



Husbandry and movement patterns of equids in South-East Asia and the People's Republic of China



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List of acronyms

AHS	African horse sickness
CPWO	Cambodia Pony Welfare Organisation
EDFZ	Equine disease-free zone
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FEI	International Federation for Equestrian Sports
HKJC	Hong Kong Jockey Club
IRA	Import risk analysis
NF	National Federation
OIE	World Organisation for Animal Health
OIE-WAHIS	OIE World Animal Health Information System
PAWS	Philippine Animal Welfare Society
PETA	People for the Ethical Treatment of Animals
SAR	Special Administrative Region
SEA	South-East Asia

Foreword

For many decades, equine diseases have been considered as neglected diseases in Asia due to their less prominent socio-economic impacts on animal production and public health in comparison to food-producing animals. However, this has changed since the initial reports of African horse sickness (AHS) outbreaks in Thailand in March 2020. African horse sickness can cause serious disease in horses, with a mortality rate up to 95%. Asia was historically free from AHS, except for occasional incursions into India and Pakistan in the 1950s and 1960s. The emergence of AHS in South-East Asia poses a significant challenge to the equine industry and to Veterinary Services at regional level. More than 500 horses have died or been culled in Thailand due to AHS, and the disease was further reported in Malaysia in September 2020.

The AHS outbreaks have highlighted the information gap regarding equine populations, distribution and demographics in many countries in South-East Asia, as well as the movement of wild and domestic equine species within and between countries. This knowledge is critical for Veterinary Services to better engage key stakeholders in equine disease control, and develop tailored disease surveillance and control programmes adapted to their local context. The World Organisation for Animal Health (OIE) has commissioned this study on the husbandry and movement patterns of equids in South-East Asia and People's Republic of China with the aim to compile available information and identify the remaining gaps.

As the launch of this study coincided with the second wave of the COVID-19 pandemic worldwide, the study has drawn on information gathered from existing literature, interviews with key stakeholders (representatives from national Veterinary Services, the horse sport industry, non-governmental organisations working in horse welfare, and other interested individuals), as well as an online workshop organised by the OIE Sub-Regional Representation for South-East Asia.

While this report compiles all the information that could be gathered in 2021, it also emphasises the important knowledge gaps. There is an urgent need for national Veterinary Services to gather more information about their wild and domestic equine populations, including captive wild species, and the informal movement of equids (and their products) in South-East Asia and People's Republic of China.

I am pleased to present you with the results of this study. In addition, I would encourage you to continue collecting data on your respective equine populations in order to further contribute to these findings in the near future.



A blue ink signature, appearing to read 'Ronello Abila', written in a cursive style.

Dr Ronello Abila

OIE Sub-Regional Representative for South-East Asia

Przewalski horses in China



VISUAL CHINA GROUP

Executive summary

This study was commissioned with the objective to collect information about the husbandry and movement patterns of equids in South-East Asia (SEA), including horses, mules, donkeys, and wild equids such as zebras or Przewalski's horses. The study also sought to identify any movements of equids across national borders within the sub-region and possibly across the borders with the People's Republic of China (PR China), given that such movements are seen as a risk for the spread of diseases in the region.

As the launch of the study coincided with the second wave of the global COVID-19 pandemic, the study was carried out based exclusively on literature reviews, stakeholder interviews and an online workshop organised by the World Organisation for Animal Health (OIE) Sub-Regional Representation for South-East Asia.

Interviews were conducted with representatives of government agencies, the horse sport industry, non-governmental organisations (NGOs) working in horse welfare, and interested individuals who contributed their knowledge and interest in the history, development and current husbandry and main

uses of equids in the countries of SEA, PR China and the special administrative regions (SARs) of Hong Kong and Macau.

Horses are inextricably linked to the history of the region, particularly in PR China, where almost all great dynasties celebrated horses for their abilities and service to humankind during wars, celebrations, early equestrian sports and long-distance travel and transport.

While historical references can be found about the origins, geographical distribution and development of donkeys, mules and horses up to around the mid-20th century, the increased mechanisation of agriculture and the introduction of cars and motorbikes diminished the pivotal role historically played by these animals. Thereafter, equids used for transport and load carrying were associated with rural people living in remote areas that are difficult to access, while horses shifted their purpose from a beast of burden to a leisure and sport animal.

In particular, the sports of racing and polo changed the use of horses, and individual animals performing well in these disciplines were highly sought-after. Racing

and polo clubs were founded in the last two decades of the 19th century in Hong Kong SAR, Malaysia, the Philippines and Singapore.

Today, however, knowledge about domestic and wild equids and their husbandry in South-East Asian countries is not easily obtained. As domestic equids serve a marginal agricultural purpose, they are not granted a great deal of attention by national Veterinary Services, which have a strong focus on livestock and their production. Given the shift in the purpose for keeping horses, it is generally perceived that caring for their health is more a responsibility of the private sector, namely the horse industry. Notable exceptions include the donkey development programme of PR China, which seeks to increase the number of donkeys in state-owned farms in order to satisfy the demand for products such as meat, milk and ejiao (see Chapter 3.4), and PR China's horse industry development plan (1).

Notifiable diseases for equids, including wild equids, have been listed by most countries in their animal health legislation (see Chapter 5.1); however, only a few of these diseases are being reported to the OIE. Based on interviews with stakeholders, it can be concluded that local horses, donkeys and mules are generally well adapted to the local disease burden and have developed a certain degree of resistance. They are usually short, stout and sure-footed, allowing them to wander through difficult terrain in search for grazing areas. Their main issues appear to be inadequate husbandry management, insufficient hoof care, nutritional deficiency, and poor handling by their owners.

The genetic resources of well-known indigenous animals, such as the Timor pony or Sandalwood pony, do not seem to be conserved through national programmes. Where such initiatives do exist, they mainly consist of the conservation of small groups of indigenous animals by individual breeders. A notable exception to this trend is Vietnam's Center for Animal Breeding Research and Development in Mountainous Areas; however, due to reduced national funding, the centre's activities are limited. This seems to be a need worth considering by national authorities, as valuable genetic resources may disappear given the general interest among owners to breed taller animals.

The movement of equids across national borders is suspected to be a major risk factor in the distribution of notifiable diseases such as African horse sickness

(AHS), which occurred for the first time in Thailand in early 2020, many decades after the last outbreak in India and Pakistan in the 1960s. This study, however, was unable to gather official information regarding illegal movements across borders. Only unofficial and anecdotal evidence points to several hotspots of cross-border movement, particularly between Laos, Vietnam and PR China, mainly for trade and unrelated to the occurrence of AHS. Official movement is regulated by national veterinary legislation; it requires an import health certificate and often a quarantine period. Horses are mostly imported by air and in the context of international horse sport events.

The study identified a clear and urgent need for national Veterinary Services to gather more information about their equid populations, including captive wild species. Official data on equids was not received for several countries in the framework of this study, and most figures provided in this report are based on data from the Statistics Division of the Food and Agriculture Organization of the United Nations and those provided in annual reports to the OIE World Animal Health Information System. The AHS outbreak in Thailand forced the national Veterinary Services to carry out a rapid census of equids in order to design the national control and vaccination strategy. The census figure was almost three times higher than the figure that had been used for years in national statistics. Such discrepancies in data may also occur in other countries in SEA, with the exception of Cambodia, where an NGO has recently conducted a count of the country's equine population.

An additional observation is the complete lack of an identification and registration system for equids, except for high-value sport horses that are registered with national equestrian or racing bodies. For instance, the identification system for local horses introduced in the Greater Jakarta Area prior to the Asian Games in 2018 was not expanded to the rest of the country, as originally intended.

The incursion of AHS should serve as a wake-up call for countries in the region to better understand their equid populations. This should include a census, a mapping of demographic and geographical distribution, a better understanding of endemic diseases, and the establishment of a basic registration and identification system. Such actions would lead to better preparedness for early response should a similar disease event occur again.

Mongolian horses



BASAN BATSUKH

1 Brief history of the equine population in South-East Asia

Research indicates that horses were first domesticated in the western parts of the Eurasian steppe approximately 5,000 years ago; however, how and when today's indigenous equids of South-East Asia (SEA) arrived in the sub-region remains unclear. While most historians consider that horses arrived from the north, i.e. India, China, the Caspian Sea, West Asia or even Europe, through exchanges and trade at the beginning of the Common Era (2), some authors consider Tibet to be the origin of the majority of horses in SEA (3).

Historians describe a correlation between major centres for horse breeding and classical empires, suggesting that easy access to horses contributed to the military power of the ancient Pagan Kingdom (9th century, Burma), Khmer Empire (9th century, Cambodia), Champa Kingdom (9th and 10th century, South Vietnam) and Majapahit (12th to 16th century, Indonesia).

When Europeans visited the sub-region in the 16th century, most countries had indigenous equids, except for the northern and central Philippines. The main phenotype was short and tough Mongolian and Tibetan ponies with a maximum height of 147 centimetres (cm), with other breeds showing Arab blood possibly derived from western India (2).

Most likely due to careful local selection, special breeds emerged and became well known in the 18th century, such as the Kedu horse of south-central Java and the Sandalwood horse originating from Sumbawa or Sumba in Indonesia.

During the colonial period, though armies possessed some light cavalry, they relied primarily on horses and mules for the transport of mountain artillery and machine guns. This persisted as late as the Pacific War (1941–1945) and the Vietnam war (1955–1975).

Other uses for horses and mules are less well-documented than those for cavalry engagement in warfare. However, their use in transporting goods in central and northern SEA, southern PR China and eastern Tibet Autonomous Region is described as a 'spiderweb' of mule and pony caravan stations, from the 13th century until the late 19th century. This transport network still exists on a small scale, especially for contraband (2, 3).

At the beginning of the 20th century, clusters of horses were found in maritime SEA, such as the western Philippines, South Sulawesi, Java and the Sumatran highlands. Mainland SEA horses were concentrated where the Yunnan Plateau extends from China and into central Myanmar, north-eastern Thailand, Cambodia and central Vietnam. It is reported that some 800,000 horses lived in maritime SEA and about 300,000 in mainland SEA in 1910 (2).

Until the colonial period, there was a limited introduction of new bloodlines into SEA. The region was more of an exporter than an importer, with many opportunities for exports to China and India, which were chronically short of horses. Very few horses came from India, and this influx was balanced by exports to southern India. Exports from China into SEA were tightly controlled (3). Following their arrival in the 16th century, Europeans and their horses did not have a significant impact on the genetics of the well-established local horses of the Mongolian and Tibetan pony type. The breeding of donkeys was rare and is described only for the Philippines (3).

Annexes 1 and 2 provide data on the reported equine populations, sourced from the World Animal Health Information System of the World Organisation for Animal Health (OIE-WAHIS) and the Statistics Division of the Food and Agriculture Organization of the United Nations (FAOSTAT), respectively. Discrepancies between these data and those reported by countries during this study highlight the need for proper identification and census of equids.

“Until the colonial period, there was a limited introduction of new bloodlines into SEA. The region was more of an exporter than an importer, with many opportunities for exports to China and India, which were chronically short of horses.”

Equestrian sports have also played a significant role in the sub-region. Of all equestrian sports, horse racing has had the greatest importance in the history of horses in SEA. In Hong Kong (Special Administrative Region [SAR]), the Royal Hong Kong Jockey Club was founded in 1884; in Malaysia and Singapore, racing was introduced during the British colonial era; in the Philippines, local racing with ponies started in 1867 and continued until 1898, when it was replaced by Arabian horse racing

from 1898 to 1930 and, subsequently, thoroughbred racing starting in 1935. Today, racing still plays a major role in all SEA countries.

Polo, one of the world's oldest known team sports, has been played in Malaysia and Singapore since the late 19th century. The Royal Johor Polo Club was formed in 1884 and the Singapore Polo Club in 1886. Today, the oldest polo club in Malaysia is the Selangor Polo Club, founded in 1902. Indonesia, Thailand, Brunei and the Philippines adopted the sport later, and are now part of a network of polo clubs; they participate in regional competitions, culminating in the 2007, 2017 and 2019 Southeast Asian Games.

2 Utilisation and characteristics of equids in the countries of South-East Asia

2.1 Brunei

Very little can be found in existing literature about the history of equids in Brunei. In 2019, the country reported the existence of 296 horses through OIE-WAHIS (Annex 1); however, no other statistics were found.

Today, Brunei plays a major role in polo sport, which is supported by the royal family. In 1997 there were 1,200 polo ponies at the Jerudong Park Polo Club owned by the Sultan of Brunei. In 2000, the Sultan reassessed all his horses and reduced their number to 400. There are two main centres for equestrian sports: the Royal Brunei Polo and Riding Club with the Sultan's horses, founded in the mid-1970s, and Trijaya Equestrian Club. The national polo team won bronze and gold in the Southeast Asian Games held in the Philippines in 2017 and 2019, respectively.

Brunei used to have a National Federation (NF) and was a member of the International Federation for Equestrian Sports (FEI) Group VIII, but this is no longer the case.

Equestrian sports are offered in the country and organised in private riding clubs. Brunei participated in the 2010 Asian Games in the jumping discipline.

2.2 Cambodia

Horses have always played an important role in Cambodia's rural areas. Farmers along the Mekong River still use horses to pull carts and carry loads. The local ponies and horses have an average height of 13 hands (132 cm) and are often crossed with larger Thai or Vietnamese horses. Anecdotal evidence indicates that farmers prefer taller horses (mares and stallions) from Vietnam and Thailand for cross-breeding with their own animals and for the horse breeding business in rural communities.

According to the Cambodia Pony Welfare Organisation (CPWO) (www.cambodiaponywelfare.org/), there are currently 5,065 ponies in communities and 203 ponies in private clubs or farms in the whole country. While slightly different, these data are close to those provided in OIE-WAHIS annual reports (Annex 1), which show a significant and regular decline in the country's equine population over the past decade.

There are few equestrian centres with imported sport horses. Registered with the NF are 10 horses for jumping, 5 horses for dressage and more than 20 for endurance competitions. No international events have been organised and NF horses have not participated in competitions outside Cambodia.

Overall, the NF considers that the importance of equestrian sports and the number of horses and ponies used for leisure and competition riding is increasing, without being able to provide precise figures.

Today, ponies and local horses are mainly used for tourists for trail riding at frequently visited sites, such as Angkor Wat, and for local horse racing, for instance, at Phnom Penh's Prek Pnov district racecourse.

The country's local ponies and horses are supported by CPWO, which was established in 2007. This support has led to major improvements in their welfare.

Cambodia was included in a study by World Horse Welfare on the impact of the Covid-19 pandemic on the welfare of working equids. There has been a marked reduction of work for the animals (73%) during the pandemic, with a corresponding loss of income for their owners (4). In a similar survey carried out in 118 countries by the OIE Collaborating Centre Network for Veterinary Emergencies in 2020, 47 reports on equines were analysed; the abandonment of horses and the economic impact on animal owners were identified as the main issues (5).



Installation of netting to shield stables in Cambodia and prevent spread of AHS

CAMBODIA PONY WELFARE ORGANISATION

In 2020, following the reporting of African horse sickness (AHS) in Thailand, CPWO was closely involved in assisting horse-owning farmers in the border areas with Thailand to protect their horses by shielding their stables with mosquito netting, thus preventing the introduction of this exotic disease.

There are no wild equids or donkeys in the country, and no zebras in the two zoological gardens.

Horse meat is consumed in parts of the country; however, based on the information gathered to date, there is no specialised value chain for such products.

2.3 Timor-Leste

Timor-Leste is well known for the Timor pony, typically measuring 10 to 12 hands high (102 cm to 122 cm) and used for cattle work, riding, driving and for light farm work. Literature reports that it was introduced in 1292 during a conquest by Kublai Khan of the Indonesian islands and is believed to have traits of Przewalski's horse and the Tarpan horse, which is now extinct (6).

Timor ponies were exported to the Philippines and Australia starting in 1820 and throughout the 19th century. In 1839, British settlers arrived with 60 Timor ponies in Australia and continued breeding them until

1857, when the new owners of the Coffin Bay stud started crossbreeding them with approved stallions of taller breeds, creating the Coffin Bay pony of South Australia. From Australia the Timor ponies were also exported to New Zealand, where they were advertised for sale as early as 1843 (7).

The number of horses in Timor-Leste has drastically declined from 114,150 in 1979 to 57,800 in 2010 (8) and to 50,770 in 2019 (see Annex 2). Horses are mainly kept in higher mountainous districts such as Bancan, Viqueque and Ainaro and are used for transporting goods along the difficult paths from remote hamlets to market days in the villages (9). They also played an



Timor pony and foal

L HOWSE

important role in the country's resistance movement during the two decades of occupation by Indonesia (1975–1999), when they were used for transport and intelligence work in the forests and village areas. Today, their use continues in areas that are difficult to access, and in some parts of the country they are also used in the rice fields.

Besides their uses as working animals, Timor ponies are well known for their aptitudes in racing. Local races, often bareback, are described in Tasitolu and in Batugadu and are often organised to celebrate special occasions such as Independence Day (10).

2.4 Indonesia

The introduction of horses into the archipelago of Indonesia dates to the 9th century, with their numbers remaining low until 1200.

Given the small size of the indigenous horses, large horses were highly sought-after, particularly as gifts to rulers. With the Dutch East India Company (VOC) established in Jakarta in 1602, this location became a hub for the exchange of horse genes within Asia. The VOC considered it a lucrative business to establish a stud farm with Persian and Arab horses in Jakarta and on a small island of Sri Lanka.

Well-known indigenous horses include the Batak horse and the Sandalwood horse; these have a higher degree of Arab blood and may have been present in Sumatra since 1600. During this period, horses were not used as beasts of burden, but rather for riding and tournaments by the nobility. Generally speaking, the number of horses increased in the archipelago during the 18th and 19th century, and in Java it appears that their numbers grew more rapidly than those of humans between 1500 and 1850 (11).



According to OIE-WAHIS and the Statistics Division of the Food and Agriculture Organization of the United Nations (FAOSTAT), Indonesia's horse population has remained relatively stable during the past decade and was estimated at 394,500 in 2019 (Annex 1, Annex 2). Indonesia has several well-known local breeds including the Batak and the Gayol pony in Sumatra, the Java pony in Java, the Sandalwood pony in Sumatra and Java, and the Sumbawa pony in Sumbawa.

During the 20th and early 21st century, local ponies have been used for transporting goods and people and in agriculture; however, over time their uses have changed and today they are used primarily for racing and for light carriage transport, including in the country's numerous tourist destinations.



Regarding horse sports, Indonesia's 'child jockeys' have received global attention in recent years. Children as young as five years of age work at the races. Racing in Sumba and Sumbawa islands is quite famous and attracts large crowds. In Sumbawa, races are held for special occasions (for instance, the end of the harvest, Independence Day, and Armed Forces Day) and can last for one week from morning to evening with horses from all over the island (12). There are also cross-border races held in north-central Timor between Timor, West Timor, Timor-Leste and Sumba Island (13).

Equestrian sports have gained importance over the past two decades and European warmblood sport horses have been imported in significant numbers (see Annex 3). Indonesia held its first large-scale international equestrian event in 2018 within the framework of the Asian Games, held in Jakarta. For this purpose, an equine disease-free zone (EDFZ) was established around the venue in Jakarta, representing the first EDFZ in SEA; the self-declaration of the EDFZ was published by the OIE prior to the event (14). In preparation for the EDFZ, all local horses in Greater Jakarta were counted and identified, totalling 1,157 horses. The Asian Games venue has since been used for local equestrian competitions. Unfortunately, the identification of all remaining equids in Indonesia was not completed after the Games.

Indonesia has a National Equestrian Federation which has been a member of FEI since 1975. For registered athletes and horses, please see Annex 4.

2.5 Laos

According to statistics from the Department of Livestock and Fisheries, the total number of horses was 6,524 in 2015 (15), while FAO statistics indicate a total of 32,550 for 2017 (Annex 2) and OIE-WAHIS registers the population of equids at 15,364 in 2018 (Annex 1). One possible explanation for this significant difference in population numbers is that for a period of approximately 18 months in 2008–2009, many working ponies were purchased off the streets in the southern provinces of Salavan, Savannakhet, Khammouane (Thakhek) and Bolikhamxay through to capital Vientiane Province; they were then transported through central Laos to Xieng Khouang and taken through the border crossing at Nonghet by Vietnamese traders, often at a rate of six to seven truckloads per day. This led to a significant reduction in the population of local ponies and their numbers have only recovered gradually. However, the discrepancy between the 2017 FAOSTAT data and the 2018 OIE-WAHIS data highlights the need for a robust identification system and a regular census of the equine population.

Horses and ponies are found in 10 out of 18 provinces, primarily in Xieng Khouang Province (highest density of the total population) and Luang Prabang in the north, and in small horse-riding centres in Vang Vieng, Vientiane Province, in central Laos (15). Local horses are used as working horses mainly in the mountainous regions that are difficult to access (see below); otherwise, they are used mainly for tourism and cart pulling.



Hmong horse

The Hmong ethnic group still uses local horses for transport in mountainous regions, though far less than in the past, before motorcycles became available. The Hmong horse is an indigenous breed found in Vietnam and northern Laos which has been kept and bred true to breed type characteristics. Hmong horses are of Mongolian, Sichuan or Timorean descent, with the introduction of Arab blood following the French colonisation of the region in the late 19th century (16). They are, on average, between 1 metre and 1.2 metres high, with a broad forehead and intelligent eyes with a slightly dished face. Their manes are thick and are kept cropped, making them rise to form a crest. Their temperament is good-natured and they are especially sure-footed in the mountains.

Local horse racing is popular in Xieng Khouang and Bokeo Provinces. Xieng Khouang Province shares a border with Vietnam and it is reported that the informal movement of equids occurs across this border. The slaughter of horses in Vietnam for the horsemeat market is considered a driver for these exports from Laos; however, no official figures are available.

In the past, horses were also used as working animals in the coffee plantations of southern Laos, particularly in Champasak, Attapeu and Sekong Provinces. However, mechanisation in coffee farming has gradually replaced these animals.

The national Veterinary Services indicated that there are no donkeys, mules or zebras in the country.

2.6 Malaysia

Minimal information is available on the history of horses in Malaysia. The main influx of local types of horses, such as Batak and Achin, began with the arrival of the Europeans in the 18th century. However, as described by Clarence-Smith, 'There were limits to the penetration of horses into Maritime Southeast Asia, even after the Europeans had arrived, with ponies absent from certain apparently suitable uplands. Notable examples were the interior of the Malay Peninsula [...]' (3).

Statistics on the horse population were made available by the Department of Veterinary Services; these data indicated a total population of 4,572 horses, while information on the presence of donkeys, mules or zebras in the country was not available (17). In 2017, Malaysia reported to OIE-WAHIS the presence of 5,191

equids, without dividing them according to species (Annex 1).

Equestrian sports are widely practiced in Malaysia and all types of sports are played, including polo and endurance riding. The military and the police have riding teams that also compete in endurance competitions.

There are 4 turf clubs and 13 equestrian clubs that are registered with the Equestrian Association of Malaysia (EAM), offering opportunities to the public to learn and practise horse riding. In addition, approximately 40 riding schools have horses and offer their services to the public, though they are not registered with the EAM. A total of 200 horses are registered with the EAM for jumping, 150 for dressage, and 450 for endurance competitions. The EAM estimates that about 1,500 horses are used for leisure riding and 2,500 horses are used for racing.

Malaysia is an approved third country for the European Union (EU); this means it can export equids to EU territory following EU animal health and certification requirements. However, this status is currently suspended due to the presence of AHS cases in Malaysia in 2020 (18).

Malaysia has held several international events with the participation of horses from outside SEA, such as Grand Prix show jumping (four times), World Endurance Championship (2008), FEI World Cup Show Jumping (2006), and the Southeast Asian Games (2001, 2017). It exports and imports horses for equestrian events, for use within the country or in transit to other destinations. Imports require a 14-day quarantine in an approved quarantine station.

Polo is actively supported by the Sultans of Malaysia and the sport is organised by the Royal Malaysian Polo Association (RMPA), which has ten associated clubs and approximately 900 polo horses. The RMPA is associated with Singaporean and Thai polo clubs for tournaments.

With respect to tourist activities, Malaysian holiday resorts offer beach and trail rides.

Since 1988, several equestrian clubs and the military have supported riding for the disabled (19).

Malaysia has an Equine Academy at the University of Technology Malaysia (UTM) (20). This programme promotes equestrian sports among the students and staff, and seeks to build internationally competitive riders for endurance, dressage and show jumping. The

University of Technology Malaysia hosts the annual UTM International Johor Horse Show.

According to the EAM, the number of horses in the country is decreasing and there are no working horses in agriculture. The EAM has registered about 1,500 local riding horses of the Mongolian pony type in the northern province of Sabah. While there are about 20 zebras in the national zoological garden, there are no wild equids in Malaysia.

2.7 Myanmar

During the Bagan Kingdom (11th century), horses were very important for warfare. The Burmese (Myanmar) horse is one of two horse breeds in Myanmar, the other being the Shan horse. The Burmese horse is well adapted to hot and humid conditions. Its coat is not as thick as that of the Shan horse. It is used as a draught horse to carry loads, especially in hilly areas such as Shan State, Chin State and Kachin State. In hilly areas, donkeys and mules are used to carry loads and transport people; the Myanmar military also uses mules to transport materials in hilly areas. Horses are also used as cart horses for tourism in Bagan ancient city and Pyin Oo Lwin city.



Use of horse in Pyin Oo Lwin city, Myanmar

DVS MYANMAR



Use of horse in Bagan ancient city, Myanmar

DVS MYANMAR

According to a livestock census of 2018 and data received directly from the national authorities, there are 33,252 horses, 2,259 donkeys and 10,290 mules in Myanmar. There is no identification system currently in place for horses; however, horse-drawn carts must be registered in the cities where they operate, which is an indirect way of counting the number of working horses in this sector.

Current legislation stipulates that equids moving between provinces within the country, as well as those being transported outside the country, need a health certificate issued by the Livestock Breeding and Veterinary Department. Horses imported into the country are required to quarantine in a designated facility.

2.8 The Philippines

Horses were introduced during the late 15th century and early 16th century into the Philippines. They were brought to the Sulu islands from Sumatra, Borneo and Malacca (Malaysia) by the Spanish. The horses introduced to the northern and central parts of the Philippines were imported from Mexico across the Pacific, the predominant breed being Creolos and Mustangs. Starting in the 16th century, horses from China and Japan were introduced to the country because of their reputation for stamina. Once established in the archipelago, sufficient interbreeding over generations created a distinctive native breed. This local breed measured around 1.16 metres and was well adapted to the harsh environment, high disease pressure, and lack of extensive grasslands. In the late 19th century, the Spanish, and later the Americans, established cross-breeding programmes with Arab, Australian or American stallions and brood mares to increase the height of the local breed. This went hand in hand with a castration policy that threatened the existence of local stallions, leading the original small local breed to near extinction (21).

The total number of horses in the Luzon, Visayas and Mindanao areas was 240,000 in 1886, which decreased to 180,000 in 1903 and rose again to previous numbers in 1918. The colonial administration associated these changes with the arrival of surra (*Trypanosoma evansi*) in the Philippines at the end of the 19th century and the resulting surra epidemic; the disease was imported either via infected cattle from the East Indies or from Indian racehorses, and eventually spread to the entire archipelago.

It is estimated that in addition to the horses under the colonial administration, there were around 20,500 local horses, some of them feral, throughout the archipelago by 1918 (21).

According to the Bureau of Animal Industry, there are approximately 25,000 horses in the country, with around 5,000 thoroughbreds and polo horses, and few donkeys and mules; however, since there have been no official surveys, these figures are considered estimates. By contrast, data from FAOSTAT indicates a total of 252,518 horses in the country. Through this study, it was possible to access current data for one province (Batangas, see Figure 1), which indicate a total of 6,002 horses in 2021 (22).

The Bureau of Animal Industry requires a veterinary health certificate for the movement of horses between provinces. Statistics from the province of Batangas indicate that 668 horses were transported within the province in 2020 and 987 horses left the province, mainly for slaughter purposes. During 2019 and 2018, far fewer movements were observed (22).

The regular transport of horses within the provinces of Batangas and Cavite are observed for horse racing activities. Inter-island movements are also observed occasionally when retired racehorses are brought from Luzon to Visayas and Mindanao for breeding and riding purposes.

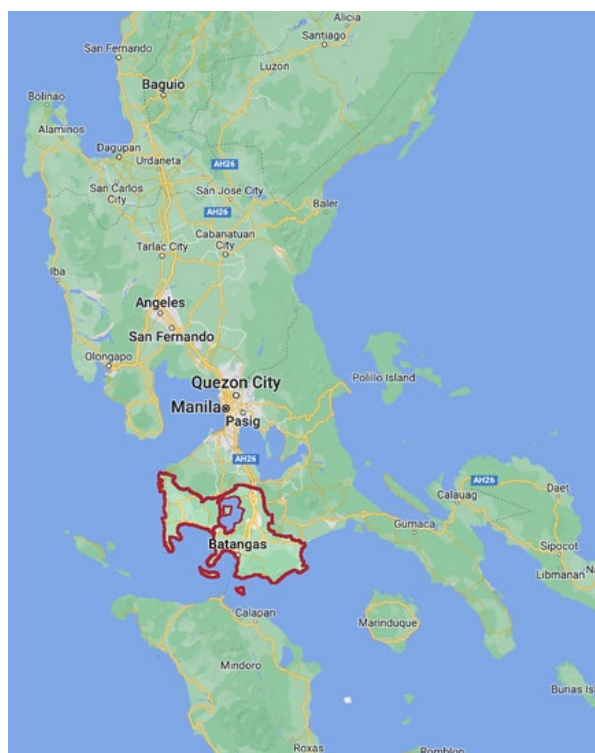


Figure 1 Location of Batangas Province in the Philippines

For the importation of equids into the country, a 30-day quarantine period in an on-farm quarantine site approved by the Bureau of Animal Industry is required and the import health conditions are agreed with the exporting country on a case-by-case basis. The importation of horses, for instance, from Australia and the United States of America (USA) occurs regularly throughout the year, both for racing and breeding purposes.

Horse racing has a long history in the Philippines. Starting around 1935, races were held with thoroughbreds, whereas they had previously been held with Arab horses and ponies. Today, some 1,800 horses are registered with the national racing authority, Philracom. In addition to racing, there are several polo clubs and equestrian clubs for leisure riding.

The Philippines hosted the 2019 Southeast Asian Games, in which the only equestrian sport was polo. Brunei, Indonesia, Malaysia and the Philippines competed in the polo tournament. Brunei brought 45 horses for the event, while the other two countries competed with borrowed horses.

While the exact number of working horses in the Philippines is unknown, the working horse population on Taal Island is estimated at 1,300 animals. These horses made headlines in 2020 when the animal welfare organisation People for the Ethical Treatment of Animals (PETA) published articles about their poor state of health when being used to carry tourists up the steep slopes of Taal Volcano, as well as PETA's efforts to rescue them after the volcano's eruption in January 2020 (23). There are also many local horses in the Cordillera Administrative Region, South Cotabato, Oriental Mindoro, Bukidnon and the Davao region. There are no donkeys used in the Philippines, though some mules can be seen in zoos. Several zoos also host zebras, such as the Manila Zoo, the Aviron Zoo and the Calauit Safari Park.

The Philippines has some well-known indigenous breeds, the Baguio Pony and the Baguio light horse; today, they are primarily used for local transport at tourist sites. The COVID-19 restrictions that halted tourism for an extended period of time have severely affected horse owners and their businesses, with negative consequences for the unemployed horses. According to a study conducted by World Horse Welfare, working equids in Asia had 73% less work due to reduced demand and, in some cases, were abandoned (4).

Horse fighting was a popular tradition in the Philippines, but due to the intervention of animal welfare organisations such as the Philippine Animal Welfare Society (PAWS), it is in major decline, with the last complaint received in 2019. Under the national Animal Welfare Act of 1998, it is considered an illegal sport.

The Bureau of Animal Industry have confirmed that equids are legally considered livestock and can therefore be humanely slaughtered for consumption. A newspaper article from 2001 indicates that of the country's 16 regions, 5 produce horse meat; Cebu is in lead position with 218 tonnes in 2001, equivalent to 1,450 horses slaughtered, followed by Metro Manila (54 tonnes), Central Luzon (20 tonnes), Southern Tagalog (12 tonnes) and Northern Mindanao (110 kilogrammes [kg]) (24). No additional updated figures could be obtained.

2.9 Singapore

Horse racing has a long history in Singapore and was the first equestrian sport in the country. Today, it is well established and the number of racehorses has increased from 700 in 2007 to 1,430 in 2015 (25), thanks in part to racehorse syndication between local and foreign shareholders, unrivalled prize money, and the considerable spending power of horse owners.

The Singapore Sporting Club was founded in 1842 to operate the Serangoon Road Race Course at Farrer Park Field. It was renamed as the Singapore Turf Club in 1924, and today is part of the Malayan Racing Association. The Singapore Turf Club is the only horse racing club in Singapore and the only authorised operator of horse racing and horse betting services in the city-state.

As there is no breeding industry for thoroughbreds in Singapore, all racehorses are imported, mainly from Australia and New Zealand, with a limited number arriving from the EU, Japan, and the USA.

Equestrian sports and horse riding opportunities in Singapore are very diverse, despite its small size. Besides racing, other activities include polo, dressage, jumping, endurance and riding for the disabled.

An annual increase of 5% has been reported in the number of polo horses. The same trend applies to sport horses and the NF has noted an increase in the number of riding and competition horses. Singapore's success in the last two Southeast Asian Games has

also boosted the popularity of the sport. Data from OIE-WAHIS also indicate an annual increase in the total equid population, from 1,216 equids in 2007 to 1,991 in 2015, followed by a decrease to 1,702 equids in 2019 (Annex 1).

2.10 Thailand

Statistics on horse, donkey and mule populations were provided by the Department of Livestock Development (DLD) for the period 2005 to 2019 (Annex 1, Annex 2). These figures were estimates rather than census figures, and placed the 2019 total equine population at 5,999 horses, 1,901 donkeys, and 101 mules. Mules and donkeys are found primarily in the northern parts of the country and are mainly used by the military.

When AHS was detected in 2020 and control measures had to be implemented, there was an urgent need to have precise data on the number of equids present in the country in order to be able to order a sufficient number of vaccine doses. A rapid census was carried out and military and police horse numbers were communicated to DLD. The actual horse population was more than double the population estimates in Thai statistics from previous years (26). Table I summarises the population figures as of February 2021, which served as the basis for the AHS control measures taken in Thailand.

Table 1 Census data for the equid population of Thailand in 2021

Type	Number	Total
Horses		
Leisure and working	14,668	
Racehorse	807	
Equestrian	2,852	19,642
Polo	99	
Military	1,183	
Police	33	
Donkeys	647	647
Mules	118	118
Zebras	524	524
Grand total		20 931

Source: Based on data from the Department of Livestock Development, Thailand

Horses that could not be characterised as either police, military, racing or equestrian sport horses for the purposes of the census were labelled as “leisure and working horses”. This category encompasses all horses that are used for tourism/ecotourism, carriage transport, or in Buddhist ceremonies. Very few horses are still used in agriculture due to the mechanisation of agricultural production (DLD, personal communication).

The Himalayan horse is used in Thailand for many different purposes. It is 1.1 metres to 1.5 metres tall, very sure-footed and well adapted to climbing the mountainous areas of the country (27).

There are 546 zebras held in 24 zoos in Thailand and the location of these zoos is shown in Figure 2. Private zoos are under the authority of the Department of National Parks, Wildlife and Plant Conservation, while government zoos under the authority of the Zoological Park Organization. Some zebras have been imported from AHS-endemic countries such as Southern African countries.

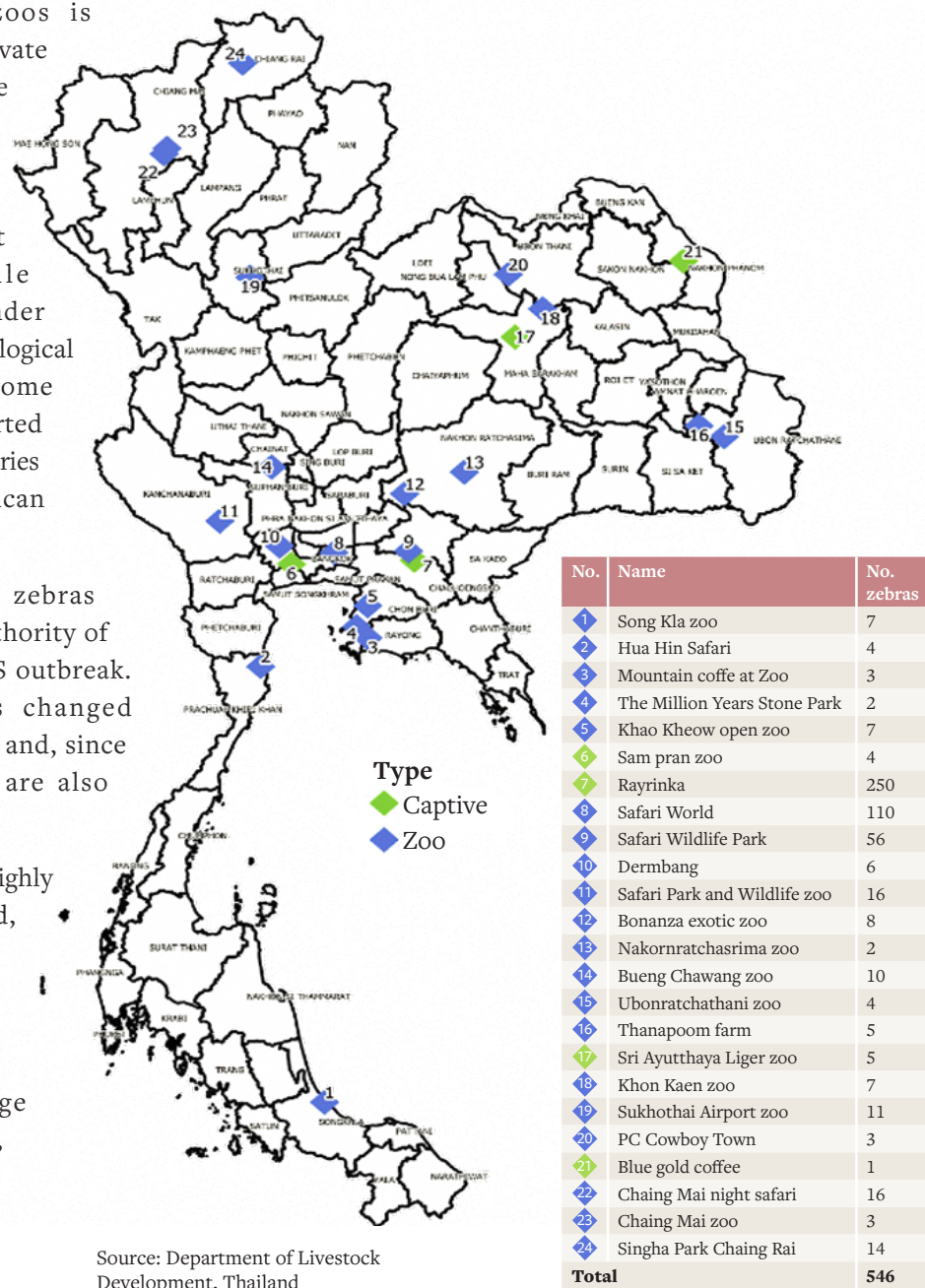
As a wildlife species, zebras were not under the authority of the DLD until the AHS outbreak. The legislation was changed following the outbreak and, since 8 April 2020, zebras are also under DLD authority.

Equestrian sports are highly developed in Thailand, with all disciplines represented. In addition to the classical disciplines of jumping, dressage and eventing, polo, endurance and racing also play a major role.

The number of events, particularly for polo and endurance, are increasing. In addition to bilateral polo tournaments between Thailand and Malaysia, there is also an annual international event in which Cambodia, Indonesia, Malaysia, and Singapore regularly participate. However, only the Malaysian team brings its own horses; the other teams use borrowed horses for the event.

Excellent endurance circuits are available at the Thai Polo Club and this discipline has seen a steady increase as well, with clubs in the north and south of the country encouraged to organise endurance events.

Figure 2 Location of zoos with zebras in Thailand



Source: Department of Livestock Development, Thailand

Furthermore, there has been a sharp rise in the number of sport horses and riding clubs; according to the Thailand Equestrian Federation, ten years ago, there were 40 riding clubs, and today they number 120.

Sport horses are regularly imported from the EU and elsewhere outside Asia. During the period from 2014 to 2019, a total of 3,814 horses, 1 mule (from Laos) and 49 donkeys from the USA, Netherlands and Australia were imported. Exports are usually carried out in the context of equestrian events, racing and polo, with destinations primarily in Europe and SEA countries.

Thailand has participated in many international events (see Annex 4) with its FEI-registered horses (many of which are based in Europe) and has also hosted international events such as the first Asian Championships in 2019 in Pattaya, and the Southeast Asian Games featuring the three Olympic disciplines in 1995 and 2007, as well as and polo in the latter.

The majority of horses in Thailand are used for leisure riding, and not all are registered with the NF, which currently has 1,316 riders and 2,934 horses registered (these figures differ slightly from DLD figures). In the context of national efforts to control and eradicate AHS from the country, following the 2020 AHS outbreak, the NF conducted a headcount in each riding club to establish census data on riding horses. By February 2021, a total of 20 clubs had been counted, with 1,128 horses.

The military also has a cavalry with horses and mules. Donkeys exist in limited numbers and are mainly kept as pets or exhibited in zoos.

Regarding other uses, the Queen Saovabha Memorial Institute, run by the Thai Red Cross Society, produces a number of snake antivenoms for Thailand and other countries in the region. Some 495 horses are kept on the premises of the Institute and are used for immunoglobulin production (28).

The growth and development of the racehorse industry in Thailand has slowed over the past three years and has been strongly impacted by COVID-19 restrictions, as well as horse movement restrictions between racecourses located in the area affected by the AHS outbreak and those in non-affected areas. These measures prevented the Thai Horse Racing Association and racecourses in Thailand from organising horse races throughout 2020, and horse

racers are unlikely to be organised for an indefinite period of time. According to the Thai Horse Racing Association, the total number of breeding stock decreased from 265 in 2018 to 88 in 2020 and total starters at races went from 1,560 in 2018 to 472 in 2020. This is mainly due to the fact that stud farms are closing or downsizing their businesses given the closure of racecourses, but also because of the losses of stallions and brood mares during the AHS outbreak.

According to a February 2021 survey of racehorses carried out by the Thailand Horse Racing Association, there are a total of 709 racehorses (11 stallions, 76 mares, 107 foals and 515 starters over three years old) in the country (these figures differ from those provided by the DLD) (29).

As of March 2021, a total of 68 horses were located in areas that were not affected by AHS; this included horses at two racecourses – Royal Thai Army racecourse in Chiangmai and Udon Thani Intergames Park racecourse – as well as some three-year-old starters in Khon Kaen.

Racehorses in Thailand are bred in small stud farms, located mainly in Pakchong District, Nakhon Ratchasima, Chiang Mai, Suphanburi, and Kanchanaburi. Foals are then sold to training stables and trainers will register them for racing once fit for competition.

Moving racehorses to compete at other tracks in the country has been challenging following the AHS outbreak. Horses from areas where vaccination was required (Nakhon Ratchasima, Bangkok, Chonburi, Nakhon Pathom, Saraburi and Nakhon Nayok, among others) were not allowed to move and compete at race tracks in Udon Thani and Chiang Mai (non-infected areas).

The vaccination of racehorses against AHS also prevented Thailand from selling horses abroad or sending Thai racehorses to compete in other countries.

The decision to retire racehorses in Thailand is borne by horse owners. The Thai Horse Racing Association does not have a horse retirement programme, and most retired racehorses are used as breeding stock or at riding schools. Retired racehorses from Singapore and Malaysia are occasionally imported for retraining as leisure horses in riding clubs.

Box 1 The outbreak of African horse sickness in Thailand: a summary

The first case of AHS was confirmed by laboratory diagnosis on 24 February 2020 in Pakchong district. From here, it spread through the central part, lower north-eastern part, western part and eastern part of Thailand; in total, 17 provinces were affected. A total of 610 equids, including 608 horses and 2 Chapman's zebras were reported with clinical signs; of these 568 died (30). Genotyping identified the infection as AHS serotype 1. The last outbreak was reported on 10 September 2020 in Prachinburi province. Figure 3 shows the location of the cases reported from February to September 2020.

In response to the outbreak, a sub-committee for AHS control, prevention and eradication was established and a public-private partnership arrangement was signed. Through these institutional arrangements, 10,400 equids in the affected areas were vaccinated

using a trivalent vaccine containing serotypes 1, 3, and 4. Figure 4 shows the extent of vaccination. In the same area, passive surveillance to detect new cases and serological surveillance to measure seroconversion were carried out. A second round of vaccination with monovalent vaccines was carried out in June 2021.

Movement control measures have been introduced in the white zones (disease-free) and green zones (infected), with animals allowed to move within zones and restrictions imposed for movement between zones (Figure 4). No imports of equids have been permitted.

A series of webinars was organised in April and May 2020 by the OIE Sub-Regional Representation for South-East Asia in Bangkok, addressing different aspects of AHS, its control and prevention. The webinars were widely attended by Thailand, most countries of SEA and several countries of Asia and the Pacific.

Figure 3 Location of African horse sickness cases in Thailand, reported from February to September 2020

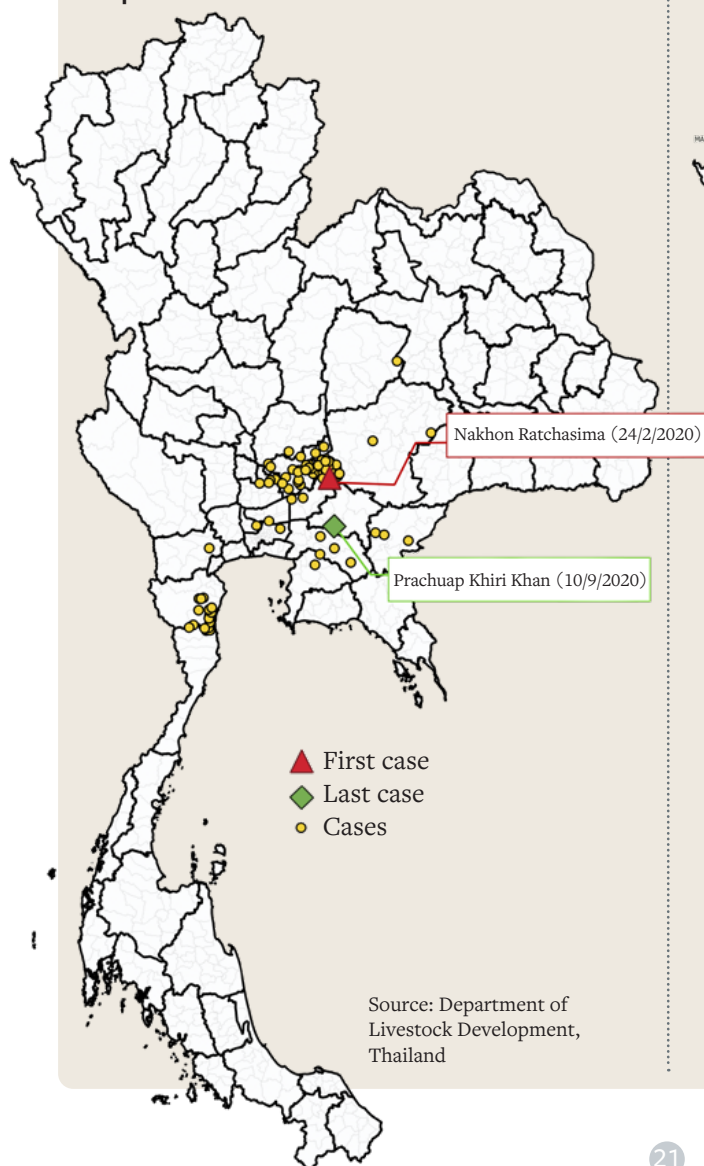
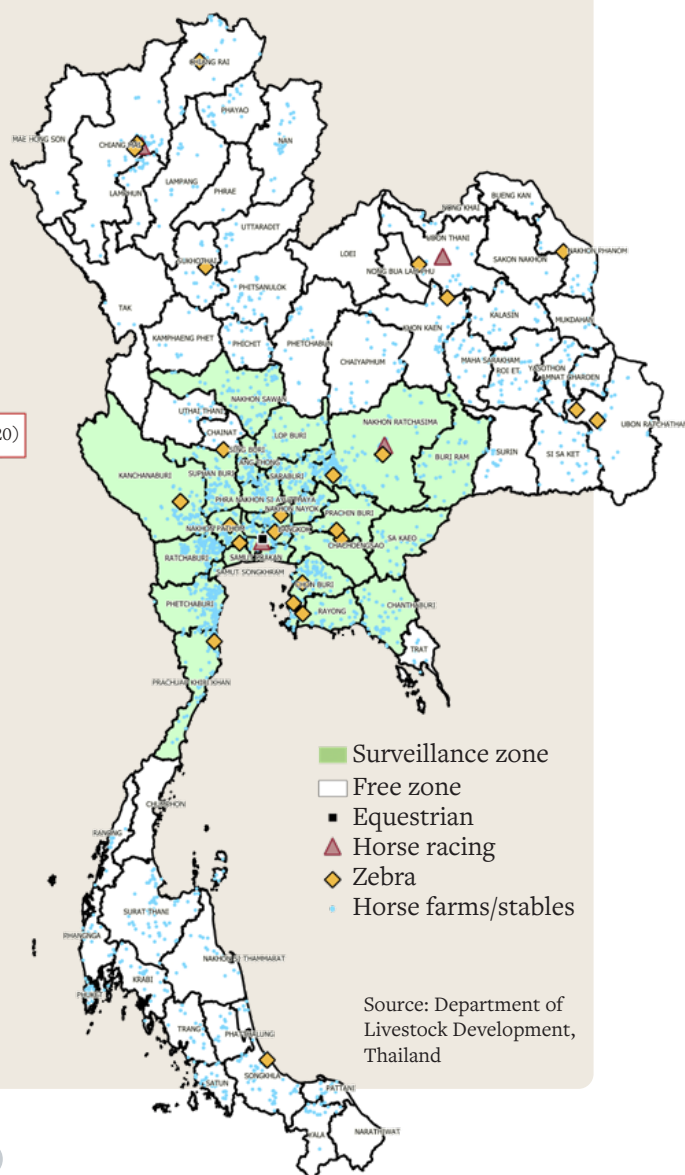


Figure 4 Extent of vaccination and surveillance, including serosurveillance



2.11 Vietnam

The total population of local horses in 2021 was estimated at 90,000 animals by the Director of the Center for Animal Breeding, Research and Development in Mountainous Areas; of these, 70% are kept in the northern regions where they are used for transport in the mountains, as well as for local racing and human consumption. These numbers are increasing and many local horses are unofficially imported from PR China and from Laos for horse meat production in Vietnam. The movement of horses into PR China has been reported, particularly because the bones of one of the local Vietnamese breeds, the 'white horse' or Ngua Bach, is believed to have positive health effects.

Official information was received from the Veterinary Department of Lào Cai Province bordering PR China, in which the total number of horses was 5,774 in 2020. Annual reports to OIE-WAHIS reported a fluctuating population between 2005 and 2011, and a total equid population of 50,000 heads in 2019 (Annex 1).

The Ngua Bach are small white horses native to Vietnam, and although they are very small, they are capable of bearing the weight of a full-grown man. The same horse can also be found in PR China; however, Vietnamese white horses have a smaller body size and lower body weight than Chinese white horses. The normal body weight of Vietnamese white horses at maturity is 180 kg, while that of Chinese white horses is about 230 kg. The shoulder height of the Vietnamese white horse is 125 cm, and around 140 cm for the Chinese white horse. The differences in these figures are considered to be due to better grazing conditions and longer selective breeding in PR China as compared to Vietnam.

The Hmong horse is also a highly appreciated local horse in mountainous regions, as is the case in Laos (see Chapter 2.5).

The Center for Animal Breeding Research and Development in Mountainous Areas, under the Ministry of Agriculture and based in Thai Nguyen province, has a programme to preserve the local small white horse and, at the same time, to crossbreed with other selected local horses to increase its size and adapt it for different uses, from ploughing to racing. The Kabardin horse is predominantly used for crossbreeding purposes.

The Center was established in 1960 as a private horse breeding farm and was taken over by the Ministry of Agriculture in 1998. Since then, it has engaged in horse crossbreeding and the conservation and improvement of other livestock. The first filial (F1) crosses are supplied for a government-subsidized fee to the northern mountainous provinces of Cao Bang, Lao Cai, Bac Can, Ha Giang and Bac Giang to help local people with their field work and to use stallions for local breeding. In this way, more than 5,000 second filial (F2) crosses have been produced. The 50% and 70% crosses are used for the tourism industry and for racing purposes. Today, the Center holds approximately 100 breeding horses and, in addition to cross-breeding, it also strives to conserve the small white horse, of which there are fewer than 1,000 remaining.

The Center has imported frozen semen of racehorses from Germany for crossbreeding purposes (31). These crosses are used for racing in Ho Chi Minh City and Lam Dong province. There is general government support for expanding the racing industry.

Beyond horse racing, there are no other equestrian sport activities in the country.



Ngua Bach or white horse



N. DAI

③ Utilisation and characteristics of equids in the People's Republic of China and the special administrative regions of Hong Kong and Macau

3.1 The history of horses in the People's Republic of China

Historical research indicates that the first domestication of horses in China occurred between the end of the Neolithic period (32) or during the Lungshan period, between 3000 BC and 2300 BC (33), and there is evidence that horse-drawn war chariots were already in use in China during the Shang Dynasty (circa 1450 BC to 1050 BC) (32, 33).

Repeated invasions by the Hiung-nu (Huns) led to the development of a Chinese light cavalry during the reign of King Wuling of Zhao (340 BC to 295 BC), which provided a more effective defence against the northern invaders. Continued clashes with the Huns prompted China to adopt and improve on their enemy's cavalry techniques based on the invention of the saddle, stirrup, bit and harness, and the use of bow and arrow in warfare. An important testimony of technology, military life and culture at the time of the Qin Empire (221 BC to 206 BC) is the world-famous Terracotta Army with 670 horses in the mausoleum of Qin Shi Huang (34).

During the Han Dynasty (206 BC to AD 220), horses were of vital importance and held in high esteem because of their use in warfare, particularly in the more unified and coordinated efforts to fight the Xiongnu nomadic populations in today's Mongolia. Improvements were made in selective breeding, with stallions traded for Chinese goods. One of the reasons for opening the 'Silk Road' during the Han dynasty was to search for larger, stronger horses in western regions, in order to improve on the Mongolian pony that had been in use since 300 BC (33, 34). The use of the horse and the associated industry was the most developed during the Tang Dynasty (AD 618

to AD 907), with a law governing horse breeding and an established horse registration system using brands for registration and trade. During the following centuries, the horse industry experienced periods of growth and decline associated with the changes of dynasties in China.

Equestrian sports also have a long history in China. They are first mentioned during the Shang Dynasty (1766 BC to 1122 BC), became popular during the Spring and Autumn period (about 540 BC), and reached their highest level during the Tang Dynasty.

Polo, the 'sport of kings,' was also known in its ancient form in China during the Tang Dynasty. It was played by Genghis Khan and spread through China starting in 1211. Although the origin of the sport is debated in academic circles, some authors see its origin in China (34); from there it spread to India, where it was famous with Indian kings and remains a favourite sport today.

3.1.1 Horses in Hong Kong (Special Administrative Region)

Hong Kong SAR shares the same long history with horses. The modern horse industry in Hong Kong SAR started earlier and is more developed than in other parts of PR China. In 1845, the British opened the first racecourse in Hong Kong, the Happy Valley Racecourse. The first Hong Kong horse race was held on 17 December 1846 with thoroughbred horses.

As horse racing became increasingly popular, the Hong Kong Jockey Club (HKJC) was established in 1884, with the aim to formalise the administration of the territory's horse racing. As horse racing developed into a professional sport in Hong Kong, the HKJC

also grew, becoming a professional horse racing organisation in 1971. To accommodate the sport's growing needs, a second racecourse was opened at Sha Tin in 1978. Since the 1980s, the HKJC has promoted and improved the tracks and other support facilities, as well as the management of racing. Over time, the two racecourses have been continually developed, expanded and improved, with advanced features and facilities for the sport's long-term development; as a result, Hong Kong's racecourses are considered among the best in the world.

Rich in experience and professional management, the HKJC assisted the organisation of key equestrian events: the 2008 Olympic Games in Beijing and the 2010 Asian Games in Guangzhou.

3.1.2 Horses in Macau (Special Administrative Region)

Horse racing activities have existed in Macau SAR since the 17th century. Peter Mundy, a British merchant trader and traveller, visited Macau in 1637 and wrote about horse-riding activities in Macau (35). It is generally believed that horse racing in Macau began in 1842, when the British in Hong Kong utilised the Macau Racecourse to hold horse racing events. However, available literature indicates that horse racing activities had been carried out in Macau before 1789 (36). After Hong Kong opened the racecourse

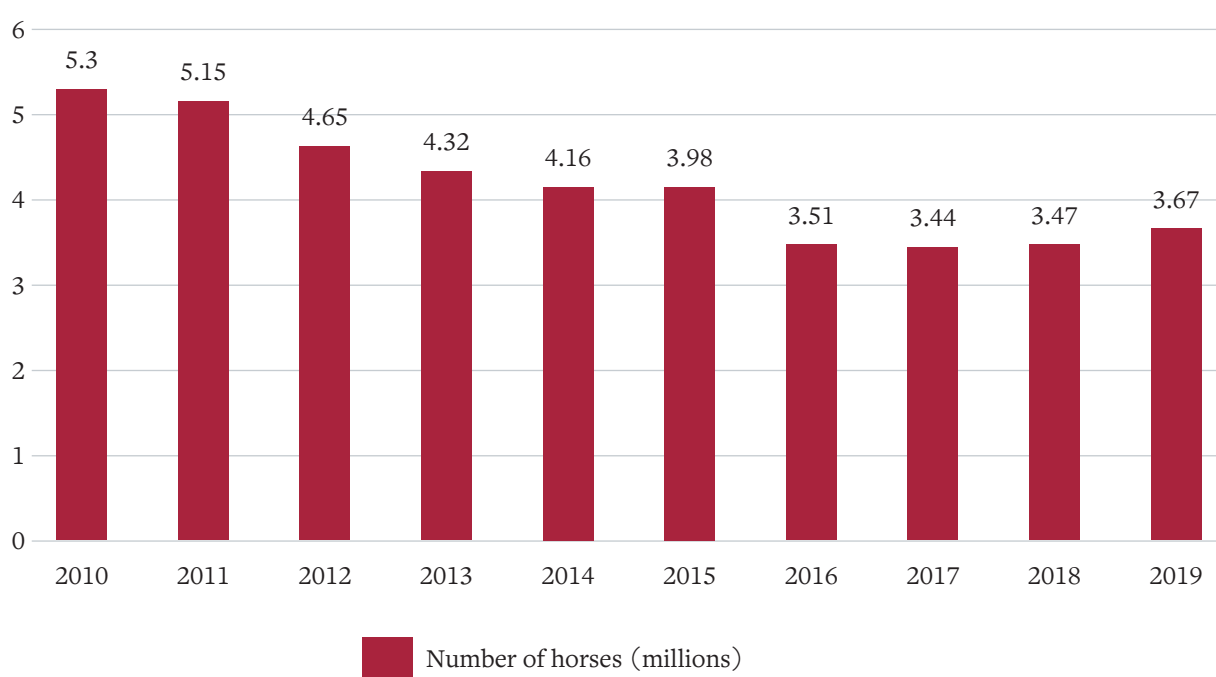
in 1846, horse racing in Macau gradually declined and there were no horse races in the following years. As a form of gambling, horse racing restarted in Macau in 1924, but stopped in 1941 because of the Second World War (37).

In 1989, the Macau Jockey Club (MJC) was officially established and held the first flat race in Macau SAR. Since then, Macau's horse racing industry has developed and gradually gained a place in the world of horse racing by holding certain international events on a regular basis. The Club joined the Asian Racing Federation in 1995.

3.2 The horse population and its development

By the end of 2019, there were 3.67 million horses in PR China (Annex 2), accounting for 6% of the world's total horse population and ranking fifth among countries with the highest horse populations. According to industry statistics, the value of the Chinese horse sector reached US\$ 1.5 billion the same year (38). The number of equestrian clubs in PR China increased by nearly 20% compared to 2018 and was projected to reach 2,160 by the end of 2019. Equestrian clubs are distributed throughout the country, including in Beijing, Jiangsu, Shandong, Zhejiang, Hebei, Guangdong and Shanghai (39).

Figure 5 Number of horses in the People's Republic of China, 2010–2019



Source: Authors' own, based on data from National Bureau of Statistics of China

The number of indigenous equids in traditional agricultural areas has decreased significantly in the last decade due to the changes in social and economic conditions and in the ecological environment (Figure 5). While these figures differ from those reported through OIE-WAHIS (Annex 1), both sources show a similar decrease in the total equine population between 2006 and 2012. With the rapid

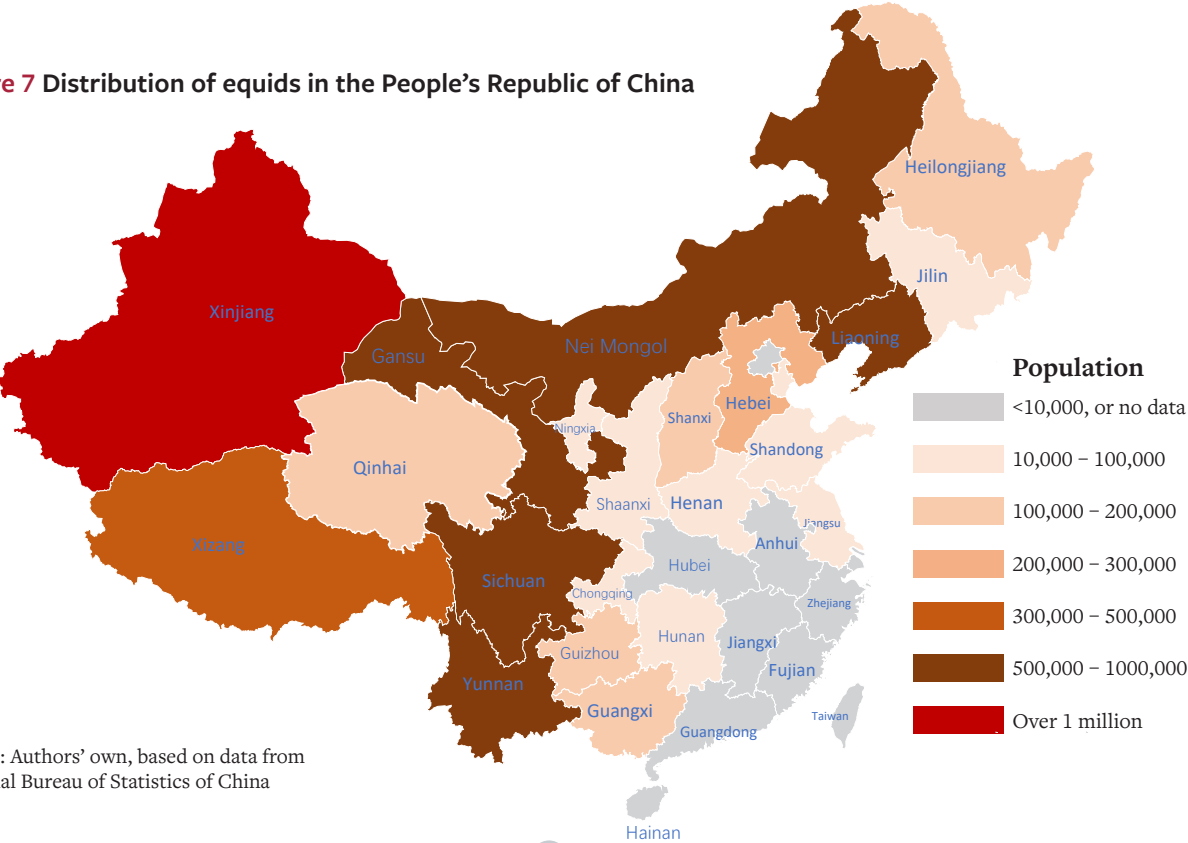
development of the modern horse industry, the horse breeding area now extends from the traditional grassland pastoral areas (Inner Mongolia Autonomous Region, Xinjiang Uygur Autonomous Region, Tibet Autonomous Region, and the provinces of Qinghai and Gansu) to the suburbs of economically developed areas (see Figures 6 and 7).

Figure 6 Grassland pastoral areas of the People’s Republic of China



Source: Authors’ own, based on data from National Bureau of Statistics of China

Figure 7 Distribution of equids in the People’s Republic of China



Source: Authors’ own, based on data from National Bureau of Statistics of China

Today, the regional distribution of horse breeding in PR China is relatively concentrated between 23° and 50° northern latitude, distributed mainly in Xinjiang Uygur Autonomous Region, Inner Mongolia Autonomous Region, Tibet Autonomous Region, Yunnan, Guizhou, Guangxi and several other provinces and regions. Xinjiang Uygur Autonomous Region (0.96 million), Sichuan Province (0.76 million) and Inner Mongolia Autonomous Region (0.67 million) have the top three horse populations, accounting for 65% of the total horse population in PR China.

According to the 2021 national list of livestock and poultry genetic resources, there are 29 local horse breeds, 13 cultivated horse breeds, 16 introduced horse breeds (e.g. imported thoroughbreds, Akhal-Teke, and warmblood horses) and 24 local donkey breeds (40).

Among the local horse breeds, the Debao pony, Mongolian horse, Elunchun horse, Jinjiang horse, Ningqiang horse, Guizhou horse, Hequ horse, Chakouyi horse and Yanqi horse are included in the national list of key livestock and poultry genetic resources to be protected. Several of these breeds are illustrated below.

The People's Republic of China imports sport horses from Argentina, Australia, the EU (Belgium, Denmark, France, Germany, Hungary, Ireland, Netherlands, Spain, Sweden), Japan, Kazakhstan, Mongolia, New Zealand, Russia, United Arab Emirates, United Kingdom (UK), and the USA.

In order to export animals to PR China, the authority of the exporting country should apply for a quarantine admittance. The General Administration of Customs of the People's Republic of China (GACC) requests the exporting country to complete a questionnaire concerning the import risk analysis (IRA) before initiating the IRA process. Once the IRA is completed and the result shows that the import risk is acceptable, GACC submits a draft quarantine protocol or health certificate. When both countries reach an agreement, the animals can be imported according to the requirements specified in the protocol or health certificate.

Prior to export, the exporting country should apply for an import permit for the animals to be exported to PR China; the animals then undergo a pre-export quarantine for at least 30 days in a facility approved by the authority of the exporting country. The animals



Debao pony

Z. ZHIPING



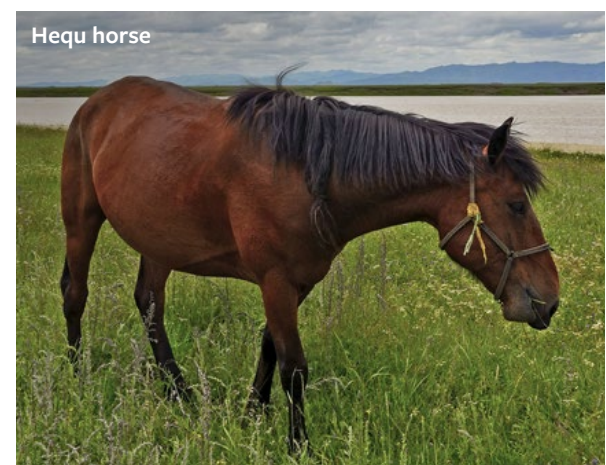
Guizhou horse

Z. ZHIPING



Mongolian horse

VISUAL CHINA GROUP



Hequ horse

VISUAL CHINA GROUP

should be under the supervision of the authority of the exporting country and must test negative for the relevant diseases, which are listed in the bilateral agreement for each country. A health certificate must accompany the animals entering PR China. After entry, all animals are quarantined for 30 to 45 days and tested for the relevant diseases to ensure that they are healthy and free of any sign or evidence of infectious and contagious diseases.

3.2.1 Hong Kong (Special Administrative Region)

In 2018, there were 1,860 horses in Hong Kong SAR, of which 1,240 were stabled at the HKJC Sha Tin premises. The remaining horses were stabled at ten public and HKJC riding premises under official veterinary supervision. Most of these animals were geldings, as there is no breeding programme for horses in Hong Kong SAR due to limited space. The HKJC opened another training facility in mainland PR China, the Conghua Racecourse, in 2018. This facility has been developed over the years from the initial Conghua EDFZ – established temporarily in this location for the 16th Asian Games in 2010 – into a permanent equine-disease-free zone and regionalised as per the European Commission Implementing Decision 2018/218 (41). With the development of the Conghua Racecourse and the rise in the number of horses stabled there, there has been an increase in the HKJC racehorse population (see Chapter 4.2.1).

Since all horses in Hong Kong SAR – mainly thoroughbred racehorses – have been imported, there are no local breed horses. Horses are used primarily for racing or leisure riding in the local riding clubs. The number of exports and imports during the past five years are shown in Table II.

The importer must apply for a Special Permit from the Agriculture, Fisheries and Conservation Department (AFCD) before importing horses into Hong Kong.

Imported horses are required to undergo post-arrival quarantine in the quarantine facilities approved by AFCD, according to the permit terms and veterinary health protocols between Hong Kong SAR and the Veterinary Authority of the exporting country or region. Horses to be exported from Hong Kong SAR are quarantined according to the health requirements of the importing countries/regions.

Scheduled countries or territories that are approved by AFCD for import include the following:

- For permanent import, temporary import, re-entry and transshipment: Argentina, Australia, Canada, Denmark, France, Germany, Italy, Japan, Malaysia (currently suspended), New Zealand, South Africa (currently suspended), Ireland, Singapore, the United Arab Emirates, the UK and the USA. The movement of horses from Macau SAR and Conghua EDFZ (see Chapter 4.2.1) is also approved by AFCD;
- For temporary import, re-entry and transshipment: Belgium, the Netherlands, Qatar, and the Republic of Korea.

Regarding other equids, as of 2021, there were only two mules in Hong Kong SAR, both of which were imported from Canada.

3.2.2 Macau (Special Administrative Region)

There are approximately 400 horses in Macau SAR. All horses are imported from abroad and stabled at MJC. There is no local breed of horses or breeding programme.

Macau SAR allows the importation of horses from the following countries: Argentina, Australia, Canada, EU, Japan, Peninsular Malaysia, New Zealand, Singapore, United Arab Emirates, USA and Hong Kong SAR. And Macau SAR horses can be exported to Australia, EU, USA, Hong Kong SAR and mainland PR China (42).

Table 2 Number of horses imported and exported to Hong Kong (Special Administrative Region), 2016–2020

Year	2016	2017	2018	2019	2020	Total
Number of horses imported (heads)	404	487	519	533	530	2,473
Number of horses exported (heads)	321	317	336	309	360	1,474

Source: Authors' own, based on data from Hong Kong Jockey Club

3.3 The use of horses

The People's Republic of China has a long history of using equids (horses, donkeys and mules) as an important source of meat, draught animal power, and means of transportation, which have made important contributions to agricultural and rural economic development, as well as national defence. In recent years, with the country's rising social and economic development, the traditional service and transportation functions of equids have been gradually replaced with other technologies, and the modern horse industry has developed steadily with increasing tendency. New business opportunities that are closely related to the horse industry, such as sports, leisure riding, cultural tourism, professional horse products and real estate development, are thriving, and the equine industry is considered a flourishing economic sector.

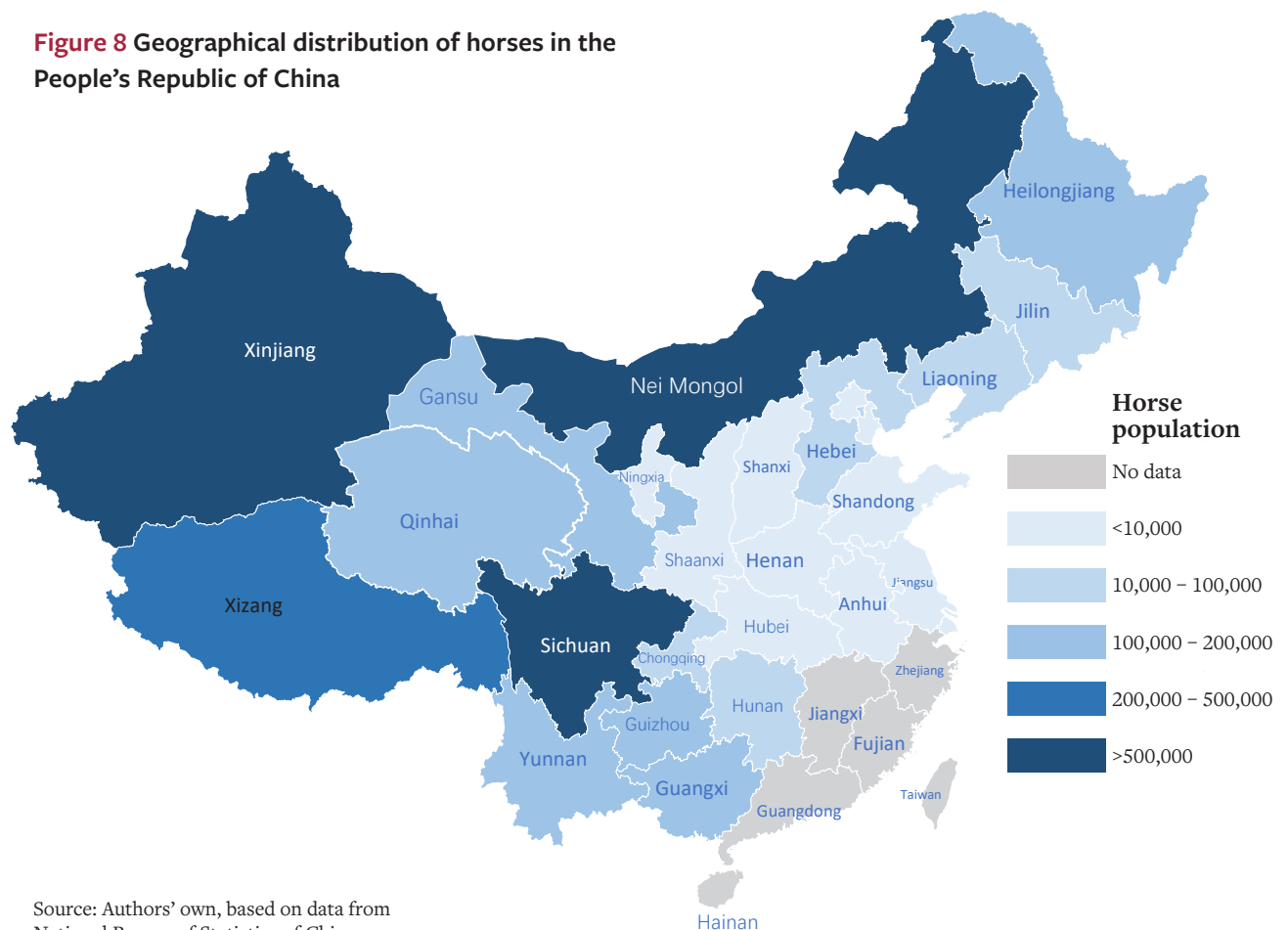
With the decrease in the number of indigenous horses in PR China, the utilisation of horses is clearly changing from agricultural services to non-agricultural services, including leisure riding, sports and the production of medicines, such as ejiao (donkey hide gelatine) (see Chapter 3.4).

From 1949 to 1980, the number of horses increased rapidly, from 6 million to 11.5 million. However, since the 1980s, with the mechanisation of farming and modernisation of the military and transportation, PR China's horse population has declined steadily to reach 3.44 million in 2017. Its geographical distribution is shown in Figure 8.

A reduction in the consumption of horse meat has been reported. Horse meat, unlike donkey meat, is not very popular and habits vary according to location. Consumption has been reported in Xinjiang Uygur Autonomous Region, Inner Mongolia Autonomous Region, and Guangxi Province. Horses from Mongolia are imported for the purpose of slaughter.

Transformations in the primary uses of horses have improved the economic value of PR China's horse industry and promoted the development of its associated tertiary industry. The number of sport horses in PR China is increasing through the direct import of valuable horses, as well as through the importation of retired racehorses from Hong Kong SAR and Macau SAR, purchased at a lower price or in some cases received for free.

Figure 8 Geographical distribution of horses in the People's Republic of China



Source: Authors' own, based on data from National Bureau of Statistics of China

The Ministry of Agriculture and Rural Affairs and the General Administration of Sport of PR China have launched the National Equine Industry Development Plan (2020–2025) (1), aiming to accelerate the transformation and upgrading of PR China's horse industry. The new plan calls for the introduction of additional trainers and managers and the expansion of professional equestrian clubs by 2025. It encourages the industry to build more high-quality training bases, increase the competition level and number of national events, improve the economic and social benefits of the horse industry, and upgrade the entire value chain.

3.3.1 Equestrian sport organisations in the People's Republic of China

The importance of the horse sport industry in PR China has increased significantly since the early 1980s. As of 2019, more than 2,000 equestrian clubs were established in PR China.

The People's Republic of China has two national associations related to horse sport. The Chinese Equestrian Association (CEA), founded in 1979, is a national sport association under the authority of the General Administration of Sport of China. It is composed of equestrian professionals, coaches and managers, who participate on a voluntary basis. In 1982, CEA became a full member of FEI. The Chinese Equestrian Association is the only legal organisation representing PR China to participate in various international horse sport organisations and activities. As the top management organisation of Chinese equestrian sports, CEA is responsible for the promotion of all types of equestrian sports in PR China, such as jumping, eventing, dressage, triathlon, speed race, endurance race, barrel race, polo, and exchanges with international organisations. The Chinese Equestrian Association is responsible for formulating the rules, regulations and competition rules of Chinese equestrian sports, organising competitions and managing the national equestrian team. It selects and recommends coaches and athletes for the national team and is responsible for organising national team training and participating in equestrian competitions. Every year, CEA holds 80 to 100 equestrian events, such as horse racing, triathlon, eventing, jumping, dressage, endurance, polo, and Western equestrian.

The Breeding Committee of Equine Animals and China Stud Book Committee (CSBC) merged to form the China Horse Industry Association (CHIA) in 2002. This non-profit organisation brings together individuals and groups engaged in the horse industry as members of the association. The China Horse Industry Association is under the guidance and supervision of the Ministry of Agriculture and Rural Affairs. It is primarily responsible for assisting relevant government departments to improve the management and development of PR China's horse industry and to promote the industry. The association is responsible for the registration and management of local horse breeds and also participates in standard setting and the management of horse breeding. The China Stud Book Committee, a branch of CHIA, is the authority responsible for the registration, management and international transactions of thoroughbred horses in PR China in accordance with the rules of the International Stud Book Committee (ISBC); it also publishes and issues the stud book. In addition, CHIA organises training and provides veterinary services, which includes the provision of veterinary drugs, industry consultations, product development and the promotion of technologies. Furthermore, CHIA organises its own 'China horse event', which features traditional horse racing with national characteristics.

3.3.2 Equestrian sport organisations in Hong Kong (Special Administrative Region)

Hong Kong Jockey Club is authorised by the Government of Hong Kong SAR to operate horse racing and to provide responsible sports wagering and lottery services. Hong Kong Jockey Club is a non-profit organisation led by a Board of Stewards, all of whom participate on a voluntary basis. The Board of Management, headed by the Chief Executive Officer, is responsible for the management and operations of the HKJC. The club has more than 24,000 members and 20,000 full-time and part-time employees (43).

The racing season generally runs from early September to mid-July each year. With over 800 races per year, Hong Kong SAR is home to 12 international Group 1 races, which is the highest level of thoroughbred racing. Nine of its 12 Group 1 races were featured in the World's Top 100 Group 1 Races in 2020, and five were ranked in the World's Top 50 Group 1 races the same year (43).

3.3.3 Equestrian sport organisations in Macau (Special Administrative Region)

The Macau Jockey Club is the only organiser of horse racing in Macau SAR, as authorised by the Macau SAR Government. The MJC features advanced equipment and has one of the largest racecourses in Asia. Its manager, jockeys and horses are from all over the world, which help the MJC to run smoothly and to meet international standards. The MJC maintains close cooperation with the HKJC: the MJC has adopted management methods from the HKJC and has also employed some of its executives.

Horse races in Macau are held throughout the year. The racing season starts in September and ends at the end of August the following year. Races are overseen by a team of professional Stipendiary Stewards (42).

and Central Asia. Raising and breeding donkeys started in southern Xinjiang, and gradually spread to the whole country through Gansu and Shaanxi Provinces. As draught animals, donkeys were traditionally used in the agricultural, semi-agricultural and semi-pastoral areas of Central China.

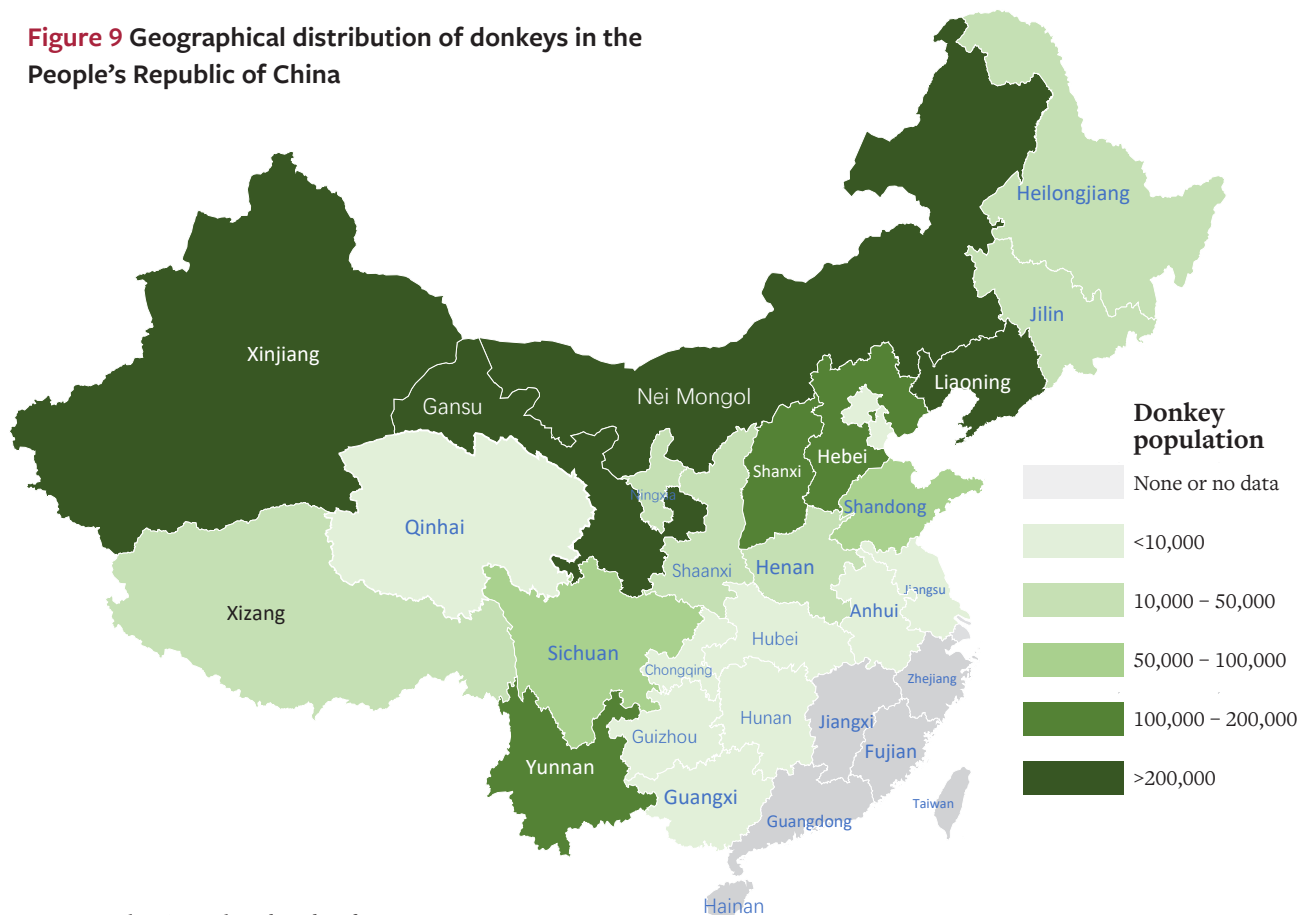
Donkey breeding in PR China is mainly concentrated in the eastern part of the Inner Mongolia Autonomous Region, western Liaoning Province, Gansu Province and parts of Xinjiang Uygur Autonomous Region. Donkey herds in these four traditional breeding areas account for more than 70% of PR China's total herd (Figure 9).

Since the end of the 1990s, the level of agricultural mechanisation in PR China has continuously improved, and the number of donkeys has significantly decreased. According to data from the National Bureau of Statistics, the country's donkey population has dropped from 9.6 million in 1998 to 2.5 million in 2018, with an average annual reduction rate of 6.42% (Figure 10). By the end of 2019, there were 2.6 million donkeys, indicating a slight increase of 2.68% compared to 2018. According to the online monitoring data of the

3.4 The donkey and mule population and its development

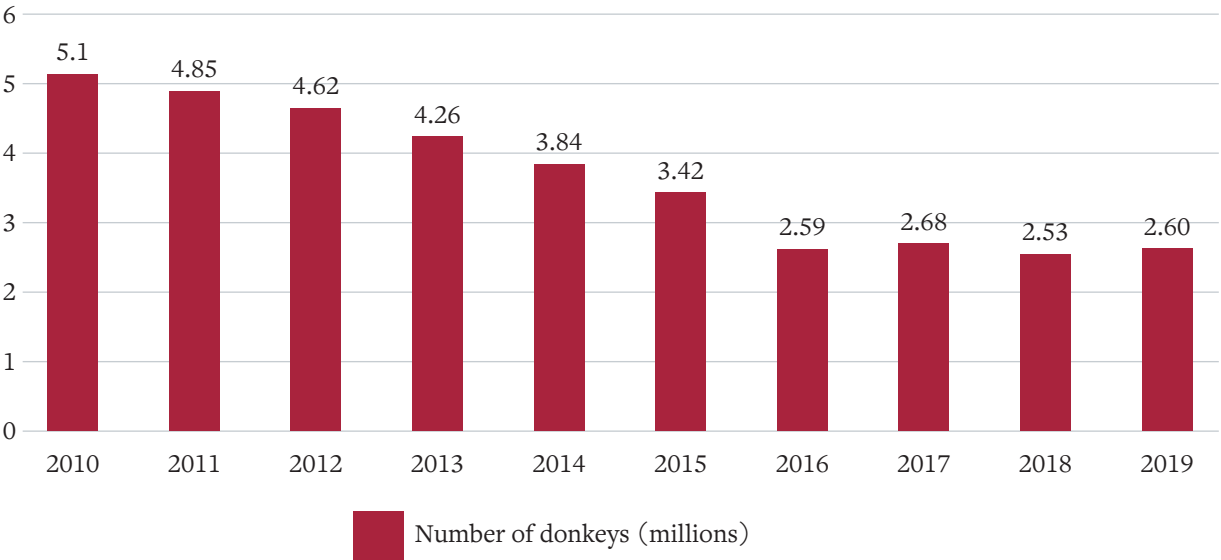
Donkeys have been raised in PR China for over 4,000 years. Chinese donkeys originated from Asian wild donkeys and were distributed in western China, Asia, India, the Arabian Peninsula

Figure 9 Geographical distribution of donkeys in the People's Republic of China



Source: Authors' own, based on data from National Bureau of Statistics of China

Figure 10 Number of donkeys in the People’s Republic of China, 2010–2019



Source: Authors’ own, based on data from National Bureau of Statistics of China

Chinese donkey network, the number of donkeys slaughtered in 2020 was about 330,000, a decrease of 10% compared with 2019 (44).

However, the commercial value of donkeys has been maintained as the demand for donkey skins has increased, driven by the production of ejiao. Ejiao is used as an ingredient in traditional Chinese medicines and, more recently, in beauty products. The enormous profit margin led to a substantial increase in the number of donkeys slaughtered, and prompted the need to import donkey skins from abroad, mainly Africa.

At present, PR China’s donkey breeding is mainly free range. In order to provide sufficient material to the ejiao industry, the government is encouraging the large-scale breeding of donkeys. Large-scale donkey farming, however, has not been implemented previously and is therefore facing many technical problems that still need to be resolved. It has been estimated that this large-scale donkey farming would need to be implemented for about 20 years in order to be sustainable and capable of supporting not only the donkeys that are needed for ejiao production, but also the estimated 2 million donkeys needed annually for national meat production.

The consumption of donkey meat began during the Ming Dynasty (AD 1368 to AD 1644). In recent years, with the improvement of national economic income and changes in dietary preferences, the demand for donkey meat has increased significantly. The production of donkey milk recently began and is

Table 3 Population size and number of large-scale donkey farms in the People’s Republic of China, 2018 (45)

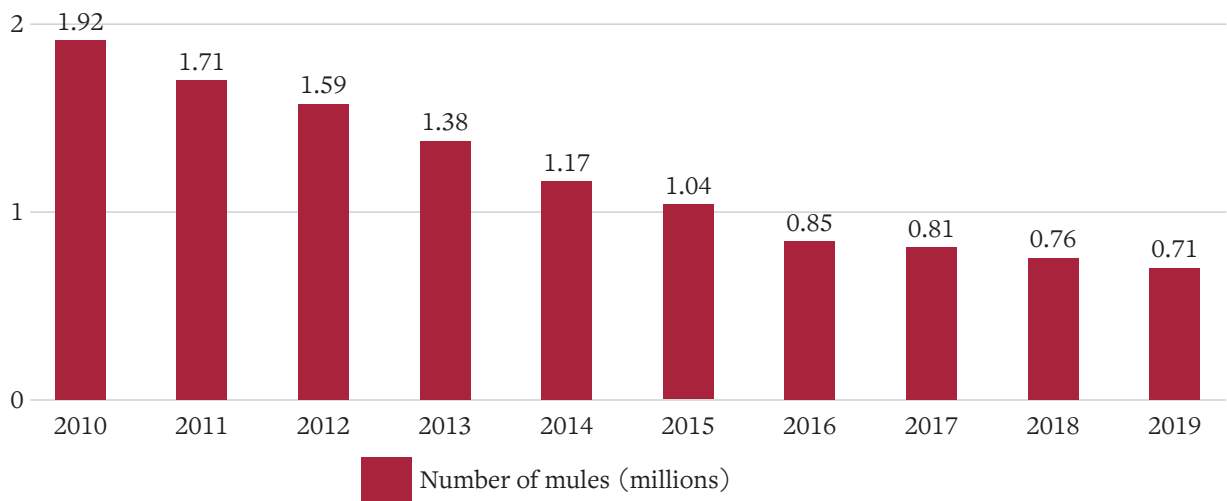
Heads of animals	Number of farms
300 – 599	426
600 – 999	178
1,000 – 1,999	43
2,000 – 4,999	20
5,000 – 9,999	6
Over 10,000	2

expected to become an additional value chain within the donkey industry. As donkeys’ main functions and uses have shifted from service as working animals to the provision of meat, medicine, milk and health care products, the donkey industry has gradually developed into a new characteristic industry within the country.

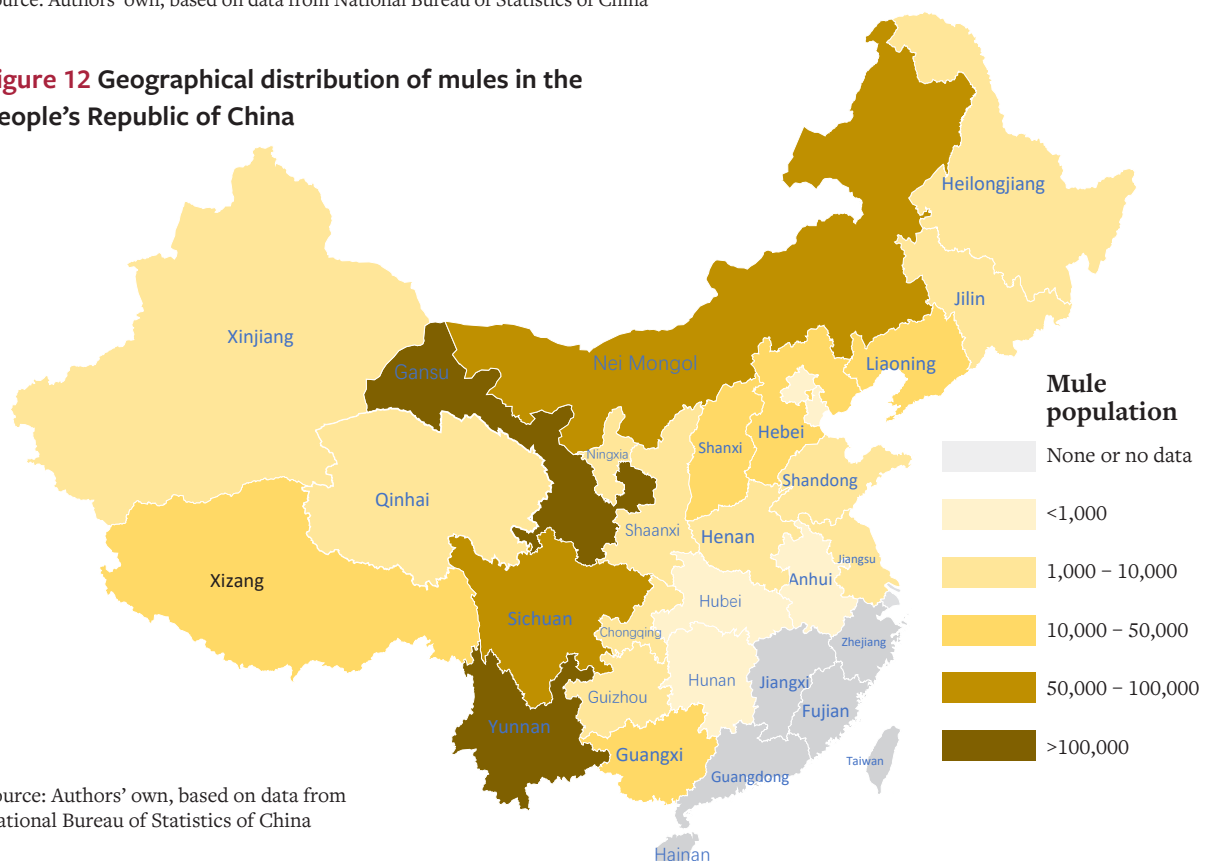
In 2018, the number of animals kept on large-scale breeding farms was 327,500, accounting for about 13% of the country’s donkey population, while the number of traditionally bred donkeys on smaller scale farms was 2,205,200, accounting for about 87% of the population (45). Table 3 shows the number of operating donkey farms in 2018 (45).

With respect to mules, in 2019, PR China had a mule population of 714,500, a decrease of 5.7% compared to 2018 (Figure 11).

The geographical distribution of mules in PR China is shown in Figure 12. The provinces of Gangsu and Yunnan have the country’s largest mule populations.

Figure 11 Number of mules in the People's Republic of China, 2010–2019

Source: Authors' own, based on data from National Bureau of Statistics of China

Figure 12 Geographical distribution of mules in the People's Republic of China

Source: Authors' own, based on data from National Bureau of Statistics of China

3.5 Wild equids

According to the National Forestry and Grassland Administration, as of 2019, there were 438 wild Przewalski's horses in Xinjiang Uygur Autonomous Region, of which 90 lived in zoos, 108 in conservation areas and 240 in the wild. As of 2019, there were 155 Przewalski's horses in Gansu Province: 48 in zoos and 107 in the wild. Approximately 60 animals are raised in zoos in other provinces, thus the total number of wild Przewalski's horses in PR China exceeded 600 in 2019 (46). By 2018, there were about 185 zoos in PR

China, including 49 wildlife zoos. While there are no exact statistics on how many wild equids, including zebras, there are in these zoos, this figure is estimated around 3,000 heads.

There are two breeds of wild donkeys (*Equus hemionus* and *Equus kiang*) in PR China: *Equus hemionus* is present in Inner Mongolia Autonomous Region, Gansu Province and Xinjiang Uygur Autonomous Region, while *Equus kiang* is distributed throughout Tibet Autonomous Region, Xinjiang Uygur Autonomous Region, and Qinghai, Sichuan, and Gansu Provinces. The exact population size is unknown.

4 Movement patterns of equids and their products

4.1 The history of equid movements in the region

Historically, overland movements have predominated in mainland South-East Asia, from northern mountains to lower altitudes. However, the regional geography also led to large numbers of horses being transported

by sea around maritime South-East Asia, notably from Indonesia's south-eastern islands to Java, from Sumatra to Malaysia, and from many parts of the Philippines to Manila. Clarence-Smith provides a detailed description of the principal movements of horses by sea and by land between the 17th and 19th centuries (11), which is presented in Box 2 below.

Box 2 Maritime horse trade in South-East Asia, 17th century to 19th century

In the seventeenth and eighteenth centuries, and possibly before, Tamil Muslim traders controlled a modest flow of North Sumatran ponies to Southeastern India [...]. Horses from the Philippines were also reaching the same part of India from 1708, if not earlier. This business withered away in the early nineteenth century, possibly because of increased demand in the Philippines and Malaya.

Maritime exports from Rangoon, mainly directed to Northeastern India, lasted longer. About a hundred horses a year were exported in the 1870s, with some beasts reaching Southeastern India and Malaya. [...]

Exports to East Asia and Inner Asia scarcely fared any better, in part because China bred more equids than India, and was more successful in procuring supplies from Inner Asia. Southeastern China, poorly situated for both overland supplies and local breeding, was the most promising market. Horses entered this region from the Philippines and Timor, [...] but both trades declined over time. [...]

[In Malaysia,] [a]nnual imports of horses thus ran at around 2,000 in 1895–1897, probably growing to some 3,000 a year by 1905. Singapore and Penang acted as entrepôts, redistributing animals to smaller ports. Imports came mainly from Indonesia [...] Batak, Gayo and Minang ponies from the Sumatran highlands were misleadingly known as 'Deli ponies' in Malaya, as they were shipped from East Coast ports in the Deli area.

Sumatra remained the principal source for Penang, a trade route amounting to about 500 head a year in the late 1890s and early 1900s, whereas Singapore imported more 'Java ponies', possibly re-exported from the Lesser Sunda Islands. 'Java ponies' provided most of the draught power for Singapore's numerous cabs up to the 1880s. They were also the staple of early horse-racing, after early experiments with Burmese and Chinese horses. However, Singapore turned increasingly to Australian supplies from the 1890s.

[In Indonesia,] Java's towns attracted numerous ponies from the Lesser Sunda Islands, even though there were local breeds, including the beautiful little Kedu horses of central Java. Indeed, the Priangan highlanders bred the largest horses in Southeast Asia, at around 15 hands, sending some 3,000 a year to the Buitenzorg (Bogor) market in the 1920s. Among the Lesser Sundas, Sumbawa already exported more than a thousand horses a year prior to the catastrophic eruption of Mount Tambora in 1815. The golden age for Sumbawa and Sumba was from the 1890s to the 1910s, whereas exports from Bali, Lombok, and Timor fell away. [...]

For several decades, Arab ships fought off competition from Dutch steamers, introduced in the 1860s. However, Arab shippers lost out when special facilities for feeding and stabling live animals were introduced on steamers around 1900. The Koninklijke Paketvaart Maatschappij, founded in 1888 for inter-island services by a cartel of

Dutch shippers, then became the chief transporter of Lesser Sunda horses to Java [...]

Javanese imports of foreign horses were on a smaller scale, but they grew over time, typically involving Australian Walers for the army and wealthy Europeans. [...] Western Australia did better, with exports to Indonesia and Malaya peaking at 3,109 in the decade 1871–1880, but falling dramatically in the 1890s, as all horses were required to service the gold rushes. [...]

Manila was Southeast Asia's second great mart for sea-borne horses. The city relied on animals from all over the Philippines, with Chinese and Chinese Mestizos as the main horse traders in the 1840s. From areas at a certain distance, animals came by sea, usually on sailing craft. [...] The Philippines and Guam obtained few horses from foreign sources before the end of Spanish rule in 1898, although some Australian Walers were sent to Manila in the 1880s.

After Spain's defeat in 1898, the Americans faced a crisis in the supply of horses. The archipelago's livestock resources were ravaged by guerrilla warfare. Diseases, notably Surra, were either introduced by American troops, or were spread more widely by military campaigns to subdue arduous Filipino resistance. Prices roughly tripled in a decade. The colonial government imported thousands of horses and mules from the United States.

Excerpted from Clarence-Smith W.G. (2007). – Southeast Asia and Southern Africa in the Maritime Horse Trade of the Indian Ocean, c. 1800–1914. In *Breeds of Empire: The "invention" of the horse in Southeast Asia and Southern Africa 1500–1950* (G. Bankoff & S. Swart, eds). NIAS Press, Copenhagen, Denmark. Available at: www.diva-portal.org/smash/get/diva2:844165/FULLTEXT01.pdf (accessed on 12 September 2021).

4.2 Regular movements between countries and regions

4.2.1 Mainland People's Republic of China and Hong Kong (Special Administrative Region)

In 2010, the Asian Games were organised in Guangzhou, Guangdong Province, PR China. For this event, the first EDFZ was established, allowing horses from Europe to travel to the venue, compete, and return to their home countries without having to undergo lengthy quarantine procedures. Over the years, following the Asian Games, mainland PR China and Hong Kong SAR agreed to establish a permanent EDFZ for use by the HKJC as a training venue at the Guangzhou site, regionalised by the European Commission and allocated to the same Sanitary Group as Hong Kong SAR (41); this means that the health level of horses in both locations can be considered the same.

Years of preparation preceded the opening of the HKJC Conghua Racecourse (CRC) on 28 April 2018. Today, CRC is regarded as a world-class facility for the training of racehorses belonging to the HKJC. Spanning 150 hectares, it has the capacity to house more than 660 active, in-training horses. The CRC is located approximately 200 kilometres from Hong Kong SAR. The journey from the Sha Tin Racecourse to CRC takes approximately four hours via specially designed horse floats. Overland transportation is along a bio-secure highway passage with no equids present in a one-kilometre stretch on both sides of the highway (exclusion zone). There are also no equids in the surveillance zone surrounding the CRC, that is, in the entire administrative region of Conghua District spanning 200,000 hectares. The surveillance zone is surrounded by a protection zone.

Horses are transported frequently between the two racecourses located in Hong Kong and Conghua, respectively. The duration of their stay is determined by the trainers and can last from one or two weeks to a maximum of two years. According to the HKJC, as of May 2021, a total of 10,145 horses had travelled between Sha Tin Racecourse and CRC since the opening of the CRC in 2018.

This frequent cross-border movement is supervised by the AFCD for Hong Kong SAR, and by Guangzhou

Customs and the Veterinary Bureau of Guangzhou for PR China. The local Veterinary Bureau of Conghua conducts disease surveillance at CRC and within its protection zone for the following diseases: equine infectious anaemia, equine viral arteritis, African horse sickness, dourine, equine encephalomyelitis (Eastern, Western), equine piroplasmiasis, glanders, West Nile virus, Hendra virus, Japanese encephalitis, vesicular stomatitis, Nipah virus, surra and equine influenza.

For every movement of horses, a health certificate must be issued from Guangzhou Customs or AFCD. All horses to be moved are inspected by Guangzhou Customs, the local Veterinary Bureau and AFCD in order to be certified free from clinical symptoms or signs of infectious and contagious diseases.

4.2.2 Thailand and Malaysia and other countries – sport horses

There are regular movements of polo horses between Thailand and Malaysia for international tournaments (at least twice per year). There are also less frequent movements between Thailand and Vietnam and between Thailand and Cambodia for the same purpose.

Thai sport horses participated in the 2010 Asian Games in PR China, the 2017 Southeast Asian Games in Malaysia, and the 2018 Asian Games in Indonesia.

Following the outbreak of African horse sickness in Thailand in 2020, all movement out of the country has been suspended.

4.2.3 Cambodia, Vietnam and Thailand – working equids

According to CPWO, Cambodian farmers who own small local horses prefer to purchase taller mares and stallions in Vietnam and Thailand and transport them across the border into Cambodia. They are then used to breed with their own horses, while stallions are also lent to other farmers for a fee.

4.2.4 Singapore and Malaysia – sport horses

There are races held regularly in Singapore in which Malaysian horses are allowed to participate, thus traveling across the border for this purpose.

5 Disease prevention and control

Table 4 shows the diseases reported in equids by OIE Members in South-East Asia and PR China via OIE-WAHIS for the period 2005 to 2020.

Table 5 shows the equine diseases that are indicated as notifiable in the country in OIE-WAHIS reports.

As can be observed in the table, countries that trade with the EU and that have organised international equestrian events have indicated all OIE-listed equine diseases as nationally notifiable.

Table 4 Equine diseases notified to the World Organisation for Animal Health, 2005–2020

Country	Disease	Year
Brunei	No equine diseases reported for the period 2005–2020	
Cambodia	No equine diseases reported for the period 2005–2020	
China (People's Republic of)	Anthrax Glanders Equine infectious anaemia Equine influenza	2006, 2009, 2011 2018, 2019, 2020 2007, 2008, 2010 2007, 2008, 2011, 2013–2018
Timor-Leste	Japanese encephalitis Surra Equine Influenza (suspected)	2016, 2017, 2018 2016, 2017, 2018 2016, 2017, 2018
Hong Kong (Special Administrative Region)	Equid herpesvirus 1	2007
Indonesia	Anthrax Equid herpesvirus 1 Equine influenza Equine piroplasmiasis Japanese encephalitis Surra Rabies	2013, 2015, 2017, 2019 2017, 2019 2017 2017, 2019 2017 2007, 2009–2013, 2017 2015
Laos	Japanese encephalitis Rabies Anthrax	2010, 2011 2005–2019 2008, 2009, 2012, 2013
Malaysia	African horse sickness Equine herpesvirus 1 Equine infectious anaemia Equine influenza Surra	2017, 2020 2017 2008 2015 2017
Myanmar	Anthrax Glanders Equine piroplasmiasis Surra Rabies	2008 2009, 2010, 2011, 2014 2007–2014 2006–2015 2007, 2013
Philippines	Equine infectious anaemia Japanese encephalitis Surra	2005–2007, 2014, 2016–2018 2015–2018 2005–2008, 2010–2013, 2016–2019
Singapore	No equine diseases reported for the period 2005–2020	
Thailand	African horse sickness Equine infectious anaemia Surra Rabies	2020 2011–2018, 2020 2012 2018
Vietnam	Anthrax Rabies Surra	2005, 2007–2015 2005–2019 2005–2008

Table 5 Notifiable diseases in South-East Asia and the People's Republic of China, according to the World Animal Health Information System (OIE-WAHIS)

Disease	Brunei	Cambodia	China (People's Republic of)	Hong Kong (SAR)	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Timor-Leste	Vietnam
Multiple species													**
Anthrax	✓	-	✓	✓	✓	☐ ✓ ⁽ⁱ⁾	✓	-	✓	✓	✓	-	☐
Japanese encephalitis	✓	-	-	✓	✓	☐	✓	-	✓	✓	✓	✓	☐
Screwworm	✓	-	-	-	✓	☐	-	-	✓	✓	✓	-	☐
Rabies	✓	✓	✓	✓	✓	☐	✓	✓	✓	✓	✓	-	☐
West Nile fever		-	-	-	✓	☐	✓	-	✓	-	✓	-	☐
Equine diseases						**							**
African horse sickness	✓	-	✓	✓	✓	☐	✓	✓	✓	✓	✓	-	☐
Contagious equine metritis	✓	-	-	✓	✓	☐	✓	-	✓	✓	✓	-	☐
Dourine	✓	-	-	✓	-	☐	✓	-	✓	✓	✓	-	☐
Equine encephalomyelitis (Eastern & Western)	✓	-	✓	✓	✓	☐	✓	-	✓	✓	✓	-	☐
Equine infectious anaemia	✓	-	-	✓	✓	☐	✓	-	-	✓	✓	-	☐
Equine influenza	✓	-	✓	✓	✓	☐	✓	-	✓	✓	✓	✓	☐
Piroplasmiasis	✓	-	-	✓	✓	☐	✓	-	✓	✓	✓	-	☐
Herpes-1	✓	-	-	-	✓	☐	✓	-	✓	✓	-	-	☐
Equine arthritis	✓	-	-	-	✓	☐	✓	-	✓	✓	✓	-	☐
Glanders	✓	-	✓	✓	✓	☐	✓	✓	✓	✓	✓	-	☐
Venezuelan equine encephalomyelitis	✓	-	✓	-	✓	☐	✓	-	✓	✓	✓	-	☐
Other notifiable diseases						**							**
Crimean Congo fever	✓	-	-	-	✓	☐	-	-	✓	-	-	-	☐
Echinococcus granulosus	✓	-	✓	-	✓	☐	-	-	✓	✓	-	-	☐
Echinococcus multilocularis	✓	-	-	-	✓	☐	✓	-	✓	✓	-	-	☐
Surra	✓	-	-	-	✓	☐	✓	✓	✓	✓	✓	✓	☐
Trichinella	✓	-	-	-	✓	☐	✓	-	-	✓	✓	-	☐

Notes: ** No equine diseases listed as notifiable ☐ Disease listed under "general surveillance" (i) According to information available for Laos in OIE-WAHIS, anthrax was notifiable until 2015; since 2016, Laos has only reported conducting 'general surveillance.'

6 Discussion

Research for this study was conducted through literature review and interviews with stakeholders, including national Veterinary Services, equestrian organisations and horse industry representatives, NGOs working in the equine welfare sector, and other interested individuals. The study took place during the COVID-19 pandemic, thus it was not possible to conduct on-site inquiries or other follow-up research. The draft report was circulated in July 2021 to all concerned countries for their consultation, comments and endorsement of its content.

The study revealed several salient points that should be considered when contemplating how to improve the health and welfare of equids in SEA countries, in view of reducing the risks of introduction and spread of diseases.

Local, native breeds of equids in South-East Asian countries have a long history of serving as beasts of burden, transporting goods and people locally and, in earlier times, being used in warfare. Over time, the short, stout horses and ponies of the primarily Mongolian type have adapted to the local climate, grazing conditions and local endemic diseases. These years of adaptation have resulted in a type of horse that is short (usually not more than 140cm tall), sure-footed and disease-resistant.

Current uses of this type of local horse have shifted more and more towards tourism, transportation by carriage, and use as companion animals; however, horse owners typically prefer taller animals for these purposes. This has been reported in Cambodia, Laos and Indonesia, but certainly applies to other countries as well. Animal owners seek to have their local animals sired by taller stallions, and for this purpose they may cross national borders in search of such opportunities, including through illegal routes.

With the exception of state-sponsored programmes (e.g. PR China, Cambodia) and private initiatives (e.g. Laos), it has not been reported that the genetic

resources of local breeds are being or will be protected in order to preserve their positive traits, such as disease resistance. Based on the information gathered for this study, the use of local breeds appears to have shifted towards the tourism industry, which is vulnerable to shocks; for instance, the COVID-19 pandemic left many horse cart operators without an income and thus the means to feed their animals, which drastically impacted their welfare (4, 5).

Local animal welfare organisations are limited in number and face a mammoth task given the diverse uses of horses across the sub-region, ranging from religious ceremonies where certain ritual dances are celebrated by horses (Thailand), to local races (e.g. Indonesia), to local transport of goods and people; such organisations have little to no

control over animal owners' awareness to align their husbandry practices with animal welfare standards, such as those developed by the OIE for working equids (47).

Local equine health appears to be of limited interest to Veterinary Services in the sub-region, based on the limited information on animal diseases reported to the OIE and the Veterinary Services' limited responsiveness to information requests for this study. While some countries include the OIE-listed diseases under 'general surveillance' (see Table VI), no evidence was found for such surveillance programmes, with the exception of surveillance carried out in 2020–2021 following the AHS outbreaks in Thailand and Malaysia.

This lack of attention to the native local equine species exacerbates concerns over animal welfare and uncontrolled cross-breeding activities in most countries. During interviews with stakeholders from Laos and Cambodia and based on research from Thailand (48), there is evidence that the incidence of surra (*Trypanosoma evansi*), endemic in SEA, is increasing; given that horses are susceptible to the disease, this represents a veritable challenge for horse

“Local animal welfare organisations are limited in number and face a mammoth task given the diverse uses of horses across the sub-region.”

owners. While local horses do not usually succumb to surra, cross-bred horses are more susceptible, and prompt treatment may not be geographically and financially accessible.

Donkeys have a limited presence in SEA countries (3); however, they play a major role in PR China, with their own value chain of products (ejiao, milk, beauty products, etc.) and a government-supported development programme for donkey breeding. Donkey skins are the primary raw material for ejiao, and as the demand for these products exceeds the supply, this has led to an international trade in donkeys and their skins. While most donkeys are purchased and slaughtered in African countries, with their skins subsequently imported into PR China, not all of this trade takes place legally, and some donkey skins may be transported through SEA countries to eventually arrive in PR China. Such illegal trade poses a potential risk to equine health.

Mules, on the other hand, travelled along the Southern Silk Road from the 2nd century BC until the 19th century, which operated as a network of caravan roads across the region. Today, mules maintain their role as working equids, which reportedly includes serving as transport animals for contraband trade in mountainous regions. They are also kept by the military and appreciated for their ability to carry heavy loads through difficult terrain (for instance, in Thailand). Overall, however, their role is not significant, and during this study no evidence was found of active breeding programmes for donkeys or mules in SEA.

The establishment of equestrian sports in PR China and the majority of SEA countries, as well as the continuous development of the equestrian industry and the increase in the number of sport horses show that this is the major area of growth for equids. Asia Horse Week, which was held for the first time in 2019 within the framework of a prestigious equestrian event – the Longines Masters – in Hong Kong, provided clear evidence as to the growth, financial potential, and quality of locally established and imported equine genetic material. As shown in

“The establishment of equestrian sports in PR China and the majority of SEA countries, as well as the continuous development of the equestrian industry and the increase in the number of sport horses show that this is the major area of growth for equids.”

Annex 4, PR China and seven countries in SEA have been members of FEI for many years, and PR China and four of the seven SEA countries have hosted FEI events. This clearly demonstrates the importance of equestrian sport and its various disciplines. In addition to the FEI disciplines, polo and racing are also key equestrian sports.

For this sector of the equine population, thoroughbred or warmblood horses have been imported for many years, leading to a strong foundation of high-quality horses. These are used for breeding in some countries and are also kept as companion or leisure animals by owners who do not engage in competitive sport. For some countries, the national equestrian federations provided the numbers of sport horses in their respective territories; however, it was observed that not all warmbloods were known to the NFs in cases where they were being kept for pleasure riding with no sport ambitions. Not being adapted to the local climate, these horses require a high level of protection,

care and veterinary attention. Thus, the private sector in equine medicine has also been established in these countries, though it is mainly concentrated near horse sport centres. This contributes to the tendency of Veterinary Services (public sector) to not consider equids as a priority, which leads, in turn, to a limited inclusion of equine species in national surveillance and control programmes and a limited expertise in equine diseases amongst government veterinarians. From the perspective of the Veterinary Services, the care of horses lies in the hands of the private veterinarians. In some countries, such as Thailand and

Cambodia, public-private partnerships between the Veterinary Services and private equine practitioners and/or the national equestrian federation or NGOs have been established, which contribute to overcome this deficit.

Another category of equids that was examined through this study was wild equids. Zebras are the only species found in the countries of SEA, while Przewalski's horses are kept in captivity as well as in the wild in PR China. Zebras were originally imported from Africa, but are now also bred locally. In particular, Thailand

has imported many zebras, in some cases with the intention of future export. There is an inherent risk of importing foreign diseases, particularly AHS, for which zebras can be asymptomatic carriers. The Veterinary Services are not always responsible for these animals, as they may fall under the authority of the Wildlife Department and the corresponding ministry.

When examining these three groups of equids (wild equids, local equids and imported horses), the wild equids pose a high risk of disease introduction if they are not under the authority of the Veterinary Services and if their importation is not governed by strict

health protocols that are applied prior to, during and after their transport into the country.

Regarding the perceived risk of illegal movement between countries of SEA and into PR China, there is an obvious divide between local equids and the associated lack of veterinary and government supervision, and the imported horses under private veterinary care. This indicates that the perceived risk is linked almost exclusively to local equids, either when engaged in transporting contraband, in seeking out genetic improvements, or as illegal imports of donkey skins.

7 Recommendations

This study has highlighted the continued importance of local equids for most countries in SEA. Equids offer a source of income to those using them for tourism, transportation of goods and people, or in a full-scale industry value chain, as is the case of donkeys in PR China.

In order to improve the health and welfare of local as well as imported equids, the following action areas are recommended.

Improved knowledge of the equine population size and distribution

The example of Thailand clearly demonstrates that estimated or extrapolated numbers of equids can vary greatly from actual figures. The census carried out in Thailand after the AHS outbreak revealed that there are almost three times more horses in the country than shown in annual statistics over the previous five years, which were based on extrapolation.

In Cambodia, the AHS outbreak in Thailand was used as an opportunity to verify the number of equids in the country; this work was done by the NGO Cambodia Pony Welfare Organisation. This public-private partnership serves as a good example of how government, NGOs and the private sector can successfully work together towards this common goal.

To obtain information on the equine population size and distribution, a census should be carried out and, ideally, a simple horse identification system should be introduced.

Mapping and understanding stakeholders

National Veterinary Services should map out stakeholders from the public and private sectors that have an interest and are engaged in the equine industry and equestrian sports (e.g. the National Federations and associations), health care (private practices and laboratories), disease prevention, trade, breeding and animal welfare. This will allow Veterinary Services to better understand the interests, concerns and capacities of the stakeholders and to engage with them, as appropriate, in a public-private partnership.

Tasks such as surveillance or the general care of local horses could be shared with animal welfare NGOs and

should an equine disease outbreak occur, as was the case for AHS in Thailand, a public-private partnership could be an appropriate solution to overcome the shortage of financial resources and government professionals with expertise on equids.

Horse identification system

Local horses usually escape any existing identification system for sport horses or livestock species. However, in the case of a disease outbreak and the necessity to impose control measures, such as movement control and vaccinations, unidentified horses are difficult to control and can evade these measures, thereby spreading the disease to other locations.

Currently, only National Federations, racing authorities and, in some cases, polo clubs have an idea of the total number of horses, and these figures are not necessarily known by the Veterinary Services.

Such identification programmes should consist of owner registration, a horse identification card with a silhouette, and a means to mark the animal, such as branding, tattooing or clipping. Ideally, all local horses should have a microchip, but this may not be currently feasible. The implementation of identification programmes could, for example, be linked to annual vaccination campaigns for livestock or the registration of operators of touristic or transportation carriages.

Veterinary Services should try to understand the current constraints and perceived difficulties to introduce an identification system for equine species and should develop comprehensive programmes that include incentives for local horse owners to participate.

Horse identification and owners' registration should also include warmblood and thoroughbred horses that are kept as leisure horses and are not registered with the NF or other sport authorities (racing, polo). These authorities, in close cooperation with the government, particularly customs agencies, should undertake all possible efforts to maintain an accurate record of all imported and resident equids. In addition, the private sector should provide Veterinary Services with regularly updated figures on the number of warmblood and thoroughbred horses.

Legislation governing equine species

National animal health legislation should be reviewed to ensure that it includes at least the following aspects:

- Relevant OIE-listed equine diseases are notifiable in the country
- The health of all equids (including wild equids) in the country is under the authority of the Veterinary Services
- An import risk analysis needs to be carried out and import health certificates need to be issued by the Veterinary Services for the importation of all equids, particularly wild equids
- Provisions are established for the quarantine of imported animals
- Equine diseases of major concern such as zoonotic diseases and foreign diseases are included in disease surveillance programmes
- Equine slaughter facilities are under veterinary supervision
- Animal welfare legislation includes equids (for instance, it complies with Chapter 7.12 of the OIE *Terrestrial Animal Health Code*)
- Owners have an obligation to register their animals with the authorities.

The AHS outbreaks in Thailand and Malaysia exposed the need for improved coordination between Veterinary Services and wildlife authorities, to ensure that the movements of wild equids comply with international standards. The establishment of relevant and appropriate legislative or regulatory frameworks for health monitoring of the wildlife trade is a significant concern and it requires coordination between authorities.

Health care for local equines

As observed in this study, local equines are not given the same importance regarding disease surveillance and control programmes in comparison to livestock. Furthermore, only a limited number of government veterinarians or veterinary paraprofessionals have skills and knowledge regarding equine diseases.

One recommendation is to seek out public-private partnerships with the equestrian industry and NGOs

in order to provide basic animal health care for local equids. The example of CPWO provided in this study makes the case for this approach; CPWO has provided not only veterinary care, but also capacity building on hoof care and harness fitting to animal owners at an affordable price, which has had a direct positive impact on the welfare of their animals.

Another good example is the engagement of the Thai Veterinary Services, the Thai Equestrian Federation and other stakeholders in a public-private partnership to control and eventually eradicate AHS from the country, which includes health care for local equine populations.

Strengthened capacities of Veterinary Services in the equine sector

While collaboration with the private sector or NGOs can help to overcome deficiencies, with the aim to serve the equine population, the ultimate aim should be to strengthen capacities within the Veterinary Services. Most countries in SEA have well-established universities that could assist in providing a capacity building programme through courses for veterinarians and veterinary paraprofessionals, as well as service providers (farriers, handlers, equine dentists, etc.).

Veterinary Services should strengthen data collection and analysis capacity from the equine sector in order to be up-to-date with demographics and the geographic distribution of equids in their countries, in view of planning and implementing surveillance and control programmes for notifiable diseases.

Conservation of local breeds

Local breeds in most SEA countries are small, sturdy, disease-tolerant and hardy. However, owners and farmers are often keen to increase their size and look for larger framed horses for cross-breeding. This activity is prone to movement across borders that bypasses veterinary checks. Besides the risk of spreading diseases, the authorities should be aware that there is a risk of losing precious genetic resources that have developed over centuries. Government-supported conservation or preservation of these animal genetic resources is strongly recommended. A good example is the public breeding station in Vietnam (see Chapter 2.11).

Yili horses, China



VISUAL CHINA GROUP

8 Conclusions

This study is the first on this topic in South-East Asia and has provided valuable insights regarding the husbandry and population dynamics of local and introduced equids in the countries of SEA and PR China, including Hong Kong SAR and Macau SAR. The scope and depth of the study was limited by the fact that it was implemented primarily through literature review, as well as the limited response of some countries towards this type of information gathering. Nevertheless, several key issues were identified:

the general trend of reductions in local breed populations and in their genetic preservation or conservation, versus the rising number of sport horses; the lack of accurate information on equid population sizes, including wild equids and warmblood leisure horses; and the risk of illegal movements across national borders. Furthermore, while the equine sector receives strong government support in PR China, it should be supported by private-public partnerships to improve animal health and welfare in the countries of SEA.

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Annex 1

Equine populations in South-East Asian countries, according to the World Animal Health Information System of the World Organisation for Animal Health (OIE-WAHIS)

Country		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Brunei	Equidae	-	-	284	303	365	-	391	390	377	355	378	320	315	316	296	-
Cambodia	Equidae	-	-	-	-	14,775	13,210	12,789	12,531	10,897	9,161	7,635	5,674	-	5,055	4,296	-
	Domestic horses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,971
China (People's Republic of)	Equidae	-	8,732,800	4,252,700	8,236,800	8,237,200	8,254,300	6,708,700	6,335,000	-	-	-	-	-	-	-	-
Hong Kong (Special Administrative Region)	Equidae	-	1,337	1,355	1,692	1,817	1,878	1,882	1,855	1,817	1,805	1,864	1,834	1,884	-	-	-
	Domestic horses	-	-	-	-	-	-	-	-	-	-	-	-	-	1,959	2,034	-
	Donkeys/ mules/ hinnies	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-
Indonesia	Equidae	-	399,000	401,081	411,464	398,226	409,280	416,306	426,234	431,877	-	436,100	437,558	442,592	421,104	394,782	-
Laos	Equidae	-	-	-	-	-	-	-	-	-	-	-	-	-	15,364	-	-
Myanmar	Equidae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62,845	-
Malaysia	Equidae	-	-	4,782	3,468	4,041	-	3,903	-	-	-	4,883	3,654	5,191	-	-	-
Singapore	Equidae	-	-	1,216	1,454	1,535	1,666	1,840	1,808	1,871	1,927	1,991	1,840	1,712	1,744	1,702	-
Thailand	Equidae	5,575	2,869	5,619	3,779	5,443	5,525	6,503	7,554	6,709	8,871	5,005	4,929	-	-	-	-
	Domestic horses	-	-	-	-	-	-	-	-	-	-	-	-	4,754	1,853	5,999	-
	Donkeys/ mules/ hinnies	-	-	-	-	-	-	-	-	-	-	-	-	706	5,412	2,002	-
Timor Leste	Equidae	-	-	-	-	-	-	-	-	-	-	-	50,751	-	-	-	-
Vietnam	Equidae	110,189	87,300	20,239	99,126	121,000	93,120	93,000	-	-	-	-	-	-	-	50,000	-

Annex 2

Horse and mule populations in South-East Asian countries, according to data from the Statistics Division of the Food and Agriculture Organization of the United Nations (FAOSTAT)

Country		2008	2017	2019
Cambodia		28,000	30,422	30,864
China (People's Republic of)	Horses	7,028,000	3,436,400	3,671,000
	Mules	2,985,000	811,200	714,500
Hong Kong (Special Administrative Region)		1,500	1,533	1,535
Indonesia		392,864	409,122	394,454
Laos		31,000	32,550	23,720
Malaysia		5,005	4,306	4,258
Myanmar	Horses	132,000	99,854	93,768
	Mules	950	998	999
Philippines		235,000	248,901	252,218
Thailand	Horses	3,997	6,500	6,348
	Mules	50	49	48
Timor-Leste		65,541	52,998	50,777
Vietnam		121,000	86,759	50,092

Note: No information was available for Brunei and Singapore.

Annex 3

Number of horses exported and imported, according to data from the Statistics Division of the Food and Agriculture Organization of the United Nations (FAOSTAT)

Country		2008		2017		2019	
		Horses	Mules	Horses	Mules	Horses	Mules
Brunei	Import	93	-	-	350	6	661
	Export	-	-	-	4	2,211	-
Cambodia	Import	-	-	-	4	-	-
	Export	-	-	-	-	-	-
Hong Kong (Special Administrative Region)	Import	-	-	-	-	-	-
	Export	-	-	-	-	-	-
Macau (Special Administrative Region)	Import	-	-	-	-	-	-
	Export	-	-	-	-	-	-
China (People's Republic of)	Import	-	-	-	-	-	-
	Export	-	-	-	-	-	-
Indonesia	Import	-	-	549	-	58	-
	Export	-	-	-	-	-	-
Laos	Import	-	-	654	-	427	-
	Export	-	-	-	-	4	-
Malaysia	Import	1,260	-	59	-	24	-
	Export	-	-	-	-	-	-
Philippines	Import	641	-	-	35	24,739	145
	Export	4	-	-	-	-	-
Singapore	Import	924	-	650	-	708	-
	Export	588	-	610	3	686	-
Thailand	Import	593	-	1,878	-	706	-
	Export	359	-	1,325	2	3,125	-
Vietnam	Import	-	-	153	-	22	1,444
	Export	-	-	-	-	-	-

Note: No information was available for Timor-Leste and Myanmar.

Annex 4

National Federations in South-East Asia and China

Country	Year of FEI affiliation	FEI events			FEI registered athletes			FEI registered horses		
		Year	No.	Discipline	Year	No.	Discipline	Year	No.	Discipline
Cambodia	2007	-	-	-	2017	17	J, D, En	-	-	-
		-	-	-	2018	20	J, D, En	-	-	-
		-	-	-	2019	13	J, En	-	-	-
		-	-	-	2020	11	J, D, En	-	-	-
China (People's Republic of)	1983	2017	17	J, En	2017	329	J, D, Ev, En, R	2017	361	J, Ev, En
		2018	17	J, Ev, En	2018	478	J, D, Ev, En, R	2018	737	J, D, Ev, En
		2019	23	J, D, En	2019	688	J, D, Ev, En, R	2019	891	J, D, Ev, En
		2020	8	J, En	2020	137	J, D, Ev, En	2020	126	J, D, Ev, En
Hong Kong (Special Administrative Region)	1978	2017	2	J	2017	36	J, D, En, PD	2017	81	J, D, Ev, PD
		2018	3	J	2018	39	J, D, Ev, En, PD	2018	78	J, D, Ev, PD
		2019	4	J, Ev	2019	49	J, D, Ev, En, PD	2019	61	J, D, Ev, PD
		2020	-	-	2020	32	J, D, Ev, En, PD	2020	48	J, D, Ev, PD
Indonesia	1975	2017	-	-	2017	22	J, D, Ev, En	2017	13	J, D, Ev
		2018	5	J, D, Ev	2018	45	J, D, Ev, En	2018	26	J, D, Ev
		2019	-	-	2019	16	J, D, En	2019	2	D
		2020	-	-	2020	11	J, En	2020	8	J
Malaysia	1981	2017	7	J, D, En	2017	87	J, D, En	2017	90	J, D, En
		2018	12	En	2018	91	J, D, En	2018	88	J, D, En
		2019	10	J, D, Ev, En	2019	109	J, D, Ev, En	2019	102	J, D, En
		2020	9	En	2020	67	J, En	2020	57	J, En
Myanmar	1996	-	-	-	-	-	-	-	-	-
Philippines	1975	2017	-	-	2017	12	J, D	2017	12	J, D
		2018	-	-	2018	8	J, D, En	2018	11	J, D
		2019	-	-	2019	13	J, D, En	2019	9	J
		2020	-	-	2020	6	J, D	2020	7	J
Singapore	1975	2017	-	-	2017	23	J, D, En, PD	2017	11	J, D
		2018	-	-	2018	21	J, D, En, PD	2018	10	J, D
		2019	-	-	2019	26	J, D, En, PD	2019	9	J, D
		2020	-	-	2020	15	J, D, En, PD	2020	2	J, D
Thailand	1983	2017	13	J, D, Ev, En	2017	71	J, D, Ev, En	2017	119	J, D, Ev, En
		2018	11	J, D, Ev, En	2018	75	J, D, Ev, En	2018	125	J, D, Ev, En
		2019	16	J, D, Ev, En	2019	64	J, D, Ev, En	2019	123	J, D, Ev, En
		2020	2	En	2020	39	J, D, Ev, En	2020	39	J, D, Ev, En

Notes: FEI: International Federation for Equestrian Sports • J: Jumping • D: Dressage • Ev: Eventing • En: Endurance • PD: Para dressage

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