World Organisation for Animal Health

TECHNICAL ITEM II

Build a joint TADs prevention and control system in Asia-Pacific region to strengthen regional preparedness and resilience through cross-border cooperation, including surveillance, early detection, disease response, border inspection, utilizing digital innovations

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1. Introduction

Transboundary animal diseases (TADs) remain a major threat to animal health, food security, and livelihoods in the Asia-Pacific region. The region has repeatedly experienced from both intra-regional spread of TADs — such as Foot-and-Mouth Disease (FMD) strains moving from South Asia into South-East Asia and China, and the recent spread to Indonesia in 2022—as well as external incursions, including African Swine Fever (ASF) and Lumpy Skin Disease (LSD) originating from Central Asia. Peste des Petits Ruminants (PPR), though confined to South Asia, continues to pose a risk spread to other parts in the region. In addition, some TADs threaten wildlife and biodiversity: highly pathogenic avian influenza (HPAI) has caused mortality in endangered crane species in Japan and the Republic of Korea (Esaki et al., 2025), while PPR has led to mass die-offs in saiga antelope and other wild ungulates in Mongolia (Pruvot et al., 2020). These events highlight the vulnerability of the region to both endemic and exotic TADs.

Spread of TADs is primarily linked to movement of live animals, and animal products across borders, both formal and informal. These flows are driven by changing consumer demand, market price differentials, and socio-economic pressures that encourage informal trade. Rapid changes in livestock production and regional connectivity add further complexity, making risks harder to predict and control. This underscores the need for strong capacity of veterinary services complemented by joint regional and sub-regional initiatives.

A coordinated prevention and control system is therefore essential. Cross-border cooperation improves animal movement monitoring, information sharing, and outbreak management. Digital innovations—such as real-time data platforms, mobile tools, and digital certification—can further enhance traceability, intelligence, and decision-making. Stronger multisectoral cooperation and more robust legal frameworks are needed to harmonise measures, close gaps in enforcement, and align national animal health systems with international standards

2. TADs situation

The major TADs in Asia Pacific include FMD, LSD, PPR, ASF, classical swine fever (CSF), and HPAI. The situation of these diseases remains a major concern as they spread rapidly across borders, cause high economic losses, disrupt trade, and undermine food security and livelihoods (WAHIS, 2025).

FMD continues to spread across intra- and inter-regional pathways via evolving serotype lineages. The **PanAsia lineage (serotype O)**, which originated in South Asia, has expanded into Southeast Asia and beyond, sustaining endemic circulation and facilitating recurrent cross-border spread. Similarly, the **O/Ind-2001 sub-lineages (d and e)**, first detected in India, have moved into Southeast and East Asia, further reshaping the regional epidemiological landscape. Importantly, the **O/SEA/Mya-98 strain** has been traced from Southeast Asia into China, South Korea, Japan, and other East Asian areas, underscoring the potential for regional strains to expand into new epidemiological settings (Bachanek-Bankowska et al., 2018).

The progression of LSD demonstrates its shift from a regionally contained infection to a major transboundary threat. After the first outbreak report in South Asia, LSD outbreaks were reported from China and several members in Southeast Asia. More recently, the outbreaks of LSD were reported from East Asia members, with incursions reported in Japan and South Korea. Molecular epidemiology has revealed clear patterns of geographical expansion of the LSD virus. Cluster 2.5 isolates have been detected in China, Vietnam, Thailand, Cambodia, Malaysia, and Indonesia, demonstrating the spread of a similar lineage across multiple members in Southeast and East Asia. Likewise, Cluster 1.2-KSGPO has been identified in Bangladesh, India, Myanmar, Nepal, Bhutan, Pakistan, and Sri Lanka, indicating widespread geographical circulation across South Asia.

The detection of genetically related lineages across distant areas demonstrates the long-distance transmission of LSD (Mazloum et al., 2023).

ASF, first detected in East Asia in 2018, has since become one of the most serious animal health crises in the region. The virus spread rapidly in China, considered a threat to several endangered wild pig species in the region and causing massive pig losses and severe disruption of pork supply chains, before moving into Southeast Asia. Large-scale outbreaks in Vietnam, Cambodia, Laos, Myanmar, and the Philippines resulted in millions of pigs lost, threatening food security and rural livelihoods. ASF also poses a continuing threat through wild boars. In South Korea, more than 2,600 ASF cases were reported in wild boars between 2019 and 2023, demonstrating persistent circulation in wildlife populations (Lim et al., 2023). ASF remains difficult to control due to its persistence in pork products, wild boar, and the environment, underscoring the need for sustained surveillance, stronger biosecurity, and coordinated response strategies.
HPAI continues to pose a threat through both poultry trade and natural ecological pathways. Migratory wild birds contribute to virus movement along key flyways, complicating control efforts even in areas with limited poultry trade. HPAI also threatens biodiversity, with severe impacts documented in endangered avian species and some mammals (Plaza et al., 2024). For example, outbreaks of HPAI H5N1 have caused mass mortality in crane populations (Esaki et al., 2025).

Changes in disease epidemiology are becoming more apparent as new lineages and genotypes continue to emerge and extend their geographic reach. These developments are influenced not only by the natural evolution of pathogens but also by factors such as intensified livestock production, the large-scale movement of animals, porous borders, interactions with wildlife, and climate variability. In response, there is a need to strengthen surveillance systems and adopt effective strategies capable of addressing the shifting risks posed by TADs.

3. Risks of cross-border spread of TADs

3.1. Animal movement major cause of long distance spread of TADs in the region

Animal movement over long distances is a major driver of TAD dissemination in the region. The WOAH (2015) report on livestock movement pathways in the Greater Mekong Subregion (GMS) highlighted that long-distance spread of TADs is driven by animal movements through formal and informal trade, with high volumes associated with traditional markets, seasonal migration, and cultural festivals (Smith et al., 2015). Several studies have also shown that the spread of genetically similar strains of FMD and LSD across Asia is closely linked to long-distance livestock movement.

The challenge in the regional context is that updated and systematically documented animal movement pathways in Asia are lacking. The last comprehensive mapping, the WOAH-2015 GMS study, is now nearly a decade old, while demand, supply chains, and economic conditions have since changed, likely altering both patterns and pathways of movement. This gap in current knowledge limits effective surveillance, risk assessment, and policy planning. An updated study is therefore essential, covering both formal and informal flows such as cattle and buffalo from South Asia into Myanmar, Thailand and onward to Lao PDR, Cambodia, and Vietnam; small ruminants from Myanmar into Yunnan, China; and pigs, pork, and poultry along trade corridors linking Vietnam, Cambodia, and Thailand. It should also capture seasonal or festival-related surges, as well as the role of wet markets, border markets, and trans-shipment hubs in redistributing animals.

Wildlife trade, especially its illegal component, is also a pathway for TAD spread. For example, the illegal trade of Chinese hwamei (Garrulax canorus) in Southeast Asia has involved thousands of birds moved across borders, with seizures in Singapore and Indonesia raising concerns about their role in spreading avian influenza (Shepherd et al., 2025).

3.2. Socio-economic drivers

Changes in consumer demand strongly influence livestock movement and disease dynamics. Increasing beef consumption in China creates strong economic incentives for cross-border flows of cattle and beef products from neighboring Southeast Asian members where prices are lower. For instance, live cattle prices are about USD 1.10/kg in Myanmar, USD 3.10/kg in Thailand, and USD 4.00/kg in Vietnam, compared with USD 3.60/kg in China (Smith et al., 2015). These price differentials drive informal livestock movements, which in turn facilitate the incursion of new FMD strains (Smith et al, 2015; Zhang et al., 2024)

In South Asia, livestock movement is driven by factors such as festival demand, price differentials, and livelihood needs, which stimulate significant cross-border flows of animals. Weak border controls further enable informal trade, allowing large numbers of cattle, pigs, and small ruminants to move between members.

These unregulated movements, in turn, facilitate the spread of TADs including FMD, PPR, ASF, and LSD. For example, cattle movements between India, Nepal, and Bangladesh have been linked to FMD outbreaks, while informal pig trade between Northeast India and Myanmar has contributed to the spread of ASF (Gongal et al., 2022).

Increased demand for pork products heightens reliance on imports, creating pathways for the introduction of ASF (Wang et el., 2022). Contaminated pork and pork products are recognized as high-risk commodities that can spread ASF into previously disease-free areas.

Changes in economic development, such as the construction of new roads and the expansion of regional trade, have intensified the movement of animals and animal products, thereby increasing the risk of TAD spread. In the Greater Mekong Subregion, new transport corridors have been linked to rising informal cattle movements that contributed to the spread of FMD (Smith et al., 2015). Likewise, the expansion of road networks has facilitated long-distance pig transport, identified as a key driver in the spread of ASF in Asia (Wang et al., 2025).

3.3. Natural factors

Apart from trade-related movements, natural ecological processes, particularly the migration of wild birds, play a significant role in the spread of highly pathogenic avian influenza (HPAI), independent of poultry trade. Migratory waterfowl traveling along the East Asian–Australasian Flyway move from breeding sites in Siberia and northern China to wintering grounds in Southeast Asia and Australasia, creating pathways for virus introduction into poultry systems. The spread of HPAI H5N1 from Qinghai Lake into South and Southeast Asia illustrates how migratory birds can drive long-distance transmission (Meng et al., 2019). These risks are amplified where farm biosecurity is low, especially in smallholder systems with close contact between livestock and wildlife. This natural movement complicates control efforts because outbreaks can occur even in areas with minimal poultry trade but frequent contact between wild and domestic birds.

Effective prevention of HPAI therefore requires robust regulation of poultry trade, enhanced surveillance and ecological monitoring of wild bird populations, particularly along key migratory flyways, and close collaboration with environmental agencies to anticipate and mitigate these natural transmission risks.

3.4. Cultural practices

Cultural practices and seasonal festivals can strongly influence TADs and zoonoses spread by shaping when and how people move animals. Along the West Kalimantan (Indonesia)–Sarawak (Malaysia) border, qualitative risk work and spatiotemporal analyses show that hunters and plantation workers frequently cross informally with dogs—brought for hunting or camp security—creating pathways that likely enabled the 2017 introduction and subsequent spread of rabies into Sarawak from West Kalimantan (WOAH, 2019). In livestock, religious festivals can amplify movement: Malaysia's re-introduction of FMD serotype A in 2016 was reported as "likely associated with substantial cross-border livestock movements prior to religious festivals," with long-standing modeling work also highlighting FMD risks from live-animal trade across the Thailand–Malaysia corridor (WOAH, 2016). Similarly, around Lunar (Chinese) New Year, authorities warn of heightened African swine fever (ASF) spread risk due to surges in travel and pork/animal product movements (WOAH, 2020).

4. Managing cross-border spread of TADs

4.1. Enhancing technical capacities

4.1.1. Strengthening animal movement management including enhance border inspection

Strengthening border inspection requires a shift toward risk-based inspection as the central principle of control. This approach allows authorities to prioritise consignments based on commodity risk, the disease situation in the area of origin, route histories, trader compliance records, and seasonal factors. Digital systems for verifying the authenticity of veterinary certificates can further reduce irregularities and accelerate clearance decisions.

The WOAH Animal Movement Workshop highlighted that border control succeeds when standards, intelligence, and operations are closely integrated. Informal movement will remain a persistent feature of regional trade, which means border inspection systems must be adaptive and supported by continuous improvement in risk analysis, inspection technologies (e.g., dogs and AI training for X-ray interpretation), and surveillance capacity (WOAH, 2025).

Quarantine facilities also play a critical role in border inspection. To function as effective barriers against disease entry, they must meet minimum standards for space, biosecurity, staff competencies, and sample handling. Mobile inspection units can be used at informal trading points during high-risk seasons to reduce vulnerabilities. Deploying inspection teams based on risk helps ensure resources are focused where the threat of disease introduction is high.

4.1.2. Strengthening surveillance – early detection and early response

Effective surveillance is critical for early detection of TADs and rapid response to outbreaks. Risk-based inspection offers a more efficient approach than blanket inspection, allowing authorities to focus resources on high-risk consignments while easing checks on low-risk ones. This strategy helps optimize limited staff and infrastructure, speed up legitimate trade, and maintain regulatory compliance (World Bank Group, 2023).

The WOAH Animal Movement Workshop highlighted risk-based inspection as a key principle for strengthening border surveillance. For example, joint inspections and patrols have been piloted along Thailand's borders. However, a fully operational and standardized risk-based inspection system has yet to be established in the region. Developing such systems will be essential to enable earlier detection of disease incursions and ensure faster responses to emerging threats (WOAH, 2025).

4.1.3. Develop cross-border contingency plans

Effective contingency planning across borders is essential to respond swiftly and coherently to TAD incursions. Shared borders often represent high-risk zones due to informal livestock movement, which can undermine national response efforts. Joint contingency plans align protocols for early detection, movement control, quarantine, and outbreak response across neighboring members—ensuring that responses are coordinated rather than fragmented. Simulation exercises play a critical role in validating these plans. WOAH has developed robust guidelines to support such exercises, which help members prepare, test decision-making, and improve systems across sectors. Members are encouraged to conduct routine table-top and field simulations, ideally within sub-regional frameworks, to build trust, clarify responsibilities, and ensure rapid, predictable responses during emergencies.

For example, to protect Sabah (Malaysia) (and Brunei from rabies spillover from Sarawak, (Malaysia)—following the 2017 incursion linked to rising cases in West Kalimantan (Indonesia)—and to prevent FMD incursions from neighboring infected areas, authorities should establish a Borneo-wide contingency plan supported by annual cross-border simulation exercises involving Indonesia (Kalimantan), Malaysia (Sarawak, Sabah), and Brunei. The plan should set out joint, risk-based border inspections; temporary controls on dog movements; coordinated ring vaccination and PEP stockpiles for rabies; and, for FMD, harmonized protocols for the cross-border movement of susceptible animals with clear SOPs for suspected incursions. Controls should be intensified during high-movement periods (e.g., Eid al-Adha and Lunar New Year), when transmission risk increases. This approach builds on the current status (Brunei and Sabah remain rabies-free; Brunei and Sabah/Sarawak are WOAH-recognized FMD-free without vaccination) and aligns with WOAH guidance that contingency plans be regularly tested through simulation exercises.

4.1.4. Application of digital technologies

Disease reporting and surveillance

Digital technologies play an increasingly important role in disease reporting, surveillance, and timely outbreak notification. Mobile applications, dashboards, and GIS-based platforms allow veterinary authorities to capture outbreak data in real time and visualize disease spread through interactive maps. For example, Thailand's E-reporting system enables rapid online submission and mapping of disease cases, improving transparency and supporting timely interventions. Indonesia's ISIKNAS platform integrates disease reporting with livestock population data to strengthen surveillance and decision-making. At the international level, systems such as FAO's EMPRES-i and WAHIS complement national efforts by providing global channels for disease reporting and interactive mapping of outbreaks.

The WAHIS Immediate Notifications, which requires members to submit outbreaks reports within 24 hrs after detection, will provides timely dissemination of significant disease events if followed strictly. Follow-up reports, submitted weekly after an immediate notification, serve as a useful monitoring tool. Weekly follow-up reports provide valuable monitoring, but the six-month interval reports currently used in WAHIS are too distant from the weekly updates. To support a stronger surveillance system, monthly reporting should be integrated to allow closer tracking of outbreak trends and better evaluation of seasonal patterns. A dedicated system for real-time or near real-time reporting could be developed to ensure faster detection and response to emerging threats.

This was piloted using ARAHIS, as a WAHIS Regional Core, but there is lack of submission to this platform, defeating its purpose.
In advance, the digital systems should link national platforms with laboratory diagnostics and international reporting systems, ensuring that data flows seamlessly from local detection to regional and global monitoring. Such integration would enhance early warning capacity, improve coordination across sectors and borders, and strengthen the overall effectiveness of outbreak response.

Furthermore, it will be important to explore the risks in terms of cyberthreats, with the costs associated with cybersecurity factored into future planning.

Animal movement and border control

Digital technologies are also essential for managing animal movement and strengthening early detection of TADs. National platforms in members such as Thailand, India, and Bangladesh are improving traceability and certification through e-movement systems, animal ID databases, and digital permits. These tools enhance the monitoring of livestock flows, improve the reliability of certification, and generate traceable records that strengthen surveillance and early warning capacity. However, adoption remains limited to several members, and the absence of a regional system continues to constrain cross-border data sharing and coordinated surveillance.

WAHIS provides a strong foundation for disease reporting, but its current integration with animal movement data is limited, leaving gaps in real-time tracking and surveillance linkages. Expanding WAHIS to include movement permits, trade flows, and cross-border data would transform it into a regional decision-support system. Such an expansion would enable risk mapping, certificate cross-checking, and targeted inspections, while encouraging members to strengthen reporting of movement controls. More consistent and complete reporting would provide a stronger evidence base for regional risk assessment and preparedness, turning WAHIS into a comprehensive tool for managing cross-border livestock flows.

Predictive analytics and risk forecasting

Modelling approaches are increasingly being used to transform digital data into actionable insights for disease prevention and control. Stochastic and scenario tree models, for example, have been applied to assess the risk of FMD introduction through cross-border cattle trade and to evaluate the effectiveness of quarantine strategies These models demonstrated that while quarantine can substantially reduce the risk of releasing infected cattle, the probability of complete risk elimination is extremely low, emphasizing the need for rigorous and sustained measures (Wongnak et al., 2024). Similarly, regional scenario tree modelling has been used to estimate the probability of freedom from specific FMD serotype (Asia 1), highlighting the limitations of passive surveillance and identifying critical parameters such as sampling intensity and farmer reporting behaviour that strongly influence detection sensitivity (Wada et al., 2025). In addition, ecological niche modelling has been applied to lumpy skin disease (LSD) to predict areas of environmental suitability and potential spread, providing valuable evidence to guide targeted surveillance and control strategies (An et al., 2023). Furthermore, the modelling of animal price data has shown value for early warning. Time-series and cross-correlation models revealed that increases in cattle prices preceded rises in FMD outbreak reports by one to two months, suggesting that market price signals can serve as practical, low-cost indicators of emerging disease risk (Punyapornwithaya et al., 2025).

Embedding predictive modelling into digital platforms would allow members to forecast risks more accurately, prioritize surveillance, allocate resources more efficiently, and design timely interventions before outbreaks escalate. Building capacity in modelling, improving access to high-quality data, and fostering regional data-sharing agreements are critical next steps. Predictive analytics could evolve into a regional early warning system that integrates epidemiological, economic, and movement data streams, strengthening preparedness and response to transboundary animal diseases (WAHIS, 2025).

4.2. Strengthening regional and sub-regional cooperation

4.2.1. Getting political support from ASEAN, SAARC and PC

Regional political organizations such as Association of Southeast Asian Nations (ASEAN), South Asian Association for Regional Cooperation (SAARC) and the Pacific Community (PC) plays a crucial role in promoting regional cooperation and providing political support to control of TADs.

The ASEAN through the ASEAN Sectoral Working Group on Livestock (ASWGL) and, soon with the ASEAN Coordinating Centre for Animal Health and Zoonoses (ACCAHZ), serves as a technical body under the ASEAN

Ministers on Agriculture and Forestry (AMAF), to provides a platform for Member States to coordinate policies and align strategies for animal health. Through its support for regional frameworks such as the ASEAN Animal Health Strategy and its collaboration with partners like FAO, WOAH, and donors including ADB and Australia, the ASWGL has been instrumental in advancing coordinated approaches to control FMD, ASF, HPAI, and other priority TADs. In particular, ASEAN has supported regional FMD control by endorsing the SEACFMD Campaign led by WOAH SRR in 2004 and appointed Thailand as the lead member. It has also coordinated with FAO and WOAH in the development of the ASEAN ASF Control Strategy. On One Health, the ASEAN Summit have issued a Declaration on One Health (ASEAN, 2023) and the Declaration on Strengthening Regional Biosafety and Biosecurity (ASEAN, 2024). These declarations highlight the importance of integrated, cross-sectoral approaches to prevent, detect, and respond to emerging health threats at the human–animal–environment interface. They also underscore the need for stronger regional cooperation, harmonized policies, and capacity building to mitigate biological risks, enhance laboratory safety, and ensure responsible use of biological resources. Together, these commitments position ASEAN as a proactive regional bloc in advancing One Health and biosafety/biosecurity governance.

The SAARC Chief Veterinary Officers Forum provides an equivalent platform for South Asia, bringing together national veterinary authorities to coordinate disease control interventions and strengthen collective preparedness. By aligning on policy, sharing epidemiological intelligence, and coordinating vaccination campaigns, the Forum helps Member States respond more effectively to TADs such as FMD, PPR, and LSD. Its engagement with FAO, WOAH, and regional networks supports the development of laboratory capacity, surveillance harmonization, and cross-border cooperation, thereby reinforcing veterinary services and fostering regional solidarity.

In the Pacific, PHOVAPS under the Secretariat of the Pacific Community serves as the regional mechanism for animal health and production services, helping Pacific Island Members and Territories strengthen their preparedness against exotic TADs. With a focus on surveillance, governance, and emergency response, PHOVAPS supports the development of national animal health strategies aligned with WOAH standards and grounded in One Health principles. By partnering with FAO, Australia, and New Zealand, it addresses gaps in workforce capacity, infrastructure, and diagnostics, ensuring that Pacific nations remain protected from emerging and transboundary disease threats.

4.2.2. Enhancing technical cooperation through GF-TADs, SEACFMD, GMS and other multi-lateral cooperations

The FAO–WOAH Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) in Asia and the Pacific is the region's umbrella platform for coordinated prevention, early detection, and control of priority TADs (e.g., FMD, ASF, PPR, HPAI). It promotes harmonized, science-based approaches and joint action among members. Governance is provided by a Regional Secretariat hosted by the WOAH Regional Representation in Tokyo and a Regional Steering Committee of CVOs/WOAH Delegates with FAO, WOAH and partners, which sets regional priorities and endorses joint plans. Implementation is supported by Regional Support Units to be hosted by Regional Specialized Organizations (ASEAN, SAARC, SPC) and by technical networks—EpiNET for epidemiology/surveillance and LabNet for diagnostics, quality assurance, and standardization—ensuring coherent cross-border collaboration.

The South-East Asia and China FMD (SEACFMD) Campaign—coordinated by the WOAH Sub-Regional Representation for South-East Asia—provides a disease-specific platform to progressively control and ultimately eradicate FMD in Southeast Asia, China, and Mongolia. The campaign's governance rests with the SEACFMD Sub-Commission (WOAH Delegates), supported by National Coordinators who translate policy into operations and facilitate cross-border work. EpiNet and LabNet underpin the technical backbone for risk assessment, surveillance, and laboratory harmonization, while the Private Sector Consultative Committee (PSCC) engages producers, traders, and industry to align strategies with field realities.

Together, GF-TADs and SEACFMD serve as models for regional coordination for TADs control. This combination has built trust among members, enabled harmonized approaches, and provides a scalable model for tackling other priority TADs across the region.
In the Greater Mekong Subregion, through the ADB's support, a number of cross-border cooperation projects on TAD control provide a platform for regional cooperation. In CASP Phase II, ADB financed a regional Livestock Identification and Traceability System (LITS) pilot using low-cost digital tagging (QR codes, RFID) and smartphone scanning across Cambodia, Lao PDR, and Myanmar. The Cross-Border Livestock Health and Value Chains Improvement Project—focuses directly on reducing TAD risks and strengthening food safety.

On wildlife disease, the **Asia Pacific WOAH Wildlife Health Networks** serves as platforms to improve surveillance, research, and early warning of wildlife-related diseases, ensuring a holistic One Health approach

to regional disease prevention and control. For rabies, the **ASEAN Rabies Coordination Group (RCG)** provides a vital platform for members to coordinate strategies, share best practices, and mobilize resources towards the elimination of rabies across Southeast Asia. Meanwhile, the **South Asia RabLab Network** strengthens regional laboratory collaboration by enhancing diagnostic capacity and promoting quality assurance, supporting rabies control in SAARC members.

4.3. A robust legal framework to strengthen VS to control TADs

A strong and coherent legal framework is fundamental to the effective prevention and control of TADs in the Asia–Pacific region. Recent reviews by WOAH have shown that while most members have laws establishing veterinary authorities and outlining responsibilities for surveillance and response, these frameworks often lack clarity, consistency, and enforceability (WOAH, 2024). Fragmented mandates, overlapping ministerial roles, and limited authority for veterinary services hinder rapid decision-making during outbreaks of diseases such as ASF, HPAI, and FMD. Without clear legal authority for outbreak declaration, rapid response, and coordination across ministries, members face critical delays that exacerbate disease spread and increase socio-economic losses. In addition, it is important to analyze the underlying drivers of non-compliance with existing laws and regulations, and to identify practical measures to strengthen enforcement and promote adherence.

Harmonization of legal frameworks across the region is therefore essential to strengthen capacity for prevention and emergency response. Alignment with WOAH standards, the WHO International Health Regulations (IHR), and FAO emergency response guidelines would not only support timely and transparent disease reporting, but also facilitate safe trade, and coordinate regional action. Clear legal provisions on intersectoral coordination, particularly through the One Health approach, are vital for managing zoonoses and wildlife-related disease risks (McPake et al., 2022). In addition, standardization of definitions, notifiable disease lists, and procedures for surveillance, quarantine, and laboratory designation will improve efficiency and cross-border cooperation.

Furthermore, regional platforms such as ASEAN, SAARC, and SPC can play a pivotal role in promoting legal harmonization by facilitating model legislation, cross-border protocols, and technical cooperation. Capacity building for legal drafters, Veterinary Services, and inter-agency authorities is also critical to ensure that laws are not only drafted in line with international standards but are also operationally feasible and enforceable. Strengthening the role of veterinary paraprofessionals (VPPs) through formal recognition in legislation can significantly expand the reach of surveillance and control programs, especially in remote areas where veterinarians are scarce. Ultimately, strong, harmonized, and enforceable legal frameworks provide the foundation for effective TAD prevention and control,

5. Conclusions

The spread of TADs across Asia and the Pacific is linked to long-distance animal and animal products movement through formal and informal pathways, often driven by high demand and price differentials. These movements play a critical role in enabling cross-border transmission and sustaining the spread of TADs across members. To reduce these risks, border control should be strengthened through risk-based inspection, quarantine, and movement management. Equally important are early detection and timely reporting, supported by digital tools that allow real-time monitoring and certification. Stronger cross-border information sharing is essential to anticipate threats and ensure rapid responses. By addressing the drivers of movement while enhancing surveillance, reporting, and cooperation, members can limit the spread of TADs, protect food security, and build more resilient livestock systems.

Regional cooperation remains the cornerstone of success: aligning with WOAH standards, conducting joint contingency planning, and building interoperable digital systems will allow national measures to reinforce one another. Regional political organizations such as ASEAN, SAARC and SPC play a crucial role in promoting regional cooperation and providing political support to control of TADs. They can also play a pivotal role in promoting legal harmonization by facilitating model legislation, cross-border protocols, and technical cooperation. Existing technical platforms such as the FAO–WOAH GF-TADS and SEACFMD provide valuable models for regional coordination in TADs control, which could be further strengthened and expanded.

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