaccines and vaccination survey 2021-2023

Challenges encountered during the implementation of the LSD vaccination (n=3)



Main reported challenge:

- efficient delivery (transport, adequate cold chain)

Other challenges

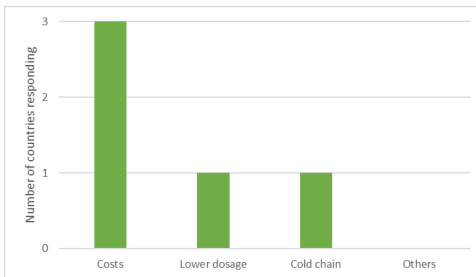
- effective inoculation (suitable equipment, correct dosage, application and biosecurity)
- capacities and skills animal health personnel
- Costs

South Asia TADs coordination event

8-12 May 2023 / Paro, Bhutan

Results of the LSD vaccines and vaccination survey 2021-2023

Changes to the current characteristics of available vaccines would help increase the vaccination coverage (n=3)



- Costs has been reported by all countries as core to increase coverage

- No need for cold chain and lower dosage were also indicated

South Asia TADs coordination event

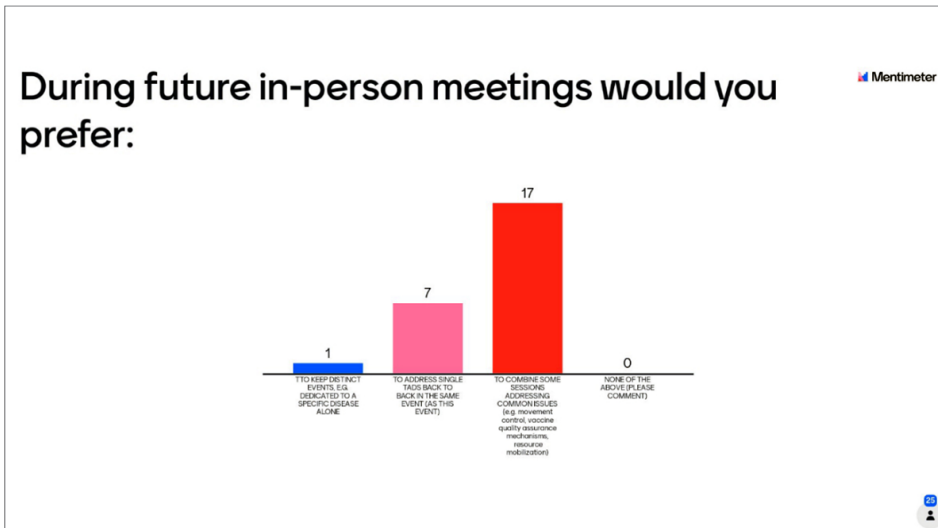
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Observations:

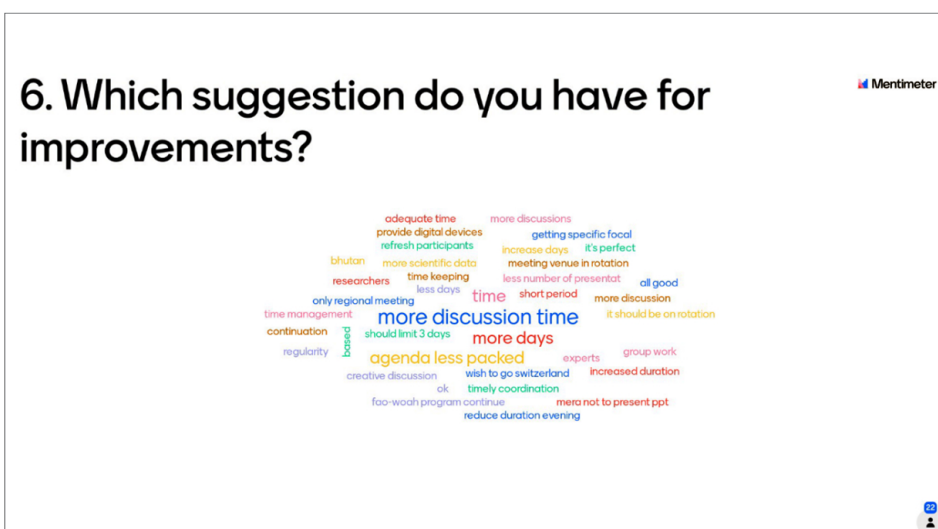
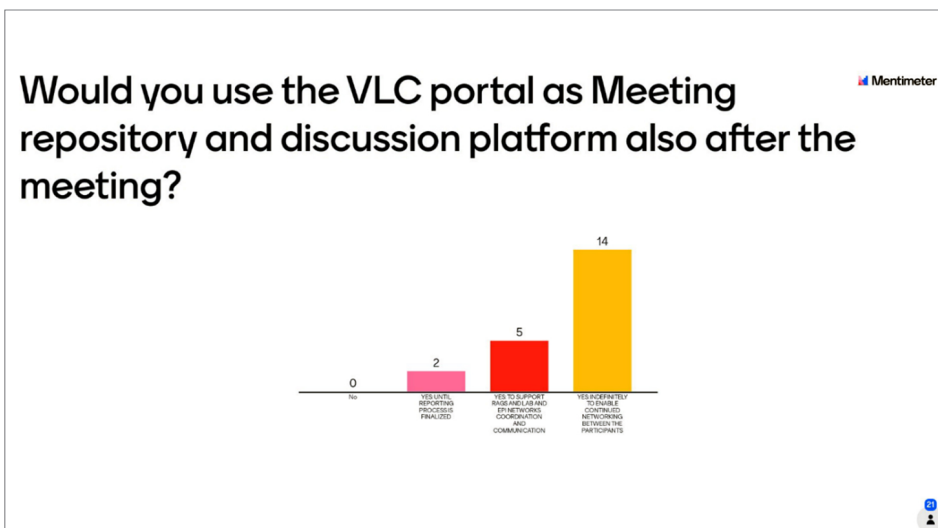
- LSDV seems to have had an important economic impact, nevertheless little intention for large scale vaccination campaigns
- What are the main reasons/main challenges?
- How could this be resolved?
- Could there be more regional coordination?
- Opportunity for combined surveillance and vaccination with other TADs?

South Asia TADs coordination event

8-12 May 2023 / Paro, Bhutan



The participants prefer to combine sessions addressing common issues in future in-person meetings.



Participants suggested providing more discussion time with less presentations so that interactions among participants and experts can be facilitated.

Annex IX

Agenda

THE FIRST SOUTH ASIA COORDINATION MEETING FOR TADS (PPR, FMD, LSD) PARO (BHUTAN) 8-12 MAY 2023 PROVISIONAL AGENDA

DAY 1 – 08/05/2023 PPR		
Session 1:	Welcoming, Global and Regional Perspectives	<i>Chair:</i> DG/AHC, Bhutan
08:15-08:30	Welcoming Participants	
08:30-09:15	Opening Session and welcome Remarks	FAO RAP/HQ WOAH RRAP/HQ SAARC Secretariat Minister/ Secretary DG- DoL (Host Country) closing by chair
09:15-09:20	Overview of the meeting	GF-TADs Regional Secretariat
09:20-09:50	GROUP PHOTO & TEA BREAK	
09:50-10:20	Updates on GFTADs Regional Strategy (2023-27) and disease priorities	GF-TADs Regional Secretariat Asia Pacific FAO regional Office WOAH regional Office
10:20-10:50	Overview of global and regional PPR situation Q&A	PPR Secretariat - Satya Parida
10:50-11:20	PPR GEPII/III and Blueprint Presentation and Discussion	PPR Secretariat - Felix Njeumi
Session 2:	Country presentation on opportunities and challenges of implementing NSPs and GEP Blueprint	<i>Chair and Co-Chair:</i> Regional WOA and FAO
11:20-12:20	Countries' presentations on opportunities and challenges of implementing NSPs over the last five years and priorities for aligning with PPR GEP Blueprint (+ Discussions)	2 countries - Bangladesh, Bhutan
12:15-13:30	LUNCH BREAK	
13:30-15:00	Countries' presentations on opportunities and challenges of implementing NSPs over the last five years and priorities for aligning with PPR GEP Blueprint (+ Discussions)	2 countries - India, Nepal
15:00-15:30	TEA BREAK	
14:15-16:30	Countries' presentations on opportunities and challenges of implementing NSPs over the last five years and priorities for aligning with PPR GEP Blueprint (+ Discussions)	2 countries - Sri Lanka, Pakistan
DAY 2 – 09/05/2023 PPR		
Session 3a:	PPR GEP II/III and Blueprint implementation	<i>Chair and Co-chair:</i> CVO Bangladesh and CVO Nepal
08:30-09:30	PPR Episystems presentation (30 min) Discussion on PPR Episystem Identification (30 min)	PPR Core Expert Team- J. Mariner (Facilitated discussion by PPR Secretariat)
09:30-10:30	PPR diagnostic and molecular epidemiology	PPR reference laboratory - Zhiliang Wang, CAHEC
10:30-10:45	TEA BREAK	All
10:45-11:45	Discussion: Aligning NSPs with PPR Blueprint	PPR Secretariat - F. Njeumi
11:45-12:15	Presentation on revised PMAT and its use & discussion on feedback from countries	FAO/WOAH - S. Kihu
12:15-13:30	LUNCH BREAK	All

Session 3b	PPR GEP II/III and Blueprint implementation	<i>Chair and Co-chair:</i> AHC Pakistan
13:30-14:00	RAG support and capacity building (Discussions on support and responsibilities of members to the RAG)	PPR Secretariat and RAG Chair and members - S. Kihu
14:00-14:30	Planning Vaccination, sourcing vaccines & Post Vaccination Monitoring (analysis of Vaccination Survey)	PPR Secretariat - S. Parida
14:30-15:00	Presentation on guidelines for dossier preparation for PPR & endorsement of Control programs	Status Department, WOAHA - Yoenten Phuentshok
15:00-15:30	TEA BREAK	
Session 4	General discussion and recommendations for PPR	<i>Chair:</i> CVO India and CVO Sri Lanka
15:30-16:00	WOAH activities in support to countries FAO activities in support to countries	PPR Secretariat? WOAHA/FAO Regional Offices F. Njeumi & S. Kihu
16:00-16:45	Group discussions and reflection on Country Action plans	PPR Secretariat, F. Njeumi & S. Kihu
16:45-17:30	General discussion and recommendations for PPR	<i>Chair and Co-chair:</i> F. Njeumi & S. Kihu
DAY 3 – 10/05/2023 FMD		
Session 5:	Global and regional perspective of FMD control	<i>Chair:</i> CVO Bhutan
08:30-09:40	Review of the Global FMD Control Strategy and its implementation in South Asia [10 min.]	FMD-WG (FAO co-chair, M. McLaws)
	Overview of global and regional FMD situation and implications on vaccine matching and selection for S. Asia [20 min.]	WRLFMD (D. King)
	Activities of the Regional FMD Reference Laboratory [20 min.]	ICAR-D (R. Singh TBC)
	The Progressive Control Pathway for FMD – key principles and stages [10 min.]	FMD-WG (EuFMD, E. Chevanne)
	Discussion [10 min.]	<i>Moderators:</i> M. McLaws and D. King
Session 6:	Update the membership of the elected FMD Regional Advisory Group (RAG) and review recommendations	<i>Chair:</i> CVO Bangladesh
9:40-10:00	Introduction to the Regional Advisory Group (RAG) for FMD (Terms of Reference and Election procedure) [10 min.] Call for RAG-FMD nominations [10 min.]	FMD-WG (WOAH member, P. Bolortuya)
10:00-10:30	TEA BREAK	
Session 6:	(continued)	<i>Chair:</i> CVO Bangladesh
10.30-11.30	RAG Election (2023-2025) [30 min.]	FMD-WG (FAO co-chair, M. McLaws)
	Progress review on the implementation of recommendations from the last FMD roadmap meeting [15min.]	FMD-WG (WOAH member, P. Bolortuya)
	Discussions on issues related to the previous recommendations [15 min.]	<i>Moderators:</i> New RAG Chair, FMD-WG
Session 7:	Country reports on FMD situation and control	<i>Chair:</i> WOAHA RR (H. Kugita)
11:30-12.30	Bangladesh [15 min. max] Bhutan [15 min. max] India [15 min. max]	CVO/WOAHA Delegates
	Q&A session [15 min.]	<i>Moderators:</i> Chair of the session, with facilitation from the FMD-WG (P. Bolortuya)
12.30-13.30	LUNCH	
Session 7:	(continued)	<i>Chair:</i> FAO RO (K. Wongsathapornchai TBC)
13.30-14.30	Nepal [15 min. max] Pakistan TBC [15 min. max] Sri Lanka [15 min. max]	CVO/WOAHA Delegates
	Q&A session [15 min.]	<i>Moderators:</i> Chair of the session, with facilitation from the FMD-WG (M. McLaws)

Session 8:	Vaccines and vaccination programs	<i>Chair:</i> CVO India
14.30-15.30	Vaccination and post-vaccination monitoring and vaccine security [30 min.]	EuFMD (D. Paton)
	Feedback on vaccine and vaccination survey questionnaire [15 min.]	FMD-WG (EuFMD, E. Chevanne)
	Discussions [15 min.]	<i>Moderators:</i> D. Paton and D. King
15.30-16.30	TEA BREAK / END of PLENARY SESSION	
	Closed sessions <i>Meeting with countries to (i) review their FMD situation, control activities and PCP-FMD stage (based on the self-assessment tool, presentation outcomes and control plan); (ii) discuss way-forward</i>	FAO/WOAH/EuFMD, 2 panels 30 min. per country -[4 countries] Panel 1: Bangladesh, Bhutan Panel 2: Nepal, Sri Lanka <i>Rapporteurs for each panel</i>
DAY 4 – 11/05/2023 FMD		
08:30-09:30	<i>Closed sessions (continued) – FMD-RAG closed session</i>	FMD-WG, RAG Members
Session 9:	Epidemiology and laboratory technical sessions	
09:30-10:30	Breakout group parallel discussions [60 min.] about key gaps and challenges identified through country presentations, and identification of possible solutions 1. CVOs/Delegates: FMD (networks) governance and meeting recommendations <i>Facilitators:</i> RAG Chair* and H. Kugita, P. Bolortuya, K. Bisht, P. Motta 2. Laboratory specialists <i>Facilitators:</i> Lab leader* and D. Paton, D. King, (M.Arshed), Hnin Thidar Myint 3. Epidemiology specialists <i>Facilitators:</i> Epi leader* and M. McLaws, E. Chevanne, P. Tshering	Rapporteurs*
10:30-11:00	TEA BREAK	
11:00-11:45	Session 9 (continued)	<i>Chair:</i> CVO Nepal
	Presentation of the discussion in the breakout rooms Laboratory Session [10 min., Rapporteur] Epidemiology Session [10 min., Rapporteur]	Epi and Lab Network Specialists
	Discussion & comments [25 min.]	<i>Moderators:</i> D. Paton, K. Bisht
Session 10:	Support for the development and implementation of national FMD control strategies	<i>Chair:</i> CVO India/Sri Lanka TBC <i>Facilitators:</i> FMD-WG/Region
11:45-13:00	PCP-FMD Toolkit and supporting mechanisms for PCP-FMD progression of countries [20 min.]	FMD-WG (FAO member, M. Arshed)
	Risk information: Availability and use disease data in preparedness and response [20 min.]	FMD-WG (FAO co-chair, M. McLaws)
	Q&A [30 min.]	<i>Facilitator:</i> WOAH RR with Chair of the session
13:00-14:00	LUNCH BREAK	
Session 11:	GF-TADs Perspective for Resource Mobilization [30 min.]	GF-TADs RSC (H. Kugita, WOAH RR)
14:00-14:30	Presentation: GF-TADs Perspective for Resource Mobilization [15 min.]	GF-TADs Global Secretariat TBC (A. Fedievsky)
	Discussion [15 min.]	<i>Facilitators:</i> Speaker and Chair
Session 12:	FMD Roadmap update, conclusions and recommendations	<i>Chair:</i> SAARC Secretariat
14:30-15.30	Presentation of roadmap based on the Regional Advisory Group assessment [15 min.]	New FMD RAG Chair
	FMD meeting draft recommendations [30 min.]	New FMD RAG Chair
	Discussions [15 min.]	<i>Facilitators for discussions:</i> Chair and FMD-WG (FAO co-chair M. McLaws)

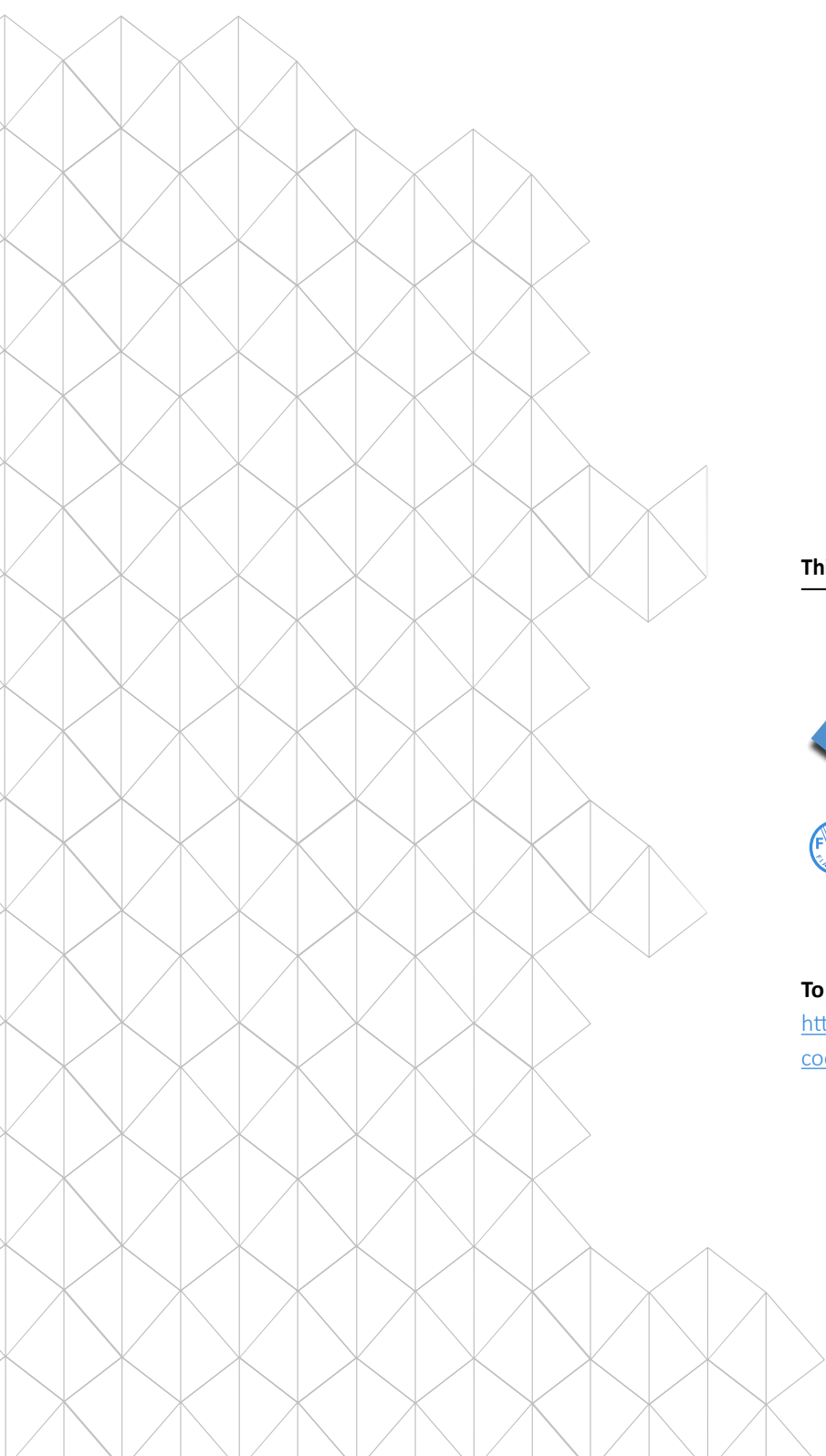
DAY 5 – 12/05/2023 LSD		
Session 13:	LSD disease situation and diagnostics	<i>Chair:</i>
08:30-10:00	LSD Global and regional distribution and control challenges [15 min.]	E. Tuppurainen/FLI
	Recombinant LSDV strains: impacts on transmission and control [15 min.]	N. de Regge/Sciensano
	Diagnostic tools for LSDV detection and post-vaccination monitoring [15 min.]	IAEA/ TBC
	Q&A [15 min.]	All
	Country reports on LSD situation and control: Bangladesh [10 min + 5 min questions] Bhutan [10 min+ 5 min questions]	
10:00-10:30	TEA BREAK	
10:30-11:30	Country reports on LSD situation and control: India [10 min+ 5 min questions] Nepal [10 min+ 5 min questions] Pakistan [10 min+ 5 min questions] Sri Lanka [10 min+ 5 min questions]	India [10 min+ 5 min questions] Nepal [10 min+ 5 min questions] Pakistan [10 min+ 5 min questions] Sri Lanka [10 min+ 5 min questions]*
Session 14:	LSD Vaccines and vaccination	<i>Chair:</i>
11:30-12:30	LSDV vaccine quality control and vaccination-challenge experiments to compare safety and efficacy of homologous and heterologous LSDV vaccines [30 min.]	N. de Regge/Sciensano
	Development and evaluation of the safety, immunogenicity and efficacy of a new live-attenuated LSD vaccine in India [10 min.]	N. Kumar/ICAR - National Institute of High Security Animal Diseases
	Panel Discussion: LSD vaccines and vaccination issues in the field [20 min.]	
12.15-13.30	LUNCH	
Session 15:	Decision making, and lessons learnt for LSDV control	<i>Chair:</i>
13:30-15:00	Investigation of Outbreaks at the livestock/wildlife interface and implications for LSD control [10 min. + 5 min Q&A]	E. Tuppurainen/FLI
	Experience from controlling LSD in the Balkan countries [10 min. + 5 min Q&A]	D. Dilaveris/EC DG Sante (Recording/Live)
	Identify priority challenges for LSD control and opportunities for combined control with other TADs in South Asia [40 min. + 20 minutes plenary reporting and discussion]	
Session 16:	Conclusions and remarks	<i>Chair:</i>
15:00-15:30	Recommendations and conclusion	
	CLOSING REMARKS	

Annex X

List of participants

S.no	Name	Country	Designation
1	Dr Malay Kumar Sur	Bangladesh	Director (Planning), Department of Livestock Services
2	Dr Md. Nazrul Islam	Bangladesh	Director, Divisional Livestock Office
3	Dr Tashi Yangzome Dorji	Bhutan	WOAH Delegate/Director
4	Dr Rinzin Pem	Bhutan	Chief Veterinary Officer
5	Dr Nirmal Kumar Thapa	Bhutan	Veterinary Laboratory Specialist
6	Dr Pelden Wangchuk	Bhutan	Deputy Chief Veterinary Officer
7	Dr Narapati Dahal	Bhutan	Animal Health Specialist
8	Dr Sangay Rinchen	Bhutan	Program Director
9	Dr Chendu Dorji	Bhutan	Regional Veterinary Officer/Deputy Chief Veterinary Officer
10	Dr Lungten	Bhutan	Regional Veterinary Officer/Deputy Chief Veterinary Officer
11	Dr Tashi Yangzome Dorji	Bhutan	WOAH Delegate/Director
12	Dr Abhijit Mitra	India	Animal Husbandry Commissioner
13	Dr Anirban Guha	India	Assistant Commissioner.
14	Dr V. Balamurugan	India	Principal Scientist, ICAR-NIVEDI, Bengaluru
15	Dr RP Singh	India	Director, ICAR, Directorate on FMD
16	Dr Samjhana Kumari Kafle	Nepal	CVO/Representative
17	Dr Vinay Kumar Karna	Nepal	Sr. Vet officer
18	Dr Sita Rijal	Nepal	Sr. Vet officer -Lab
19	Dr Muhammad Akram	Pakistan	Animal Husbandry Commissioner/ Chief Veterinary Officer
20	Dr Nazeer Hussain Kalhoro	Pakistan	Director General
21	Dr Riasat Wasee Ullah	Pakistan	Assistant Animal Husbandry Commissioner
22	Dr H. Kothalawala	Sri Lanka	Director/Veterinary Research
23	Dr P.L. Kumarawadu	Sri Lanka	Deputy Director/Animal Health
24	Dr (Mrs.) S. Puvanendiran	Sri Lanka	Principal Scientist/Virology
25	Mr Uddin Jamal Ahmed	Nepal	SAARC
26	Dr Paolo Motta	Thailand	FAO-RAP
27	Dr Khadak Singh Bisht	Nepal	FAO-RAP
28	Ms Mamata Chaudhary	Nepal	South Asia ECTAD Coordination-FAO
29	Dr Satya Parida	UK	FAO-HQ
30	Dr Njeumi Felix	Italy	FAO-HQ
31	Dr VosoughAhmadi, Bouda	IRAN	FAO-HQ
32	Dr Simon Kihu	Kenya	WOAH
33	Dr Melissa McLaws	Italy	GF-TADs FMD-WG / FAO
34	Dr Madhur Dhingra	Italy	GF-TADs FMD-WG / FAO HQ
35	Dr Muhammad Javed Arshed	Pakistan	GF-TADs FMD-WG / FAO HQ
36	Dr Bolortuya Purevsuren	Thailand	GF-TADs FMD-WG / WOA
37	Dr David Paton	UK	EuFMD
38	Dr Donal Peter King	UK	EuFMD

39	Dr Etienne Chevanne	France	EuFMD
40	Dr Hirofumi Kugita	Japan	WOAH-RRAP
41	Dr Hnin Thidar Myint	Japan	WOAH-RRAP
42	Dr Alexandre Fediaevsky	France	WOAH/HQ
43	Dr Jeffrey Mariner	Spain	PPR Expert
44	Dr Tuppurainen Eeva Sisko Marjatta	Germany	LSD Expert
45	Dr Nick de Regge	Belgium	LSD Expert
46	Dr Naveen Kuma	India	LSD Expert
47	Dr Ziliang Wang	China	PPR expert
48	Dr Biswanath Mishra	India	Observers
49	Dr Chriche du Plessis	Dubai	International Observer



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