

Towards a more resilient and healthier ASEAN: A systematic approach to mitigate the risk of zoonotic and emerging infectious diseases along the livestock value chain

The need

Animal health threats represent a major challenge, not only for the livestock sector but also for protecting and promoting public health in all ASEAN Member States (MS). This has been recognized by ASEAN on multiple occasions and resulted in the establishment of the ASEAN Coordinating Centre for Animal Health and Zoonoses (ACCAHZ) in 2016. Among the functions agreed upon by ASEAN, the ACCAHZ is expected to provide policy and technical support to the ASEAN bodies in developing and implementing regional strategies for the prevention, control, and eradication of transboundary animal diseases and zoonoses.

The fact that investing in the prevention of infectious diseases is more cost-effective than responding to infectious disease events has been extensively documented. Applying the One Health approach to prevention efforts can increase efficiency and save billions of dollars. Preventing further pandemics using a One Health approach would only cost 2% of the total damage incurred in responding to the COVID-19 pandemic¹. This has put the One Health approach in the spotlight, as reflected in the ASEAN Leaders Declaration (ALD) on One Health Initiatives, which is currently under development².

Over the last decade, there has been a lot of progress in the development of policies, strategies and plans to address One Health threats. One example is ASEAN's Strategy for Exotic, Emerging Diseases, and Animal Health Emergencies (2021), in which developing and implementing risk reduction strategies across sectors was identified as a strategic action to address the risk of zoonoses. ASEAN also developed the Strategic Framework to Combat Antimicrobial Resistance through One Health (2019-2030) which highlights the strengthening of infection prevention and control strategies as one of the strategic objectives. A key activity identified to meet this objective is the implementation of Good Animal Husbandry Practices (GAHP), including national policies to promote biosecurity in the animal health sector.

Despite good progress in the development of policies, strategies and plans to prevent health threats along the livestock value chain, proper implementation remains a challenge. The Food and Agriculture Organization of the United Nations, with the financial support of Australia's Department of Foreign Affairs and Trade (DFAT), conducted a review of previous investments aiming at mitigating the risk of infectious diseases along the livestock value chain. The goal was to identify factors that led to effective risk reduction along the livestock value chain and provide recommendations to ACCAHZ on how to contribute to a healthier and more inclusive and resilient ASEAN.

¹ Dobson, A.P., Pimm, S.L., Hannah, L., Kaufman, L., Ahumada, J.A., Ando, A.W., Bernstein, A., Busch, J., Daszak, P., Engelmann, J. and Kinnaird, M.F., 2020. Ecology and economics for pandemic prevention. *Science*, 369(6502), pp.379-381.

² <https://en.vietnamplus.vn/asean-bolsters-one-health-initiatives-to-prevent-future-pandemics/250208.vnp>

Evidence

The review included initiatives from four ASEAN MS (Cambodia, Lao PDR, Myanmar, and Vietnam) that aimed at reducing the risk of animal infectious diseases along the livestock value chain, which were supported by previous investments by DFAT³. Despite being funded by the same project, each initiative was purposely designed in alignment with each country's priorities, taking into consideration their specific context and concerns. During the review, extensive consultations with project's stakeholders were conducted to better understand the factors leading to successful results, including sustainability, and to formulate recommendations for ASEAN MS aiming at improving the implementation of policies and plans to mitigate the risk of animal infectious diseases from farm to fork. The main scope of each initiative is described in Figure 1.

All reviewed initiatives were successful to a greater or lesser extent. Fifteen factors that contributed to the success of the interventions were identified and their contribution to nine dimensions of success was mapped: Feasibility, Relevance, Impact, Engagement, Sustainability, Equality, Efficiency, Positive spillovers, and Public-Private collaboration. Each factor can contribute to one or more dimensions and increases the overall likelihood of a successful initiative. Factors and their contribution to the different dimensions of success are summarized in Table 1.

The adoption of a participatory approach was identified as a critical factor for the success of the reviewed initiatives, contributing to all 9 dimensions of success. There are different participatory tools and methods, but they all involve the engagement of stakeholders to collectively design or at least agree on the interventions to be implemented to achieve the desired goal. This process, commonly refer to as co-creation, ensures that the initiative remains relevant and beneficial to the target population, while contributing to other goals that could be neglected otherwise, such as gender equality or private sector engagement.

Adopting a systematic approach that integrates all fifteen factors for success can support ASEAN MS in accelerating the implementation of policies and strategies for preventing infectious diseases along the livestock value chains. In order to do so, certain capacities need to be in place, such as being able to assess the risk of infectious diseases along relevant value chains, including cross-border ones. Opportunities for ASEAN MS to share their success stories, challenges encountered, frustrations, and lessons learned are needed to promote peer-learning, cross-fertilization and collaborations that can speed-up the transition towards a healthier and more inclusive and resilient ASEAN.

Recommendations

Based on the review conducted, the following recommendations are submitted for the consideration of the ASEAN Sectoral Working Group on Livestock:

1. Adopting a **systematic approach as part of an ASEAN Strategic Framework for policy implementation to mitigate the risk** of zoonoses and emerging infectious diseases along the livestock value chain. This approach should include the following steps:
 - a. Conduct livestock and livestock product value chain studies to **identify livestock and livestock product movement pathways and risk hotspots**.

³ The DFAT-funded project "Evidence-Based Risk Management along the Livestock Production and Market Chain" was implemented between May 2017 and December 2019.

- b. Conduct **national and regional stakeholder engagement** to identify national and regional priorities, shared goals, and collaborations. Based on the country's priorities, engage stakeholders to **co-create solutions and risk-reduction interventions** with the support of experienced facilitation.
 - c. While co-creating targeted change biosecurity initiatives, **establish clearly articulated SMART goals** (Specific, Measurable, Achievable, Relevant, and Time-Bound), and ensure that initiatives are **appropriately resourced and account for economic justification** for end users. Ensure **gender inclusivity and private sector engagement** is considered from the project's outset.
 - d. Seek **sustainable interventions that have clear benefits to value chain actors** and end users, including economic benefits. Build on pilot projects that have demonstrated clear successes, such as improving hatchery and breeder poultry farms in Bac Giang, Viet Nam, or developing Antibiotic Free Eggs in Myanmar's Poultry Production Zones through Public-Private Partnerships.
 - e. Simultaneously to implementation of changes in biosecurity, **review biosecurity related national or regional policy** and provide **policy information briefs to ASEAN Ministers** as needed. While such legislation should be aligned with international standards, it must prioritize the local context, including resources from both private and public sectors, to **develop legislation that is realistic (vis-à-vis the country context) and can be properly implemented** despite the limited human and financial resources.
 - f. Incorporate a **robust monitoring and evaluation** framework from the project outset that can be used to support the generation of **evidence of project learning and success**. Collate and make available applicable project information, including education materials, designs, and processes to enable future scaling of interventions if required.
2. **Building the capabilities required to design and implement risk-based strategies.** This involves building skills within the Veterinary Services to assess the risk along the livestock value chain based on principles of **Veterinary Epidemiology and Value Chain Analysis**, which can be complemented by the results of both **active and passive surveillance systems**. The **capacity to use participatory tools** and methods is crucial for facilitating the co-creation process to design interventions collectively with all relevant stakeholders.
 3. Creating more **opportunities for experience sharing and cross-fertilization among ASEAN MS**. The participatory approach recognizes that a "one-size-fits-all" solution is not realistic and MS should co-create solutions with the active involvement of relevant stakeholders. This involves a certain degree of experimentation; therefore, **evaluating the impact of initiatives is crucial**. Sharing their experiences, challenges encountered, lessons learned, and success stories can foster a collective thinking to solve the challenges that ASEAN faces as a region regarding infectious diseases.
 4. **Promoting peer-learning by identifying champions and model farmers** that can share their knowledge and advise other farmers in a similar context. This approach can inspire farmers and drive systematic changes required to transform the livestock sector and related value chains to ensure safer and better livestock production in the region.

Figure 1. Graphical summary of the reviewed initiatives

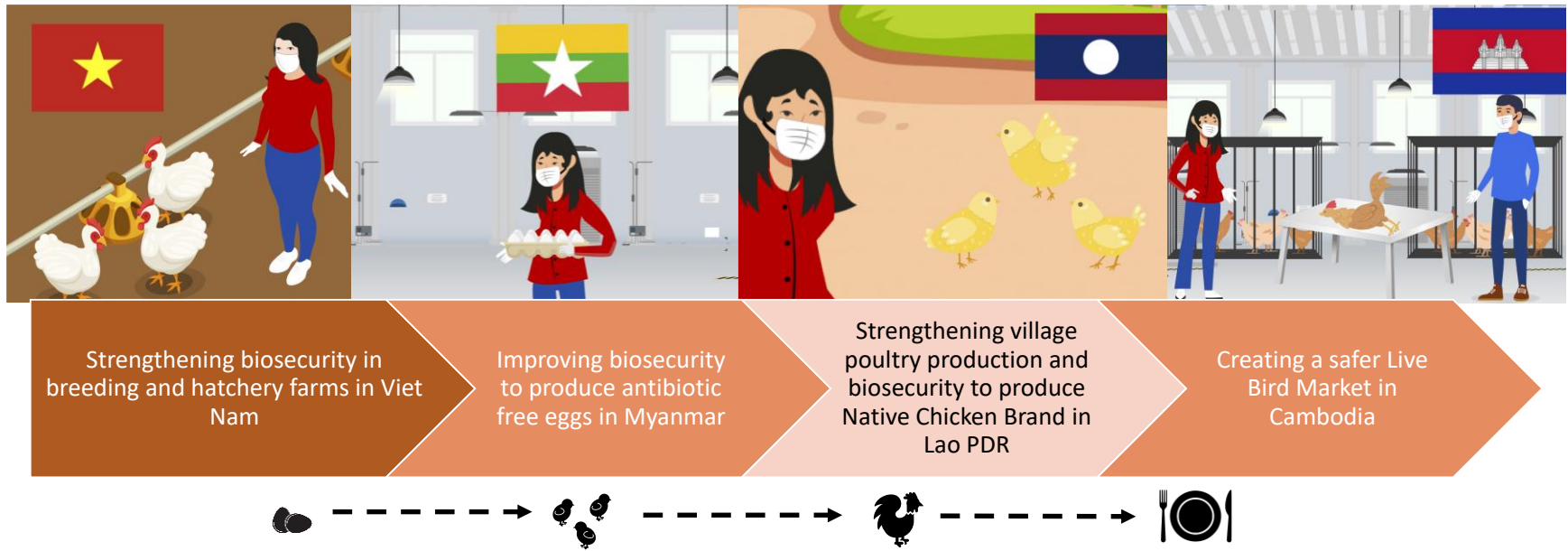


Table 1. Factors contributing to different dimensions of success of risk reduction interventions

Factors	Feasibility	Relevance	Impact	Sustainability	Equality	Efficiency	Positive spillovers	Public-private collaboration
Participatory approach	X	X	X	X	X	X	X	X
Risk-based approach (VC, surveillance)		X	X			X		
Economics / Business sensitivity	X		X	X				X
Gender sensitivity			X		X			
Capacity building	X			X				
Fostering cross-border collaboration			X			X		
Peer-learning (model farms, farmer groups)			X	X		X		
Regular monitoring and impact assessment		X		X		X	X	
Building on existing structures / institutions						X	X	
Using local resources				X		X	X	
Auditing, certification, policy advice			X	X				X
Advocacy / engagement of authorities	X	X						
Monitoring antimicrobial use (AMU)			X				X	
Private Sector Engagement			X	X				X

Figure 2. A systematic approach for policy implementation to mitigate the risk of zoonoses and emerging infectious diseases along the livestock value chain



A. UNDERTAKE AND REVIEW
RISK IN LIVESTOCK VALUE
CHAINS



B. CO-CREATE RISK REDUCTION
INTERVENTIONS USING
PARTICIPATORY TOOLS



D. IDENTIFY SMART GOALS
AND ENSURE PROPER DATA
COLLECTION AND GENDER
INCLUSIVITY



E. SEEK INTERVENTIONS WHERE
RISK REDUCTION AND
ECONOMIC GAINS ARE JOINED
TO ENSURE SUSTAINABILITY



F. REVISE POLICIES BASED ON
LESSONS LEARNED FROM THE
FIELD AND LOCAL CONTEXT



G. EVALUATE AND
DISSEMINATE THE IMPACT OF
INTERVENTIONS FOR
ADVOCACY PURPOSES