



African swine fever situation in Asia & Pacific update

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Disclaimer

Information provided herein is current as of the date of issue. Information added since the last ASF China situation update appears in **red**. For cases with unknown onset date, reporting date was used instead. FAO compiles information drawn from multiple national (Ministries of Agriculture or Livestock, Local governments and international sources (World Organisation for Animal Health [OIE]), as well as peer-reviewed scientific articles. FAO makes every effort to ensure, but does not guarantee, accuracy, completeness or authenticity of the information. The designation employed and the presentation of material on the map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

Overview

Hazard: African swine fever (ASF) is a viral disease affecting pigs and wild boar with up to 100% case fatality rate.

ASF reported administrative areas since August 2018:

China: Anhui, Heilongjiang, Henan, Jilin, Liaoning, Jiangsu, Zhejiang, Shanxi, Yunnan, Hunan, Guizhou, Hubei, Jiangxi, Fujian, Sichuan, Shaanxi, Qinghai, Guangdong, Gansu, Shandong and Hainan Provinces, Tianjin, Chongqing, Shanghai and Beijing Municipalities, Inner Mongolia, Ningxia Hui, Guangxi Zhuang, Xinjiang Uygur and Tibet (Xizang) Autonomous Regions and Hong Kong Special Administrative Region (SAR)

Mongolia: Bulgan, Darkhan-Uul, Dundgovi, Orkhon, Selenge, Töv Provinces and Ulaanbaatar

Viet Nam: All provinces and municipalities

Cambodia: Ratanakiri, Tboung Khmum, Svay Rieng, Takeo and Kandal Provinces

Democratic People's Republic of Korea: Chagang-Do

Lao People's Democratic Republic: All provinces and municipality

Myanmar: Shan, Kachin, Kayah States and Sagaing Region

The Philippines: Abra, Albay, Apayao, Aurora, Bataan, Batangas, Benguet, Bulacan, Cagayan, Camarines Norte, Camarines Sur, Cavite, Davao de Oro, Davao del Norte, Davao del Sur, Davao Occidental, Davao Oriental, Eastern Samar, Ifugao, **Ilocos Norte**, Ilocos Sur, Isabela, Kalinga, La Union, Laguna, Lanao del Norte, Leyte, Masbate, Misamis Oriental, North Cotabato, Northern Samar, Nueva Ecija, Nueva Vizcaya, Pampanga, Pangasinan, Quezon, Quirino, Rizal, Sarangani, Southern Leyte, Sorsogon, Surigao del Sur, Samar, Tarlac, Zambales Provinces and Metro Manila (Caloocan, Malabon and Quezon Cities)

Republic of Korea: Gyeonggi-do, Gangwon-do and Incheon City

Timor-Leste: All districts

Indonesia: North Sumatra, Riau, West Sumatra, South Sumatra, Lampung, West Java, Central Java, Yogyakarta, Bali, and East Nusa Tenggara Provinces

Papua New Guinea: Southern Highlands, Enga, Hela, Western Highlands, Jiwaka, and Simbu Provinces

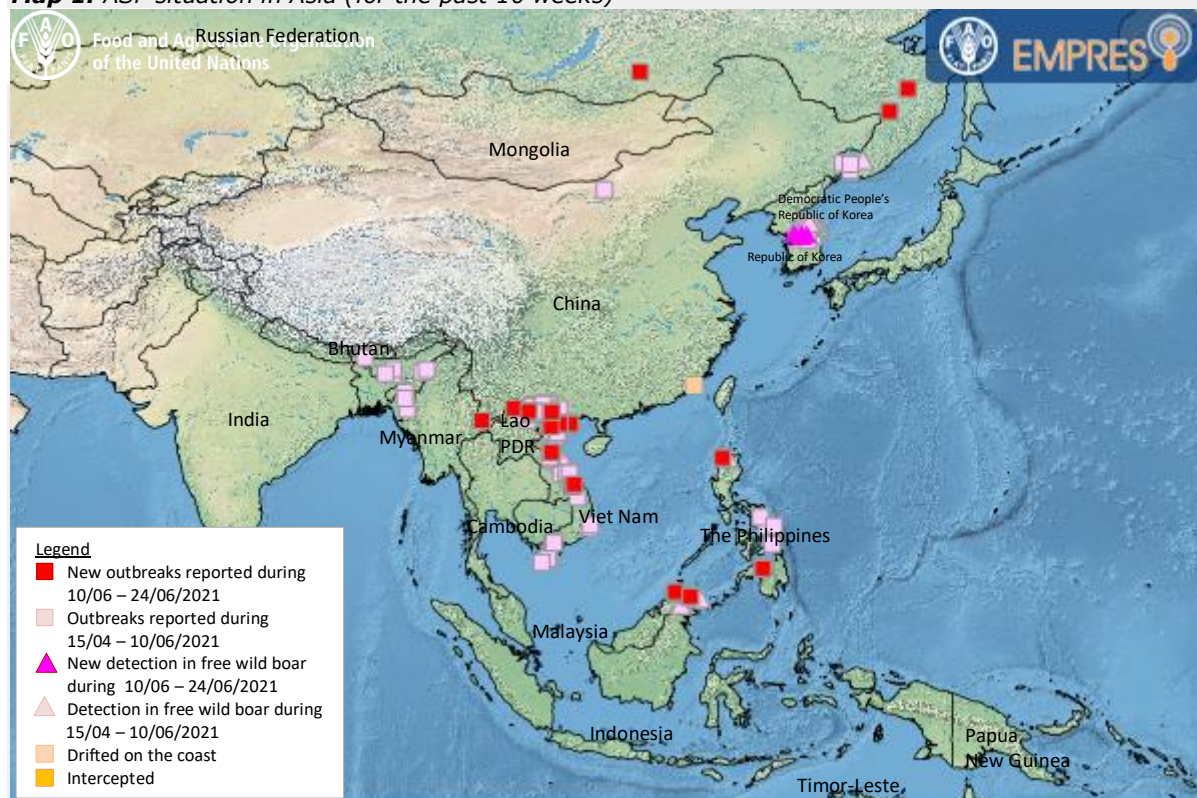
India: Assam, Meghalaya, Mizoram and Nagaland States

Disputed territory: Arunachal Pradesh

Malaysia: Sabah State

Bhutan: Chhukha District

Map 1. ASF situation in Asia (for the past 10 weeks)



Source: China: MARA, Viet Nam: WAHIS & media information, Republic of Korea, the Philippines, Indonesia, Timor-Leste: WAHIS and government websites, Other: WAHIS

Situation update

Mongolia: Since its first report on 15 January 2019, 11 outbreaks in 6 provinces and in Ulaanbaatar have been reported, involving 105 farms/households. More than 3 115 pigs, more than 10 percent of the total pig population in Mongolia, have died/been destroyed due to the ASF outbreaks [[reference](#)].

Democratic People's Republic of Korea: Since the Ministry of Agriculture confirmed the occurrence of the first ASF outbreak in Chagang-do on 23 May 2019 [[reference](#)].

Republic of Korea: Since the Ministry of Agriculture, Food and Rural Affairs (MAFRA) confirmed the first ASF outbreak on 17 September 2019, ASF was detected in 17 domestic pig farms: Gyeonggi-do (9), Incheon City (5), Gangwon-do (3). Since 9 October 2019 **as of 21 June 2021**, a total of **1 432** ASFV infected wild boars were confirmed in: Gyeonggi-do: Paju (100), Yeoncheon (**412**), Pocheon (83), Gapyeong (30); Gangwon-do: Cheorwon (36), Hwacheon (**421**), Chuncheon (**164**), Yanggu (73), Goseong (4), Inje (**81**), Yeongwol (14), Yangyang (8), Gangneung (3) and Hongcheon (1) [[reference](#)].

China: Since the Ministry of Agriculture and Rural Affairs (MARA) confirmed the first outbreak in Liaoning Province on 3 August 2018, ASF were detected in 32 Provinces/Autonomous Regions/Municipalities/Special Administrative Region. A total of 10 outbreaks have been reported since the start of 2021 [[reference](#)].

The Philippines: Since the Department of Agriculture (DA) confirmed the first outbreak started on July 2019, ASF have been reported on Luzon, Mindanao, Leyte and Samar Islands. ASF has spread to 12 regions, 46 provinces, 493 cities and municipalities, and 2 561 villages nationwide since it hit the country in 2019, causing the loss of over 3 million of pig [[reference1](#), [reference2](#)]. **At northern part of Luzon Island, Ilocos Norte Province confirmed the ASF for the first time on 17 June. Pigs lost appetite were reported by a farmer in Manalpac village on 13 May, samples subsequently tested positive with ASF [[reference3](#)]. In Eastern Visayas region, ASF spread to at least 30 towns of four provinces namely: Leyte, Southern Leyte, Samar, Northern Samar and Eastern Samar in the past six months, at least 12,946 live hogs have been depopulated as a strategy to contain the disease; five towns in Layte Province have not reported new cases for the past 90 days. Initial investigation showed that ASF virus could have been transmitted to local farms in Leyte through infected boar being used for natural mating and by hog traders who might have fed their stocks with contaminated food products; in Samar Island, the ASF virus has spread through the transport of pork meat [[reference4](#)]. On 21 June on Mindanao Island, Misamis Oriental Province reported two ASF cases in Tuod and Cabalantian villages, Manticao town after two weeks of no outbreak recorded, confirming the return of ASF in the area [[reference5](#)].**

Malaysia: Malaysia confirmed the first ASF outbreaks in four backyard farms and five wild boar carcasses in February 2021 in three districts in Sabah State at the the northern part of Borneo Island [[reference1](#)]. Media reported in April that ASF has affected 10 out of 27 districts in Sabah State and it is wiping out populations of wild bearded pig (*Sus barbatus*) [[reference2](#), [reference3](#), [reference4](#)]. **A total of 32 outbreaks has been confirmed in the country, only in Sabah State so far [[reference5](#)].**

Indonesia: The Ministry of Agriculture (MoA) confirmed an ASF outbreak in North Sumatra Province in 2019 [[reference1](#), [reference2](#)], and reported 443 outbreaks ranging from West Sumatra Province (December 2019) through Nusa Tenggara Timur Province on 19 February 2021. According to the report, ASF is confirmed on Java and Bali as well as Eastern Nusa Tenagga islands, spread to 10 out of 34 provinces in Indonesia [[reference3](#)]. According to media, ASF was reported in Maluang and Paribau villages, Berau Regency, East Kalimantan Province on Borneo Island [[reference4](#)]. **Since May 2021 more than a hundred of wild boar deaths were found in Nunukan, Malinau and Bulungan Regencies of North Kalimantan Province on Borneo Island [[reference5](#)]; samples from three villages in the East Krayan region, Nunukan Regency tested positive for ASF [[reference6](#)] according to media.**

Timor-Leste: The Ministry of Agriculture and Fisheries announced the [confirmation](#) of ASF outbreak on 27 September 2019 [[reference](#)]. Prior to the outbreak, there were approximately 453 500 pigs in the country. Since the outbreak, the total deaths due to ASF and classical swine fever (CSF) is estimated at 129 000, representing about 28 percent of the total pig population.

Papua New Guinea: The National Agriculture Quarantine and Inspection Authority (NAQIA) confirmed four ASF outbreaks in Mendi Munihi District, Southern Highlands Province (SHP) in March 2020 [[reference1](#), [reference2](#)].

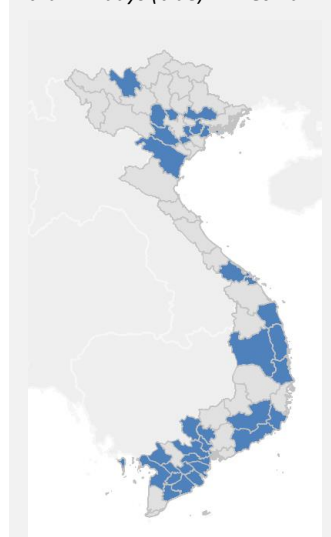
Viet Nam: Since the Ministry of Agriculture and Rural Development (MARD) confirmed its first ASF outbreak on 19 February 2019, all 63 provinces/cities experienced outbreaks. MARD reported that ASF caused a loss of about 6 million pigs [[reference1](#)]. Comparing pig population between January 2020 and 2021, the number of sow increased from 2.6 to 3 million, and fattening pigs from 17.5 to 18.9 millions [[reference2](#)].

Lao People's Democratic Republic: Since the Ministry of Agriculture and Forestry confirmed the first ASF outbreak in Salavan Province on 20 June 2019, ASF outbreaks were reported in all 18 provinces between May and November 2019. The second round started from June 2020, ASF was detected in 15 districts in 7 provinces.

Cambodia: Since the Ministry of Agriculture, Forestry and Fisheries (MAFF) confirmed the first ASF outbreak in Ratanakiri Province in April 2019, ASF outbreaks were detected in five provinces [[reference1](#)]. Recently, media reported that ASF was detected in illegally transported pigs intercepted at two border checkpoints in Banteay Meanchey, and in Takeo Provinces [[reference2](#), [reference3](#), [reference4](#)]. Fifty live imported pigs were found to be infected with ASF according to media [[reference5](#)].

Myanmar: Since the Ministry of Agriculture, Livestock and Irrigation confirmed the first ASF outbreak on 1 August 2019, a total of six ASF outbreaks were reported in Shan State, two in Sagaing Region and one each in Kachin and Kayah States [[reference1](#)]. **An ASF outbreak in domestic pigs started on 1 June in Keng Tung township, Shan State. Out of 153 susceptible pigs, 9 became sick and died, and another 8 were culled [[reference2](#)].**

Map 2. Provinces where no new ASF outbreaks for more than 21 days (blue) in Viet Nam



Bhutan: On 13 May, the first ASF outbreak was confirmed in Phentshogling town, Chhukha district, Bhutan, causing deaths of more than 30 stray pigs. The infected area is bordering with West Bengal State of India. It is also reported that these pigs uncontrollably move across Bhutan-India border [reference1, reference2].

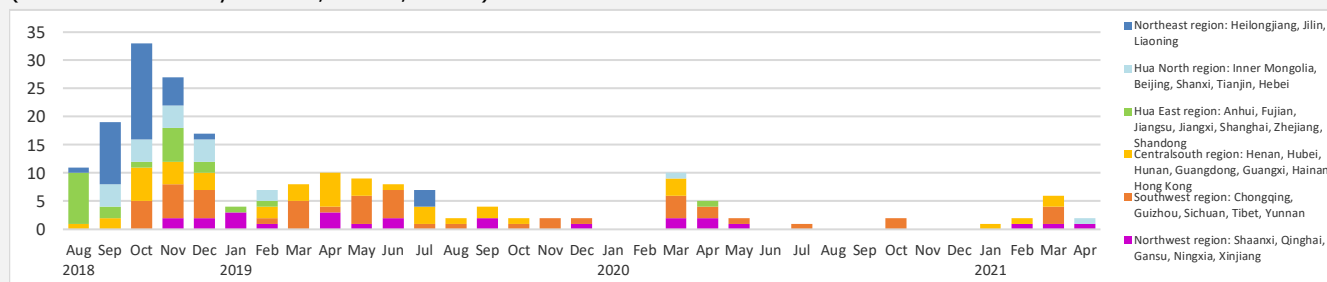
India: Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying announced the confirmation of ASF outbreaks (Genotype II) in Assam State that occurred in January-April 2020 [reference1]. In April 2021, some ASF affected districts in Mizoram and Meghalaya States were declared as epicenters [reference2, reference3]. In Mizoram, media reported that ASF caused the deaths of over 5 500 pigs since the first case in the end of March [reference4]. Unusual deaths of 100 pigs were also reported in Mizoram and it was suspected to be caused by ASF [reference5]. Nagaland State also detected an ASF outbreak, samples from Phek and Kiphire Districts tested positive for ASF [reference6]. In Manipur State, ASF has been reported in Thoubal and Imphal East District, according to media [reference7].

Disputed territory (Arunachal Pradesh): Four ASF outbreaks that occurred between 26 January and 23 April 2020 in domestic pigs were reported in East Siang and Papum Pare Districts [reference1]. According to media, wild boars also died in East Siang and Upper Siang Districts [reference2] and a publication reported local people saw dead wild boars in the rivulets in Pasighat region [reference3].

Actions taken by the Republic of Korea: Further to the strengthened control measures for both domestic pigs and wild boars since February [reference1, reference2], MAFRA has enhanced control measures since the ASF detection in a pig farm in Yeongwol County, Gangwon Province in early May to prevent transmission to other areas. This includes: restriction of the movement of pigs and manure, control of livestock related vehicles, and strengthen surveillance on pig farms [reference3]. Gangwon Province announced lifting of movement control for the five farms in Yeongwol by 9 am (GMT+9), 9 June 2021 [reference4].

Actions taken by China: In August 2020, MARA released "Technical Guidelines for Normalized Prevention and Control of African Swine Fever (Trial version)" which include detail guidance on pig production, transportation, slaughter, and self-testing [reference1]. On 21 April, MARA issued the "Work Plan for Regional Prevention and Control of African Swine Fever and Other Major Animal Diseases (Trial)" to further improve the animal disease prevention and control system. The plan divided the whole country into five regions, and pig movement is restricted only within the region from 1 May 2021. Within the regions, ASF-free zones are created, only pigs from the free zones, breeding pigs and piglets are allowed to move beyond their respective regions [reference2, reference3]. To implement above mentioned "Work Plan" the "Eastern Region Framework Agreement on Joint Prevention and Control of African Swine Fever and Other Major Animal Diseases" was signed by Anhui, Henan, Jiangsu, Shandong, Zhejiang Provinces and Shanghai City on 2 June [reference4, reference5].

Figure 1. Number of ASF reported village* by region by onset month in China (source: Veterinary bureau, MARA, China)



* Including detection in live pigs in intercepted vehicles. For cases with unknown onset date, confirmation date or reporting date was used.

Actions taken by the Philippines: The President has placed the country under a state of calamity for a period of one year due to the African swine fever (ASF) outbreak effective 10 May 2021 [reference1]. The President also issued Executive Order to increase the minimum access volume (MAV) of pork meat from 54 210 metric tons (MT) to 254 210 MT this year to further address the supply problem [reference2]. DA is rolling out the "Bantay ASF sa Barangay (BABay ASF)", a community-based approach to prevent, control and manage ASF [reference3, reference4]; has also started an initial ASF vaccine trials in collaboration with a US vaccine company [reference5]. According to the DA, vaccine trials are so far yielding positive results [reference6]. The local authorities in the Philippines are mandated to strictly follow the National Zoning implementation and movement plan depending on the level of ASF risks [reference7]. Western Visayas Region is now equipped with a polymerase chain reaction (PCR) machine to faster surveillance of suspected ASF cases. This machine enables them to conduct diagnosis test in the region and no longer have to send samples to Manila [reference8].

Actions taken by Malaysia: To respond to the first confirmed outbreak in Sabah State, the pigs tested positive for ASF, and pigs within 50 km from the affected area have been culled [reference1]. The authority of Sarawak State is enforcing its import ban on pig, pork and pork products by tightening inspections at border gates and all entrances throughout Sarawak [reference2, reference3].

Actions taken by Indonesia: In December 2019, Ministry of Agriculture (MoA) recommended the public the application of biosecurity and good management of pig farms as the main strategic steps to prevent ASF, as well as strict and intensive monitoring of high-risk areas [reference1], and the Livestock and Animal Health Services (DG PKH) formed Emergency Posts with Rapid Response Teams at all levels [reference2]. In West Papua province, Manokwari Regency issued the Circular Letter No. 524.3/324 on high pig mortality due to ASF. To prevent introduction of ASF, Nabire Regency and Dogiyai Regency have introduced pig/pork transportation ban, according to media [reference3, reference4]; Sorong City has also closed the trade route for pigs and wild boars, both to and from the area, media quoted the Head of Livestock at the Sorong City Agriculture Service [reference5]. Meanwhile, in Sikka Regency, East Nusa Tenggara province, pig deaths due to ASF reached 26 510 heads by the end of April 2021; the Regency is currently implementing prevention and handling measures, including education, monitoring [reference6].

Media also reported that North Kalimantan Province on Borneo Island has increased vigilance and preparedness [reference7].

Actions taken by Timor-Leste: After the first ASF outbreak in Timor-Leste, the government formed a taskforce team from the Ministry of Agriculture and Fisheries (MAP), Customs, Quarantine, Border Patrol Police, Immigration, and the Food Safety Authority (AIFAESA) and implemented a movement ban of pig and pork products between Municipalities [reference1]. On June 2021, FAO conducted a Crop and Food Supply Assessment Mission in Timor-Leste to assess the impact of various shocks on agriculture, including ASF. The final report of the Australian project 'Identifying husbandry options for smallholder pig farmers in Timor-Leste' describes what was done to mitigate ASF risk [reference2]. The MAP prohibited slaughtering ASF infected pigs for their own and other animal's consumption or for selling, according to the media [reference3].



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Actions taken by Papua New Guinea: NAQIA set up Road checkpoints at strategic provincial entry and exit points; conducted surveillance to determine the extent of the ASF spread; identified sentinel herds in the infected provinces; stepped up its ASF national risk communications and awareness campaign; and enhanced advocacy on ASF with communities, district and provincial administrations; response work for affected provinces and preparedness activities for non-infected provinces along the highway. Farmers are urged to practice the biosecurity measures. NAQIA is in talks with commercial players in the piggery industry to look at ways to help small household piggery farmers to get all household piggeries into commercial farming by establishing pig farming school; and calling on all disease infected provincial governments to consider the affected household pig farmers by putting in logistics and resources [reference1]. On 5 May 2021, Hela, Southern Highlands, Enga, Western Highlands, Jawaka, Simbu, Eastern Highlands and Morobe Provinces were declared as disease areas (Eastern Highlands and Morobe Provinces so far remains free but included as precausal measures). Movement of pigs and pig products within, into and out of these disease areas are restricted [reference2]. To control the movements of pigs and pork products in Highland region, four containment zones have been declared based on their infection status. Zone 1: Hela, Southern Highlands and Enga, Zone 2: Western Highlands and Jiwaka, Zone 3: Simbu, and Zone 4: Eastern Highlands [reference3, reference4].

Actions taken by Viet Nam: The "National Plan for the Prevention and Control of African Swine Fever for the period of 2020 - 2025" was endorsed on 7 July (972/QĐ-TTg) set goals for ASF control, pig farm biosecurity application and laboratory capacity development to be achieved; defined restocking conditions, sampling requirements, surveillance, conditions for culling and moving-to-slaughter [reference1]. MARD sent an Official Letter No.7258/BNN-TY to the People's Committees of 30 provinces and cities urging further disease control activities, vigilance and biosecurity [reference2]. Viet Nam suspends the import of live pigs from Thailand from 30 June after detecting ASF from a batch of quarantined imported pigs [reference3].

Actions taken by Lao People's Democratic Republic:

After ASF outbreaks confirmed in 2019, The Ministry designates Red Area around an outbreak, to control the movement of pig and pork products, and prohibits pork consumption; and yellow Area (3 km radius from the red areas) as designated surveillance zones. When ASF reemerged in June 2020, the Government has declared red zones and is implementing movement control of animals and their products, destruction, disinfection, active surveillance, etc. As of December 2020, all zones have been lifted.

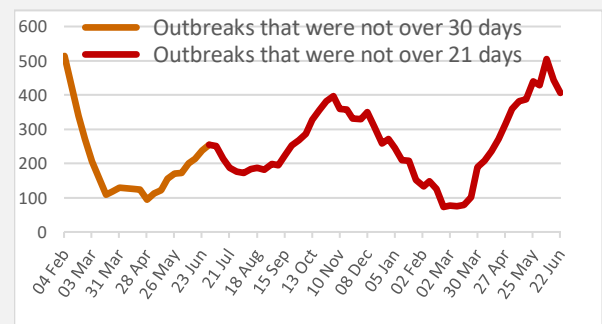
Actions taken by Cambodia: Cambodia implemented movement control of live pigs, pork and pork products, stamping out, disposal and disinfection in affected villages [reference1]. In response to the recent ASF detection at border checkpoints, the Ministry of Agriculture, Forestry and Fisheries ordered authorities to cull all pigs in the area; and GDAH is implementing ASF screening test on imported pigs using 'Portable PCR' at border quarantine stations according to media [reference2, reference3]. Media also reported by quoting the Animal Health and Production General Directorate that the Ministry seized 100 smuggled pigs from two slaughterhouses in Phnom Penh after the pigs were found to be infected with ASF and incinerated in the Takmao mountain area in Takeo province on 3 June. This year, the directorate has destroyed a total of 270 illegally imported infected pigs so far [reference4]. Due to the spread of ASF in neighboring countries, border provinces are requested to help stop illegal transportation of pigs to the country, media quoting the Minister of MAFF [reference5].

Actions taken by Myanmar: In response to the recent outbreak, Myanmar has implemented movement control of live pigs, surveillance within containment and/or protection zone, selective culling, official disposal of carcasses, by-products and waste, disinfection, ante and post-mortem inspections, and raised awareness on good animal husbandry practices and biosecurity [reference].

Actions taken by Bhutan: In response to the first ASF outbreak in the country, the authority has implemented control measures including 3D (Depopulation, Disposal and Disinfection) operation, surveillance in the infection and protection zones, sensitization and awareness raising, and quarantine and movement control [reference1]. Bhutan Agriculture and Food Regulatory Authority (BAFRA) imposed import ban on live pig, pork and pork products (fresh/frozen/ dried) from India. Further, the pig farmers are urged to heighten farm biosecurity of their pig farms; ensure kitchen wastes are properly cooked before feeding to the pigs; prevent domestic pigs from coming into contact with wild pigs; and report any suspicious deaths to the nearest livestock centres or BAFRA office [reference2].

Actions taken by India: The Department of Animal Husbandry & Dairying (DAHD) released the Disease Control Strategy Plan in June 2020 as guidance for State / UT Governments for ASF prevention, control and containment [reference1]. According to media, Manipur State Veterinary Department has formed its ASF task force, while Thoubal and Imphal East District administrations have banned sales and movement of pigs/pork, feeds and related items from

Figure 2. Cumulative number of affected communes/week since Tet 2020 in Viet Nam



the control/contaminated areas [[reference2](#), [reference3](#)]; and in Mizoram State, the local authorities have restricted the procurement and supply of pigs from and to Lungsen village as a response to the outbreak [[reference4](#)]. According to media, Alipuduar district of West Bengal State has, in response to the first ASF case reported in Bhutan close to India-Bhutan borders, raised ASF alert with following actions: 1) restrict movements of pigs; 2) disinfect farms; 3) raised concerns about the risk of ASF spreading to wild boar population in the area [[reference5](#)].

In neighboring countries

Thailand: According to media, the Department of Livestock Development reported that the preliminary investigation has revealed no trace of the ASF virus in live pigs being exported as claimed by Vietnamese authority recently [[reference1](#), [reference2](#)].

FAO recommendations

ASF virus can be transmitted through pork and pork products (raw/frozen/dried/under-cooked) in which the virus can survive for a long time. Warning signs should be placed clearly at the border/customs entry including airports and sea ports, stating the consequences of bringing pork and pork products from ASF-infected countries/regions, and instructing passengers to discard pork products in designated disposal places or to hand over to the customs personnel.

Countries of the region

- Animal disease containment in its broadest sense should be prioritized within the highest levels of governments.
- Application of strict biosecurity measures specific to the different swine producing sectors including frequent cleaning and disinfection of farms, transport vehicles, and improved husbandry practices and production systems.
- Strengthening surveillance and monitoring of transport of live pigs as well as pork products.
- Communication to public is to be in place to avoid the rumours leading to food safety perceptions and consumption disruption.
- Prohibition of swill feeding where feasible; highly regulated where not.
- Strengthening proper disposal of food waste (food services, airports, seaports), which may contain uncooked pork products.

National Considerations, Inter-Regional Collaboration and Solidarity

- Strengthening intraregional networks on disease management and diagnostic protocols.
- Understanding pig and pork value chains within the country and with neighbouring countries is essential for improved risk management.

[And more ...](#)

FAO's actions

- **GF-TADs virtual meeting: Stop ASF: Public and private partnering for success - Live technical session on 21, 28 June** [[register](#), [agenda](#), [recording](#), [networking](#)]
- FAORAP organised the third regional training of trainers on ASF detection and emergency response engaging animal health officials from Lao PDR, the Philippines and Thailand (15-26 March 2021) [[Link](#)]
- FAORAP organised a 2-day virtual regional consultation workshop on ASF preparedness and response for Asia & Pacific (9-10 March 2021).
- Alert letter on unlicensed ASF vaccine use in the region was sent out to Chief Veterinary Officers (CVOs) on 29 March 2021 by regional secretariat for FAO/OIE GF-TADs for Asia and the Pacific.
- FAO co-organised the Standing Group of Experts for African Swine Fever (SGE-ASF) for Asia and the Pacific, together with the OIE, held online on 5 February 2021 [[Link](#)].

[And more...](#)

Useful links

- GF-TADs virtual meeting : Stop ASF: Public and private partnering for success [[Link](#)]
- Webinar recording: City University of Hong Kong/OIE on ASF cross-border risk assessment study in South-East Asia [[Link](#), [recording1](#), [recording2](#), [recording3](#)]
- There is no African swine fever vaccine yet: e-cards on biosecurity [[card1](#), [card2](#), [card3](#), [card4](#), [card5](#), [card6](#), [card7](#)]
- OIE guidelines on compartmentalisation for ASF [[Link](#)]
- VIDEO: Be a Champion Farmer!- Biosecurity is key to stop African Swine Fever [[English](#), [Khmer](#), [Lao](#), [Vietnamese](#), four languages used in Indonesia ([Bahasa](#), [Bali](#), [Batak](#), [Kupang](#)), [Nepali](#), [Burmese](#) and [Malay](#)]
- VIDEO: STOP ASF by NAQIA - PNG Biosecurity [[Link](#)]
- Global Initiative on ASF Control: a GF-TADs Initiative 2020-2025 [[English](#), [Française](#), [中文](#), [Русский](#), [Español](#)]
- African swine fever detection and diagnosis. A manual for veterinarians (2017) [[English](#), [Русский](#), [中文](#), [Español](#)]
- Addressing African Swine Fever: Laboratory protocols and algorithms" in collab. with ACDP (formerly AAHL) [[Link](#)].
- African swine fever in wild boar: ecology and biosecurity (2019) [[Link](#)]
- Good practices for biosecurity in the pig sector [[Link](#)]
- Effective disposal of animal carcasses and contaminated materials on small to medium-sized farms [[Link](#)]
- Risk communication in animal disease outbreaks and emergencies (Laboratory protocols and algorithms) [[Link](#)]
- FAO FOOD OUTLOOK [[May 2019](#), ASF special report from p65; [Nov.2020](#), [June 2021](#)]
- Good Emergency Management Practice: The Essentials [[Link](#)]
- GF-TADs webinar 'An unprecedented global threat - Call for action' [[Link1](#), [Link2](#)]
- Global African Swine Fever Research Alliance (GARA) 24-25 August 2020 [online Sessions](#)
- Standing Group of Experts on African swine fever in Europe [[Link](#)]

[And more ...](#)

New articles

- **Transmission Dynamics of African Swine Fever Virus, South Korea, 2019.** - <https://doi.org/10.3201/eid2707.204230>
- **African swine fever and outdoor farming of pigs.** - <https://doi.org/10.2903/j.efsa.2021.6639>
- **African Swine Fever threatens Southeast Asia's 11 endemic wild pig species.** - <https://doi.org/10.1111/conl.12784>

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http://www.fao.org/aq/aqainfo/programmes/en/empres/ASF/situation_update.html
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