AgroSpectrum ASIA
Envisaging Future | Updating Present

Weakest links: State of livestock biosecurity across Asia-Pacific

12 November 2026 | Features | By Ankit Kankar | ankit.kankar@mmactiv.com

African swine fever, foot-and-mouth, lumpy skin, avian influenza and the screwworm threat share one thing: they travel faster than surveillance systems. We audit where the regionâ??s defences hold and where they leak.



Seven years after African swine fever crossed into Southeast Asia, the virus has not gone away. It has simply become part of the furniture. In the summer of 2025, Vietnam recorded 972 outbreaks in the first seven months of the year, up from 514 in mid-July, with more than 100,000 pigs dead or culled, according to agriculture ministry figures reported by state media. Prime Minister Pham Minh Chinh issued an urgent directive to provinces. The chairman of the Animal Husbandry Association of Vietnam put it bluntly: no province was safe.

That would be alarming enough in a country with no vaccine. Vietnam, however, has one. AVAC Vietnam's live attenuated ASF vaccine has been in commercial use since 2023, and the company said in mid-2025 that it had sold three million doses at home and exported 600,000 more. Officials acknowledged that uptake was low because farmers worried about cost and efficacy. The lesson is uncomfortable for every ministry in the region: a vaccine on the shelf is not the same as a herd that is protected.

That gap, between the tools that exist and the systems that deliver them, is the subject of this audit. Across seven markets and five disease threats, we look at four layers of defence: vaccine access, border and movement control, compensation that persuades farmers to report, and the diagnostic capacity to spot an incursion early. The picture that emerges is of a region with some genuinely strong walls and a great many open gates.

The pig belt: ASF as a permanent condition

The scale of the problem is easiest to grasp in China, where the 2018 to 2019 epidemic killed or forced the culling of roughly half of the domestic pig population, with losses estimated above USD 100 billion. China's response, a rapid shift towards large integrated farms with hardened biosecurity, rebuilt the herd but also reshaped who raises pigs. Smaller operators who could not afford the investment left the industry, and the remaining backyard and village sector is where the

virus continues to circulate quietly.

Vietnam followed the same arc a year later. In 2019 the country culled 1.7 million pigs within months, about five per cent of its herd, across 42 of its 63 provinces at the time. The 2025 resurgence showed that the virus had settled into the smallholder layer, where pigs are moved informally, sold quickly when sick and rarely reported.

The Philippines offers the starkest numbers. Since ASF arrived in 2019, the national hog population has fallen from about 13 million to roughly eight million head, and outbreaks have reached 76 of the country's 82 provinces, hitting backyard raisers hardest. In early September 2026, the Bureau of Animal Industry cleared AVAC ASF LIVE for commercial sale, the first ASF vaccine approved for that purpose in the country, after a period of government-controlled use. Agriculture Secretary Francisco Tiu Laurel Jr. described the approval as key to the hog repopulation programme. A second candidate, South Korea's PROVAC, remains under evaluation, and the livestock undersecretary has sought PHP 1 billion in 2027 funding to subsidise vaccine access for smallholders.

Officials were careful to call the vaccine one tool among several, to be paired with surveillance, biosecurity and movement controls. That caution is warranted. Live attenuated vaccines need cold chains, veterinary oversight and monitoring for reversion, and the smallholders who most need protection are the least able to provide those things on their own.

Thailand, home to one of the region's most export-oriented pig and poultry sectors, illustrates a different risk. Its integrated producers run some of the tightest farm biosecurity in Asia, but the value of export markets also raises the cost of declaring disease. Wherever reporting carries a heavy commercial penalty, the incentive to stay quiet can outweigh the incentive to report, and that is a structural weakness no laboratory can fix.

Foot-and-mouth: Indonesia's long road back

If ASF is the region's chronic pig problem, foot-and-mouth disease is the clearest case study of how quickly a hard-won status can be lost. Indonesia was recognised as FMD-free in 1990. In late April 2022, a serotype O incursion was detected in Aceh and East Java and spread to other islands within weeks. By June 2026, according to the government's own presentation to the World Organisation for Animal Health (WOAH) regional office, the disease had touched 29 of 38 provinces and more than 13,500 villages.

The vaccination record tells a story of surge and fatigue. In 2023, Indonesia administered 16.5 million doses against a target of 16.8 million, reaching 98 per cent coverage. In 2024, coverage fell to 43 per cent of a 21 million dose target, and cattle cases climbed again, with a sharp increase in late December 2024 linked to holiday livestock movement and lower vaccination. Cattle cases rose from about 27,100 in 2024 to 73,700 in 2025 before easing to around 6,100 in the first half of 2026.

The policy architecture is now more coherent. A ministerial decree sets a roadmap to FMD freedom by 2035, with a 2025 to 2029 control programme that zones the country into red, yellow and green areas and runs two vaccination rounds a year. Two locally made inactivated vaccines are in use. The plan is to seek WOAH recognition of an official control programme in 2026 to 2027 and to pursue FMD-free status with vaccination for Madura, Bali and Nusa Tenggara Barat in 2027.

The weakness is sustainability. Halfway through 2026, Indonesia had administered 1.86 million doses against a four million dose annual target. Holiday movements around Eid remain the moment of greatest risk, and they come every year.

Cattle on the move: lumpy skin and India's indigenous answer

Lumpy skin disease has moved through South and Southeast Asia over the past five years, carried by insect vectors and cattle trade. India's 2022 epidemic swept through dairy herds in the north and west and triggered an emergency vaccination effort using goat pox vaccine, alongside the fast-tracked development of an indigenous product, Lumpi-ProVacInd, by Indian Council of Agricultural Research institutes.

India's experience shows both a strength and a weakness. The strength is domestic vaccine manufacturing capacity, which few countries in the region can match and which allows rapid scale-up. The weakness is the structure of the herd itself: tens of millions of animals held by smallholders, with patchy identification and movement records, which makes targeted ring vaccination and tracing extremely difficult.

Birds and flies: Australia's two front lines

Australia has long been the region's biosecurity benchmark, and with good reason. Its border controls are among the strictest anywhere, and its emergency response agreements commit governments and industry to share the costs of an incursion in advance. That pre-agreed cost sharing is something few Asian markets have.

Yet 2026 has tested even this system. In June, H5N1 avian influenza was detected for the first time on the Australian mainland, in seabirds near Esperance in Western Australia, followed by a case in a migratory seabird on South Australia's Fleurieu Peninsula. Until then, Australia had been the only continent without a confirmed mainland case of the globally circulating H5 strain. The federal government committed more than AUD 113 million to surveillance, preparedness and response, including AUD 43.9 million for national coordination and biosecurity capacity. At the time of those announcements there had been no detections in poultry, and authorities rated the human health risk as low.

The second front line is the screwworm. Old World screwworm, *Chrysomya bezziana*, is already established in Papua New Guinea, Indonesia, Malaysia and the Philippines. Its New World cousin has spread north through Central America and Mexico, prompting the United States to close its southern border to cattle imports. Animal Health Australia has said the likelihood of New World screwworm reaching Australia remains low, and that the Old World species is the closer threat. Its Screw-Worm Fly Surveillance and Preparedness Program runs fly trapping and wound surveys in northern Australia, entomology training and incursion planning. Both species are listed under the Emergency Animal Disease Response Agreement.

For northern cattle producers and the live export trade to Indonesia and Vietnam, the stakes are high. A screwworm incursion would hit livestock production, the live export trade and public health at once.

The four layers: where defences hold and leak

Putting the evidence together, a pattern emerges across the four layers of defence.

Vaccine access is improving fastest. Vietnam's ASF vaccine, the Philippines' commercial approval, Indonesia's local FMD vaccines and India's lumpy skin product mean that, for the first time, the region produces much of its own animal health toolkit. The bottleneck has moved from availability to delivery and uptake.

Border and movement control is the weakest layer in archipelagic and land-border markets. Informal pig and cattle movements across the Mekong region, inter-island livestock shipping in Indonesia and the Philippines, and festival-driven trade peaks create pathways that no checkpoint system fully closes.

Compensation is the quiet determinant of success. Where farmers fear that reporting a sick animal means losing the herd without fair payment, they sell quickly instead, and the virus travels with the truck. Australia's pre-agreed cost sharing is the model; elsewhere, indemnity is often slow, partial or improvised during the crisis.

Diagnostic capacity is strongest at national reference laboratories and thinnest at district level. Indonesia, for instance, runs a national FMD reference laboratory backed by eight disease investigation centres, but early detection depends on village-level reporting.

Table: Livestock biosecurity risk matrix, Asia-Pacific (AgroSpectrum Asia editorial rating, October 2026)

Country	ASF	FMD	Lumpy skin	Avian influenza	Screwworm	Weakest layer
Vietnam	High	Medium	Medium	Medium	Low	Vaccine uptake, smallholder reporting
Philippines	High	Low	Low	Medium	Medium	Backyard biosecurity, compensation
China	Medium	Medium	Medium	Medium	Low	Village-level surveillance
Indonesia	Medium	High	Medium	Medium	High	Vaccination continuity, animal movement
Thailand	Medium	Medium	Medium	Medium	Low	Transparency of reporting

India	Low	Medium	High	Medium	Low	Animal identification and tracing
Australia	Low	Low	Low	High	Medium	Wildlife and northern surveillance

Ratings are AgroSpectrum Asia's editorial assessment of incursion or endemic risk combined with control capacity, based on the outbreak and programme data cited in this article. They are not official classifications.

Table: Selected outbreak timeline

Date	Event
2018 to 2019	ASF epidemic in China kills or forces culling of about half the domestic pig herd
2019	ASF reaches Vietnam (1.7 million pigs culled by May) and the Philippines
April 2022	FMD incursion detected in Aceh and East Java, ending Indonesia's FMD-free status
2022	Lumpy skin disease epidemic in Indian cattle herds
2023	AVAC ASF vaccine enters commercial use in Vietnam
Late December 2024	FMD case surge in Indonesia linked to holiday movements and lower vaccination
July to August 2025	ASF outbreaks in Vietnam nearly double in three weeks to 972 for the year
June 2026	First H5N1 detections on the Australian mainland, in wild seabirds
September 2026	Philippines approves AVAC ASF LIVE for commercial sale

On the farm: what biosecurity costs a mid-sized pig producer

Consider a composite illustration, built from the conditions documented in Vietnam and the Philippines: a family-run farm with a couple of hundred sows on the edge of a provincial town, selling finishers to traders who also buy from backyard raisers nearby.

The owner's choices are a microcosm of the regional problem. A perimeter fence, a shower-in facility, a dedicated loading bay so that traders' trucks never enter the farm, and disciplined feed sourcing all cost money up front and slow daily operations. Vaccination adds per-head costs and requires a veterinarian willing to supervise it. None of these measures pay back visibly in a good year. In a bad year, a single trader's truck that has visited an infected backyard holding can wipe out the herd in weeks.

When a neighbour's pigs start dying, the owner faces the real test. If official compensation is slow or below market value, the rational response is to sell early and say nothing. That is exactly the behaviour that turns one outbreak into a provincial epidemic. The farms that weather ASF best are the ones where biosecurity investment, vaccination and trustworthy compensation reinforce each other.

Why this is also an antimicrobial resistance story

Weak biosecurity has a second cost that rarely features in outbreak reports. When producers cannot keep pathogens out, many fall back on routine antibiotic use to keep animals growing through the stresses of disease pressure, crowding and

movement. The link runs through every system audited here: more disease pressure means more prophylactic antibiotics, and more antibiotics accelerate resistance that eventually reaches human medicine.

Viewed this way, investment in vaccines, diagnostics and compensation is not only about protecting herds. It is one of the most practical levers the region has for cutting antimicrobial use in livestock, and it deserves a place in national AMR action plans as much as in veterinary budgets.

What to watch in 2027

- Whether the Philippines' PHP 1 billion smallholder vaccine subsidy is funded, and how quickly AVAC ASF LIVE reaches backyard raisers.
- The outcome of South Korea's PROVAC evaluation in the Philippines, which would give the region a second commercial ASF vaccine option.
- Indonesia's bid for WOAH recognition of its official FMD control programme, and its plan for FMD-free status with vaccination in Madura, Bali and Nusa Tenggara Barat.
- Whether H5N1 in Australian wild birds spills into commercial poultry, and how the country's cost-sharing system performs under real pressure.
- Any northward or southward movement of screwworm, including detections in northern Australian surveillance traps.
- Vietnam's ASF case curve over the Lunar New Year trading peak, a recurring test of movement controls.

Ankit Kankar | ankit.kankar@mmactiv.com