

Updated Outbreak Assessment #25

African swine fever (ASF) in Asia

25 June 2024

Disease report

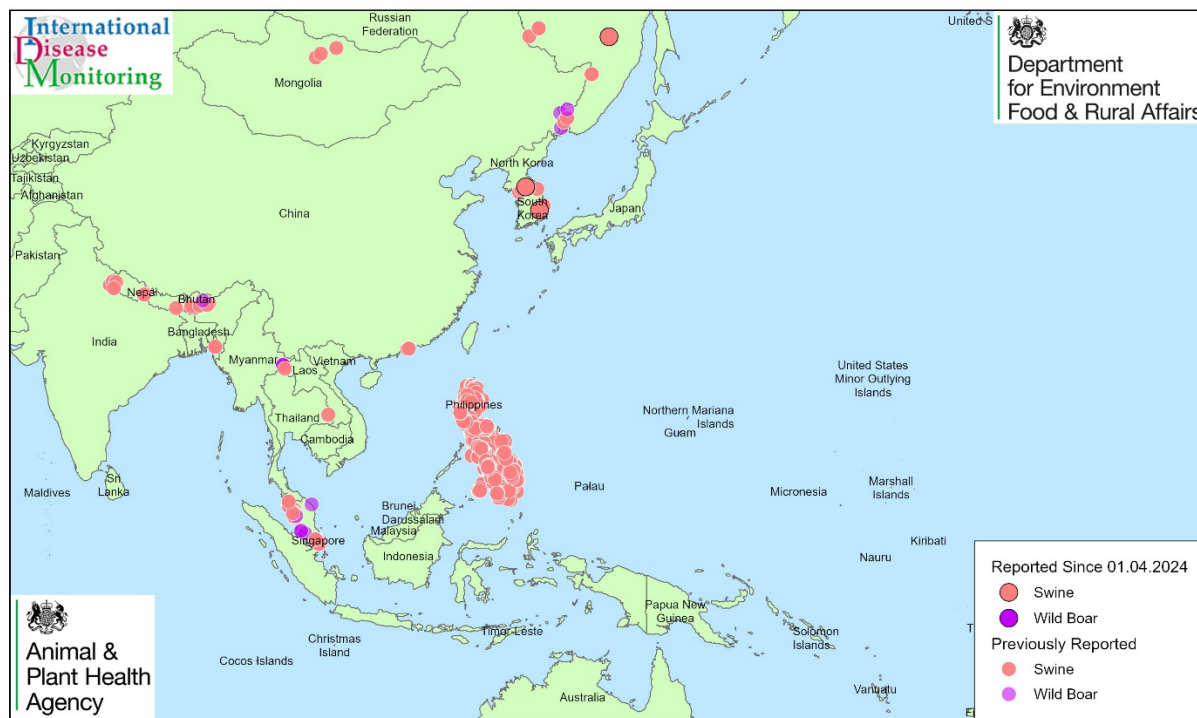
Since our last [report on ASF in Asia on 13 February 2023](#), African swine fever (ASF) has continued to be reported in domestic pigs and wild boar across Asia. ASF was detected in Bangladesh for the first time in November 2023, and Singapore reported an outbreak in domestic pigs for the first time in April 2023.

In Vietnam recombinant strains of ASF virus (ASFV) genotypes I and II have been detected in domestic pigs within northern provinces of the country. The finding was discovered as part of surveillance in these regions in September and October 2023 (Le and others. 2024), following the detections of recombinant strains of ASFV in China earlier in 2023. The recombinant strains found in north Vietnam and in China are resistant to the single p72 genotype II vaccines. Vietnam had developed three ASF vaccines effective against ASFV genotype II using live virus with trials conducted across the country. One of these, AVAC ASF LIVE, has been exported to India, Indonesia, Malaysia, Myanmar and the Philippines. Vaccine trials are ongoing in the Philippines. The emergence of recombinant strains of ASFV is likely to negatively impact the success of the current vaccination strategy and the ability to evaluate the efficacy of vaccination campaigns in Vietnam, and potentially elsewhere in south-east Asia.

According to World Organisation for Animal Health (WOAH), outbreaks of ASF in domestic pigs have also been reported in:

- Bhutan
- Hong Kong
- Indonesia
- Malaysia
- Mongolia
- Myanmar
- Nepal
- the Philippines
- eastern Russia
- Singapore
- South Korea
- Thailand

Cases of ASF in wild boar have been reported in Bhutan, Malaysia, Myanmar, Nepal, Russia and Singapore.



Map Prepared by IDM
 Date: 26/06/2024
 Absolute Scale: 1:52,577,057

African Swine Fever
 February 2023 to June 2024
 (WOAH Data Only)



Map 1: African swine fever outbreaks in domestic pigs (red points) and wild boar cases (purple points) across Asia from February 2023 to June 2024. (WOAH data only).

Situation assessment

Vietnam

In Vietnam, 2 ASF vaccines have been developed and trialled since the approval of the first ASF vaccine, AVAC ASF LIVE, in July 2023. AVAC ASF LIVE has been exported to India, Indonesia, Malaysia, Myanmar and the Philippines and vaccine trials are ongoing in the Philippines. Vietnam has also approved NAVET-ASFVAC, for circulation produced by NAVETCO in collaboration with the United States. Vietnam has also tested a third vaccine, DACOVAC-ASF2, on two commercial farms, although it is yet to be approved. All these vaccines are live-attenuated. [WOAH has urged countries to be mindful of the risks of using sub-standard vaccines](#) that are not in line with WOAH international standards. They also mentioned that if countries do implement vaccines, that they should conduct their own trials before use.

ASF genotype II is endemic in Vietnam, however, a new variant has been discovered in domestic pigs across 6 provinces in northern Vietnam. This new variant is a recombinant virus with features of both genotype I and genotype II, which first appeared in China in 2023. (Le and others. 2023) The vaccines currently in use in Vietnam are specifically for genotype II and are not effective against the new recombinant strain.

According to [Asia News Network media reports](#) in Vietnam, ASF outbreaks are rising in the country. In the province of Bac Kan alone in 2024, nearly 10,000 pigs have been culled, accounting for over 40% of the population in Bac Kan. As a result, the veterinary department have urged farmers to report disease quickly, and ensure they follow the correct disinfection and prevention measures. Even though there are 2 approved ASF vaccines in Vietnam, [only 1% of the domestic pig population in Vietnam have been vaccinated](#).

Bangladesh

Bangladesh reported a first outbreak of ASF in domestic pigs to WOA in December 2023. The outbreak occurred in November 2023 on a government development pig farm in the Rangamati District of south-eastern Bangladesh. The source of infection is unknown, although the affected farm is less than 100km from the border with Myanmar and the Indian states of Mizoram and Tripura where previous ASF outbreaks have been reported. Disease control measures such as movement control, surveillance and an awareness campaign have been implemented.

The farm housed 414 pigs of 14 different breeds and was set up as a study of improving the socio-economic status of poor and vulnerable small-scale farmers (Belal, 2023). Bangladesh is one of the largest Muslim countries in the world, and the pig farming industry mainly consists of small backyard holdings of minority groups (Ausraful and others., 2021). It is difficult to estimate the pig population of Bangladesh (Anower, 2017), though reports claim the number of pigs is increasing in some areas, particularly within the Rangamati Hill District which is close to the affected farm along the border with India. Signs of disease are often unreported in these regions (Anower, 2017). There have been no further reports of ASF in Bangladesh since the initial outbreak.

Singapore

Our update in February 2023 detailed the first case of ASF in wild boar in Singapore. As part of surveillance, ASF was detected in 17 further wild boar carcasses. These were found in nature reserves and forested areas, primarily in western Singapore, where the wild boar populations are primarily located.

In April 2023, Singapore reported its first occurrence of ASF in domestic pigs. The Singapore Food Agency reported that the pigs were imported live from Pulau Bulan, Indonesia and tested positive for ASF in an abattoir following elevated mortalities. All pigs were then slaughtered, and the slaughterhouse disinfected. Singapore has since banned imports from Pulau Bulan while an investigation is being undertaken. The ban is still in place and will not be lifted until the farm where the pigs were imported from has undertaken surveillance of restocked pigs. [Read the Straits Times article Singapore yet to resume imports of live pigs from Bulan](#). Singapore has no

domestic pig production, and according to the Singapore Food agency (SFA), live pig imports from Bulan, Indonesia constituted around 15% of the total pork supply for the country (SFA, 2023).

The Philippines

Since our last report, the Philippines have batch reported 1,444 outbreaks of ASF in domestic pigs to WOAAH, dating back to February 2020. Of these, 493 outbreaks occurred since our last report date. Of these, 13 outbreaks occurred at slaughterhouses and the remaining were located on village premises. Outbreaks were widespread, occurring across all 3 of the Luzon, Mindanao and Visayas island groups.

The Philippines also reported one outbreak of ASF in captive zoo animals. The outbreak affected 24 captive Visayan warty pigs (*Sus cebifrons*). Conservation projects have been set up worldwide to help protect the populations of Visayan warty pigs in the Philippines. The projects include the set-up of isolated enclosures, biosecurity protocols and surveying the wild populations to monitor the impact of the disease.

According to [Feed Strategy media reports](#), pork prices have risen in the Philippines, with The Philippines Chamber of Agriculture and Food asking the authorities to set a maximum retail price for pork. This is due to the movement restrictions imposed around the country.

The Philippines Department of Agriculture (DA) and Food and Drug Administration are working to authorise the Vietnamese ASF vaccine for commercial use. However, the department has stated that they [do not expect the vaccine to be in use before the end of 2024](#).

India

No outbreaks of ASF in India have been reported to WOAAH since August 2022. However, the Food and Agriculture Organisation (FAO) and media reports have reported that 24 states in the country have been affected since the first detection in 2020. [Read the ASF situation in Asia and Pacific update on the FAO website](#). The majority of outbreaks have been in northeast India in states bordering Bangladesh and Myanmar. More than 900 pigs have died in Mizoram State since the beginning of 2024 and ASF continued to spread in the state with 36 villages being declared as infected areas. In Assam state, a total of 135 epicentres of ASF have been declared and about 44,000 pigs have died of ASF across the state since 2020. Outbreaks tend to occur when the weather starts getting warmer and pre-monsoon rain begins, [as noted to have happened in the Philippines](#).

According to Empres-i and [Mathrubhumi.com media reports](#), Kerala, in southern India, reported cases of ASF in wild boar in early October 2023. Samples were

submitted for testing due to large numbers of found dead wild boar in the area. Prior to this in August 2023, media reports state that there was an outbreak in Kerala on a private farm. Cleansing and disinfection protocols were followed and pigs within a 10km radius of the farm were culled.

Hong Kong

Since our last report in February 2023, there have been 11 further outbreaks of ASF in domestic pigs in Hong Kong. Of these, 8 occurred between December 2023 and January 2024. One outbreak was reported in February 2023, and the remaining two in November 2023. Positive samples were received from a farm in San Tin, Yuen Long, as part of ongoing surveillance by the Hong Kong government. Nearby farms were inspected as a response, and eight further farms in the Yuen Long region were identified as positive for ASF, as well as one farm premises in the northern region of Sheung Shui.

Indonesia

Indonesia reported one outbreak of ASF to WOAHA since our last report on ASF in Asia in February 2023. This was in domestic pigs on a farm located in Bulan in April 2023. Investigation into the farm started in response to the finding of ASF viral DNA in pigs imported into Singapore from Indonesia.

Further outbreaks have been reported to the Food and Agriculture organisation of the United Nations (FAO). ASF has been officially reported in 23 out of 34 provinces on Sumatera, Bangka Belitung, Java, Kalimantan, Bali, East Nusa Tenggara, Sulawesi and Riau Islands (FAO, 2024). According to recent media publications, ASF has decimated populations of bearded pigs (*Sus barbatus*) on the island of Borneo, causing population declines of 90 to 100% across areas. Recently, however, [bearded pigs have been sighted in Borneo's forests again](#), including in areas where they had not been seen in the last 4 years.

Mongolia

In Mongolia, three outbreaks of ASF were reported in domestic pigs in July and August 2023 and March 2024. These were the first reports of ASF in Mongolia to WOAHA since 2019. The outbreaks were all on farm premises, located in the north of the country in the same regions as those affected in 2019.

Nepal

Since our last report, ASF outbreaks in domestic pigs continue to be reported by WOAHA in Nepal. There have been nine outbreaks in domestic pigs on farm premises

between February 2023 and May 2024. Nepal also reported one outbreak of ASF in wild boar when an infected carcass was found in the Shuklaphanta National Park in March 2023.

Myanmar

In September 2023, Myanmar reported their first outbreak of ASF in 2 years. This was on a village premises with 402 domesticated wild boars and backyard pigs, located in the Mong Koe Village tract, within the Shan State of eastern Myanmar. Myanmar has also reported an outbreak in domesticated wild boar in Shan, eastern Myanmar, where 10 wild boar were affected.

Bhutan

Since our last report, Bhutan reported 11 outbreaks of ASF in domestic pigs and one case of ASF in wild boar. In February 2023 WOAHA reported an outbreak on a village premises situated in the Dagana district, containing 58 pigs. In this same region in March a further outbreak was reported in which 3 animals died. Throughout April and May, 6 further outbreaks were reported to WOAHA from 5 farm and one backyard premises. These were located within the southern Sarpang district, close to the border with India, and housed between 4 and 1,055 domestic pigs. In May 2023, 2 more outbreaks were reported, one within the Dagana district and the other in Chhukha, both on farm premises containing 2 and 3 pigs, respectively. The most recent outbreak was reported in September 2023, on a backyard premises housing 3 pigs located in Eastern Bhutan within the Trashigang district. In May 2024, there was also one case of ASF in wild boar affecting 11 individuals. This is the first report of ASF in wild boar in Bhutan. The wild boars were found in Bumthang, north-central Bhutan in a forest.

According to the FAO, [outbreaks of ASF have been reported in the Pemagatshel and Chhukha Districts in February 2024](#). These are yet to be reported to WOAHA.

Thailand

There have been 2 outbreaks of ASF in domestic pigs in Thailand since our last report. Both outbreaks were on village premises, one in Ubon Ratchathani, eastern Thailand, and the other in Chiang Saen district of Northern Thailand. This is the first recorded outbreak of ASF within the Chiang Rai province.

According to [Nation Thailand media reports](#), pork samples from three unlicensed factories in Nakhon Pathom province tested positive for ASF in March 2024. The factories were ordered to shut down and all products sent for sampling. The

suspicion was reported due to the operators allegedly using carcasses of pigs that had died from unknown causes. No reports have been made to WOAAH yet.

Eastern Russia

Since our last report on ASF in Asia on 13 February 2023, Eastern Russia has reported two outbreaks of ASF in domestic pigs. Both outbreaks occurred in Khabarovsk, around 30km from the border with China.

South Korea

South Korea has reported 15 outbreaks of ASF in domestic pigs to WOAAH since February 2023, including 2 in May and June 2024. 13 of these outbreaks occurred on farm premises within the Gangwon-do and neighbouring Gyeonggi-do districts close to the border with North Korea. The other outbreak occurred in Gyeongsangbuk-Do, eastern South Korea and was the first outbreak to be reported in 2024. Previously, ASF has only been reported in the Gyeonggi and Gangwon regions. According to the Ministry of Agriculture, Food and Rural Affairs for South Korea, a quarantine zone has been set up within a 10km radius of the affected farm, and detailed inspections will be carried out on all four pig farms within the quarantine zone, plus 40 pig farms with epidemiological relationship with the outbreak farm (MAFRA, 2024). Alongside this, South Korea has imposed a temporary ban on the movement of pigs, related transport, and workers, effective from 18 January 2024, according to media reports (BNN Breaking, 2024).

Malaysia

Since our last report, Malaysia has reported 24 outbreaks of ASF in domestic pigs and 7 cases in wild boar. These outbreaks were reported between February and November 2023. No further outbreaks have been reported since. Outbreaks since our last report have resulted in over 32,000 domestic pigs being culled and disposed of. According to Air Asia, [the Malaysian government has prohibited personal imports of pork and pork products](#), with a maximum fine of RM100,000 (£16,700) or jail time of up to 6 years for breaching the ban.

Elsewhere

Since our last report on 13 February 2023, there have been no further outbreaks of ASF reported in China, Lao People's Democratic Republic, Cambodia, North Korea, Papua New Guinea or Timor-Leste reported to WOAAH. It is likely that the virus is still

circulating in these areas, evidenced by reports to other disease surveillance databases, media reports and annual reports submitted to WAHIS.

Conclusion

The continued detection of ASF in multiple countries across Asia, and the wide geographic range of infection found within these countries, demonstrates the potential for further spread of ASF into and within the domestic pig and wild boar populations in this part of the world.

The spread of ASF within Asia to new areas such as Bangladesh and previously unaffected provinces in Thailand and South Korea, shows how ASF continues to spread through pig and wild boar populations. The detection of ASF in domestic pigs imported to Singapore from Indonesia is yet another example of how the virus can spread large geographical distances by human-mediated means. Additionally, the detection of ASF in pork products in illegally operating factories in Thailand demonstrates the possibility of the virus entering the food chain, and the potential for infected pork to be distributed to customers.

Vaccine development in Asia, including Vietnam, is a positive development as the first two vaccines have been approved for commercial use. However, the emergence of a new variant of ASF with features of both genotype I and genotype II in Vietnam and China represents a new challenge and, depending on the rate of spread of this variant throughout south-east Asia, could mean that vaccination campaigns may not adequately control ASF in the region. Indeed, the recent high incidence of infection across Vietnam suggests the vaccination campaign has had limited benefit. These events highlight the [risks associated with the use of live-attenuated vaccines](#) in the control of this disease.

It remains illegal for travellers to import meat or dairy products from Asia and other non-EU country areas. Illegal importation of infected pork meat from affected parts of Asia, presents a significant route of entry of ASF virus into the UK.

ASF is still present in domestic pigs across Eastern Europe and is still circulating in wild boar across much of Eastern Europe, and Germany (Brandenburg and Saxony, and recently Hesse) and Italy (Piedmont, Liguria and Emilia Romagna). Therefore, there remains a medium risk (occurs regularly) of incursion of ASF virus to the UK.

For more information on the situation in Europe, see our most recent update: <https://www.gov.uk/government/publications/african-swine-fever-in-pigs-and-boars-in-europe>)

[Vaccine trials are being conducted in forests in Hungary on wild boar populations](#), and the Pirbright Institute in the UK are conducting research in collaboration with international institutions to accelerate the development of safe and effective vaccines against ASF. However, these projects are not expected to show results for some time.

The countries listed in this assessment are not approved for exports of live pigs to the UK. Illegal importation of infected pork meat from affected parts of Asia, presents

a significant route of entry of ASF virus into the UK. There are also ongoing concerns around infected pork products originating from affected non-EU countries entering the EU in passenger luggage and the subsequent waste being discarded in areas where wild boar or domestic pigs could access them.

Publicity campaigns are in place in the UK to inform the general public and discourage individuals from bringing pork products into UK. This includes [targeted messages to key stakeholders such as road hauliers, hunters, pig keepers and veterinarians](#).

It remains a critical time for the spread of the virus throughout Europe as well as into other regions through human-mediated routes such as introduction from personal imports (including illegal imports) or fomites. On 1 September 2022, strict new controls were introduced restricting the movement of pork and pork products into Great Britain (England, Scotland and Wales) from the European Union (EU) and European Free Trade Association states. It is no longer legal to personally import pork or pork products weighing over two kilograms, unless they are produced to the EU's commercial standards. This does not apply to commercial imports, which remain unaffected by the control. Although this legislation does not currently apply to personal imports of pork products less than 2 kg from the EU, all travellers are strongly advised to avoid bringing, buying, ordering on the internet, or requesting any pork products – for example, fresh or frozen meat, dried or cured meats, sausages, salamis, or pâté – back to the UK from affected parts of Europe. It remains illegal for travellers to import meat or dairy products from Asia and other third country areas. We would like to highlight to all pig keepers, pig producers, smallholders and general public to ensure that pigs are not fed catering waste, kitchen scraps or pork products, thereby observing the swill feeding ban. All pig keepers should remain vigilant and ensure that any visitors to their premises have not had any recent contact with pigs or pig premises in the affected regions.

People returning from any ASF-affected areas of the world should avoid any contact with domestic pigs in commercial holdings, smallholdings or even household pet pigs. Habitats where feral pigs or wild boar exist should also be avoided. All clothing, footwear or equipment should be disinfected before entering pig areas.

Swill feeding any animal, whether pigs, poultry, ruminants, or wildlife is illegal and has the potential to cause substantial harm. We would like to emphasise to all pig keepers, pig producers, smallholders, and the general public to ensure pigs are not fed catering waste, kitchen scraps or pork products, thereby observing the swill feeding ban.

Pig keepers and veterinarians should remind themselves of the clinical signs for ASF. Any suspect cases must be reported promptly. Please see <https://www.gov.uk/guidance/african-swine-fever> for more information.

We will continue to monitor the situation.

Authors

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References

Disease reports are available from the WOAHS WAHIS database.

Anower, A.M. (2017) 'Hygienic farming system improved pig-rearers livelihood status in south-west region of Bangladesh', International Journal of Avian & Wildlife Biology, 2(4). doi:10.15406/ijawb.2017.02.00025.

Ausraful, I. and others. (2021) 'Pig raising practices by unprivileged, ethnic people in Bangladesh', Insights in Veterinary Science, 5(1), pp. 001–005. doi:10.29328/journal.ivs.1001028.

Belal, A. (2023) Study On Production System Of Swine In Backyard And Pig Development Farm. Available at: <http://dspace.cvasu.ac.bd/bitstream/123456789/2311/1/18.53%20Anika%20Production%20Report%20%281%29.pdf> (Accessed: 31 January 2024).

BNN Breaking (2024) South Korea suspends pig movements amid African Swine Fever Outbreak, BNN Breaking: South Korea. Available at: <https://bnnbreaking.com/world/southkorea/south-korea-suspends-pig-movements-amid-african-swine-fever-outbreak/> (Accessed: 29 January 2024).

Channuoi Vietnam (2024) Long An: Risk of recurrence of African swine fever, Channuoi Vietnam News. Available at: <https://nhachannuoi.vn/long-an-nguy-co-tai-phat-benh-dich-ta-heo-chau-phi/> (Accessed: 31 January 2024).

Cường, N. (2024) Bac Kan city strengthens control of African swine fever. Available at: <https://backancity.gov.vn/thanh-pho-bac-kan-tang-cuong-khong-che-dich-ta-lon-chau-phi/> (Accessed: 31 January 2024).

Da-Afid (2024) Da's Bureau of Animal Industry confirms ASF cases in Mindoro, Official Portal of the Department of Agriculture. Available at: <https://www.da.gov.ph/das-bureau-of-animal-industry-confirms-asf-cases-in-mindoro/> (Accessed: 31 January 2024).

FAO (2024) ASF situation in Asia & Pacific Update, Food and Agriculture Organization of the United Nations (FAO). Available at: <https://www.fao.org/animal-health/situation-updates/asf-in-asia-pacific/en> (Accessed: 29 January 2024).

Hartik, A. and Jehadu, S. (2024) 59 pigs in Sikka die suddenly due to ASF virus, Kompas. Available at: <https://regional.kompas.com/read/2024/01/31/143436178/59-ekor-babi-di-sikka-mati-mendadak-akibat-terserang-virus-asf> (Accessed: 31 January 2024).

- Lamperty, T. and others. (2023) 'Rewilding in Southeast Asia: Singapore as a case study', *Conservation Science and Practice*, 5(3). doi:10.1111/csp2.12899.
- Le, T.B., Mai, N.T.A., Nguyen, V.D., Than, T.T., Lai, T.N.H., Cho, K.H., Hong, S.K., Kim, Y.H., Bui, T.A.D., Nguyen, T.L. and Song, D., 2024. Detection of Recombinant African Swine Fever Virus Strains of p72 Genotypes I and II in Domestic Pigs, Vietnam, 2023. *Emerging Infectious Diseases*, 30(5), p.991.
- Meijaard, E. and others. (2024) 'Pig virus imperils food security in Borneo', *Science*, 383(6680), pp. 267–267. doi:10.1126/science.adn3857.
- SFA (2023) Media release - ASF detected in pigs from Bulan , Singapore Food Agency (SFA). Available at: <https://www.sfa.gov.sg/docs/default-source/default-document-library/sfa-media-release---asf-detected-in-pigs-from-bulan.pdf> (Accessed: 26 January 2024).
- The Hindu (2023) African swine fever confirmed in Kannur; pigs to be culled through ..., The Hindu. Available at: <https://www.thehindu.com/news/national/kerala/african-swine-fever-confirmed-in-kannur-pigs-to-be-culled-through-electrical-stunning/article65710122.ece> (Accessed: 29 January 2024).
- The Sangai Express (2023) Outbreak of african swine fever : 1781 pigs culled till date process ..., The Sangai Express. Available at: <https://www.thesangaiexpress.com/Encyc/2023/12/4/By-Our-Staff-Reporter/IMPHAL-Dec-3-As-many-as-1-781-pigs-have-been-culled-due-to-African-Swine-Fever-in-Man.html> (Accessed: 29 January 2024).
- The Sentinel Assam (2023) Assam: Dicial Village declared as African swine fever 'epicentre', The Sentinel Assam. Available at: <https://www.sentinelassam.com/north-east-india-news/assam-news/assam-dicial-village-declared-as-african-swine-fever-epicentre-675478> (Accessed: 29 January 2024).
- Vietnam Plus (2023) Made-in-vietnam African swine fever vaccines to be exported to ..., Vietnam Plus. Available at: <https://en.vietnamplus.vn/madeinvietnam-african-swine-fever-vaccines-to-be-exported-to-philippines-indonesia/265491.vnp> (Accessed: 01 February 2024).

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