

Establishment of Equine Disease Free Zone (EDFZ) in Jakarta to Facilitate the Equestrian Competitions During The 18th Asian Games, 2018

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INTRODUCTION

The 18th Asian Games, which include the Olympic equestrian disciplines of jumping, dressage and eventing, were held in Jakarta from 18 August to 2 September 2018.

Equestrian sport in the Asian region is well developed in only a few countries and, in general there is little agreement between the member nations of the region about animal health regulations for horse movement between these countries. Few countries are approved for reentry of horses that have visited them to the European Union ("approved third countries"), hence making it difficult for Europe based Asian horses to travel to and to return from some countries in the region. Indonesia is one of the countries with no approval.

In order to facilitate competition horse movement to specific international events, the World Organisation of Animal Health (OIE) has developed the concept of Equine Disease Free Zone (EDFZ), which is based on the fundamental principle of zoning and compartmentalisation as defined in the OIE Terrestrial Animal Health Code (Chapter 4.3, 4.4).

The basic principle of EDFZ is to demonstrate that the equine health of a defined core zone and its surroundings have high health standards which are acceptable to the trading partners. The stepwise approach taken in Indonesia consisted of (1) an assessment of the equine health status and the identification of critical diseases; (2) the definition of a core zone (the venue) and a surveillance zone; (3) the application of biosecurity measures and protocols; (4) international and national health certificates, specifically developed for the Asian Games; (5) a self declaration of the EDFZ submitted to the OIE; and (6) acceptance and publication of the application for regionalization by the European Commission. If both of these applications are approved, participating nations can be reassured that sanitary conditions at the equestrian venue have met the international standards as set by the OIE and the EU.

MATERIALS AND METHODS

The materials and methods were adopted from the work plan underlying the establishment of the EDFZ, which includes: (1) horse census and population distribution map, (2) animal identification and traceability, (3) establishment of the EDFZ surveillance zone, (4) disease surveillance, (5) vector surveillance, (6) laboratory testing, (7) investigation on disease reports and documentation of historical information.

RESULT AND DISCUSSION

The equine population numbers for the years 2014 to 2017 are based on National Statistic Bureau figures and are given at provincial level. The total number across all provinces estimated for 2017 is 442.602. The total number in DKI Jakarta is 334, while the number in Greater Jakarta was not known. For the purpose of establishing the EDFZ, a specific census was carried out in June 2017. The total number of horses in Greater Jakarta Region (Jakarta, Bogor, Depok, Tangerang, and Bekasi cities and regencies) was then 1.157. The population in Greater Jakarta Region was the targeted population to establish the equine health status. This population was composed of mainly work horses, few riding horses, police horses and polo horses, the distribution is shown in Figure 1.

EDFZ ZONE-DKI JAKARTA, INDONESIA:
Horse Population

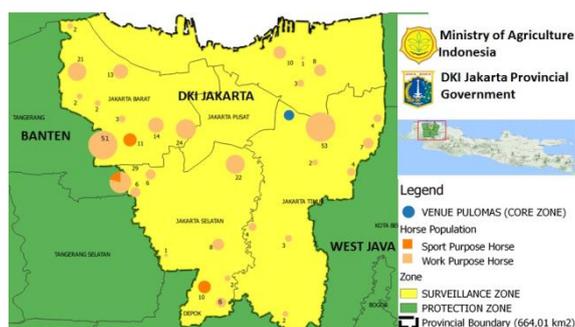


Figure 1. Map of Horse Population in DKI Jakarta

During the census, all details of the owner (name, ID, telephone number, location) and the horses (age, sex, name, color and silhouette) were recorded. This information was transferred to the epidemiological database of the Veterinary Services in the Ministry of Agriculture, the ISIKHNAS (Integrated Animal Health Information System). In the database the owner was allocated a unique identifier number and each registered animal is linked to a specific owner. A unique animal ID for the individual animal is also generated by the system.

The horse identification was improved by adding a description of the markings, e.g. brands, scars, cut ears etc to the silhouette. Owner's cards were developed which contain this information and they were issued to the owners starting in November 2017. Since then the animal identification system is regularly being updated.

The **Core Zone** of the EDFZ was defined as the Jakarta Equestrian Park Pulomas (JEPP), a former race course transformed for hosting the three disciplines of the equestrian competitions. This zone was kept free of horses and other animals since May 2016 and was fenced by a solid wall all around.

The **Surveillance zone** covers the 5 Municipalities of DKI Jakarta and falls under the veterinary responsibility of the Food Security, Marine and Agricultural Services, DKI Jakarta. A census of equines carried out in May 2017 revealed that 334 horses live in this area, 90% of them were working horses that pull carts for the transportation of people and goods or are used in the parks of Jakarta for pony rides. The zone covers about 661 km².

A Protection zone covers the Greater Jakarta Area of the Metropolitan areas outside DKI Jakarta, that is Bogor, Depok, Tangerang and Bekasi cities. Home to approximately 20 million people and 1.036 horses according to the June 2017 census, updated during the surveys. The Protection Zone covers an area of 5.729 km². Passive surveillance has been carried out in this area since February 15th 2018. Information material has been distributed to all horse owners indicating that any sign of disease needs to be reported to the nearest Veterinary station and that no horses are allowed to be moved into DKI Jakarta. If this is unavoidable, a specifically designed health certificate requiring testing for glanders, equine infectious anaemia (EIA), surra and piroplasmosis needs to be filled.



Figure 2. Surveillance and protection zones around the EDFZ, Indonesia, 2018

Three surveys were carried out during the period July 2017 and March 2018 and samples were collected following a sampling frame set out to estimate prevalence for selected diseases (EIA, surra, piroplasmosis, Equine influenza and glanders). For the **first survey**, a total of 631 samples were taken and 428 of those were tested for the following diseases (number of tested samples in brackets): African horse sickness (184), piroplasmosis (410 for *Babesia caballi*; 428 for *Theileria equi*), surra (181), glanders (422), and equine influenza (225). For the **second survey**, a total of 616 samples were collected from November 20th to Desember 8th 2017. The samples were tested for the following diseases: piroplasmosis (540 for *Babesia caballi*; 428 for *Theileria equi*), surra (408), equine influenza (606), glanders (472), Japanese encephalitis (419), West Nile fever (419), equine infectious anaemia (304), and strangles (489). In the **third survey**, 446 samples were collected from 23rd January to February 9th 2018. The samples were tested for the following diseases: equine influenza (367), glanders (404), surra (431), EIA (415), and piroplasmosis (435 for *Babesia caballi*; 446 for *Theileria equi*).

Table 1. Result of Survey

Diseases	1 st Survey		2 nd Survey		3 rd Survey	
	Total no samples	No of Positive	Total no samples	No of Positive	Total no samples	No of Positive
Glanders	420	0	472	0	404	11
Equine Infectious Anemia (EIA)	350	0	304	0	415	0
<i>B. caballi</i>	410	75	540	154	435	5
<i>Theileria equi</i>	428	227	553	30	446	72
Surra	181	6	408	0	431	0
Equine Influenza	225	37	606	92	367	33
African Horse Sickness	184	0				
West Nile Virus (WNV)			419	2		
Japanese Encephalitis (JE)			419	59		
Strangles			489	153		

The presence of competent vectors for equine and zoonotic diseases such as surra, Japanese encephalitis, West Nile fever, anaplasmosis, babesiosis and theileriosis in

Indonesia, has been described in literature. In order to assess their presence at the venue, the Department of Parasitology and Medical Entomology of the Veterinary Faculty, Bogor Agricultural University, carried out a vector survey in October 2017 which included also some of the locations of work horses in DKI Jakarta. Another longitudinal study was carried out during January to April 2018 with catching operations twice monthly.

The key findings revealed that there were **no ticks and no bats present on the venue** during both surveys. Flies, mosquitos and biting insects were found mainly in areas at the time occupied by workers and in stagnant water and flower pots. Few insects were found in the (empty) stable area.

During 2016 the Veterinary Services had received reports on suspicious cases of Japanese encephalitis, Equine Rhinopneumonitis (EHV) and strangles (horse distemper) from other districts in Java island. These reports were traced back to their location and the respective District Veterinary Offices in charge carried out an investigation and, if possible, collected blood samples for testing for these diseases at the nearest Disease Investigation Centre (DIC). During the time of the 2nd survey result presentation these reports were also presented to Directorate General of Livestock and Animal Health, Indonesian Ministry of Agriculture.

Table 2. Investigations on suspected cases of horse diseases, Indonesia, 2016

DIC	Report in 2016	Investigation	Method	Test Results
Denpasar	Surra; strangles	Samples taken in August 17	300 serum samples from local horses	52 positive for strangles; Neg for surra in blood smear, serology still awaited
Wates	EHV	Samples taken in August 17	21 serum samples around the reported location	14 positive for EHV;
Maros	Strangles	3 Farmers in the location of the report were visited	No samples taken as horses were no longer available	inconclusive

To support effective biosecurity an EDFZ comprising a buffer zone of 1 km width surrounding the core area was cleared of any livestock and about 7 km distance from the venue was cleared of horses from February 15th 2018. It was intended that the site of the Jakarta Equestrian Park Pulomas (JEPP) the Core Zone was fully fenced or enclosed to prevent unauthorised entry or wildlife intrusions. No horses are allowed into the Core Zone until the Asian Games.

CONCLUSION

Indonesia has submitted EDFZ status and received recognition from the European Union commission through Commission Implementing

Decision (EU) 2018/518 dated March 26th 2018. EDFZ has been validated by OIE on July 19th 2018 and published through its website and valid from February 15th to September 30th 2018. Jakarta Equestrian Park Pulomas (JEPP) as venue (core zone) can be used as a venue Equestrian competitions during the 18th Asian Games, 2018.

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