Self-declaration by Egypt as country historically free from Equine Infectious Anemia (EIA).

Declaration sent to the OIE on 29 September 2021 by Dr. Abdelhakim Ali, OIE Delegate for Egypt, and Chairman of General Organization for Veterinary Services, Ministry of Agriculture and Land Reclamation.

1. Introduction

The objective of this self-declaration is to claim historical freedom from Equine infectious anemia (EIA) in accordance with the provisions of Article 1.4.6. of Chapters 1.4. and 12.5 of the Terrestrial Animal Health Code (Terrestrial Code) as of 1 January 2021. The self-declaration covers the entire country.

2. History and situation of EIA in Egypt

Egypt occupies the northeastern corner of the African continent. Egypt lays between latitude 22 - 32° North and longitude 24 – 37° east. The land stretches from north to south 1,073 Km approximately and maximum width from east to west 1,226 Km. The total area of the Arab Republic of Egypt reaches nearly 1,002,000 km², while the populated area reaches 78990 km² representing 7.8% of the total area. It is bordered in the North by the Mediterranean Sea, in the south by Sudan, in the East by the Red Sea on the east by Palestine and Israel, in the West by Libya. The River Nile is extending along Egypt from south to north. The Nile Delta is the only delta in Egypt and is 100 miles long and 155 miles wide. It is in the shape of a triangle. The Total land boundaries is 2,665 km (The Border countries: Gaza Strip 11 km, Palestine 255 km, Libya 1,115 km and Sudan 1,273 km). There are no forests in Egypt, (annex 2).

EIA disease and its causative agent has never been recorded in Egypt. Wild Equids are not-existent in Egypt, due to the geographical characteristics of the country (a predominant desertic area covering 96.5% of the territory, while the rest of the land is used for agriculture purposes). Captive wild Equids are only present in zoos under complete supervision of the veterinary authority. Equids in Egypt are of high economic importance because of the Arabian horses breeding, as they are High Health High Performance (HHP) horses with a well-known international reputation, involved in international trade. In addition, Egypt host other breeds of HHP horses that are engaged in equestrian competition and racing, international events within and outside the country. Equids also play an important role in tourism and as a means of transportation of humans and goods in villages and the countryside. Total population of Equids in Egypt is 659,631.

Equids in Egypt are classified into:
• Valuable horses: There is a total number of 18,123 HHP horses, most of them are located in Zahra station (16,700 are original Arabian horses distributed in 1,302 farms), while the rest of the HHP horses are jumping and racing equids registered with the Egyptian Equestrian Federation and equine racing organization.
• Working Equids (native horses, donkeys and mules).
• 34 captive wild equids are kept under captivity in zoos completely supervised by veterinary services.

<table>
<thead>
<tr>
<th>HHP horses (In farms)</th>
<th>Working horses</th>
<th>Donkeys</th>
<th>Mules</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18123</td>
<td>75558</td>
<td>533205</td>
<td>32745</td>
<td>659631</td>
</tr>
</tbody>
</table>

3. Surveillance and early detection systems for Equidae in the country:

EIA is a compulsory notifiable disease in Egypt as established in the Animal Health Law 53/1996 and Ministerial decree No. 2303/2011, (Appendix 1); owners – keeper- workers on animal health workers must immediately notify any suspicion of disease or death in their Equids to the General Organization for Veterinary Services (GOVS). The GOVS receives notifications from all veterinary service directorates’ offices and stakeholders and is responsible for responding to those notifications. The suspicion criteria are based on a defined case definition that distributed to all veterinary units’ veterinarians.

• A- Early warning systems:

There are different levels through which the notification data are followed (vet units, districts level, directorates level and finally central level (GOVS). The reporting system is working through i) Immediate reporting during suspected emergent cases: Hotline, phone, email or fax; and ii) routine periodic reporting: by which compiling and documenting the corresponding clinical cases is done through the routine veterinary units’ activities.

• B- Raising a suspicion of EIA - procedure for notification:

The suspicion criteria are based on a specific case definition (Appendix 2); that is distributed to all veterinary units’ veterinarians. There are continuous trainings and awareness programs for veterinarians, animal owners or keepers for suspecting and reporting unusual animal health incidents.

When disease suspicion in the veterinary unit or a direct notification from owners, animal keepers, veterinarians and animal health workers to the veterinary administration, directorate or central by phone, fax or hotline; the response is rapidly implemented the same day according to the SOPs for response to emergencies (Appendix 8).

3.1. Clinical surveillance:

Clinical cases that are recorded during the routine work:

As a normal routine work, the veterinary clinic is receiving the animals for any medical intervention (e.g.; treatment of internal medicine and infectious disease cases, animal care and surgical intervention).

EIA clinical suspicions were reported and investigated EIA suspected and ruled out by laboratory tests, as follows:

• In 2018: 51 cases (an example from laboratory test results for an EIA suspicion as part of the passive surveillance investigation is included in Appendix 9)
• In 2019: no EIA suspected cases reported and accordingly no tests against EIA were applied.
• In 2020: 36 EIA clinical suspicions ruled out by laboratory tests.
• In 2021: 19 EIA clinical suspicions ruled out by laboratory tests.

All test results were negative for EIA, and positive for other health problems (such as internal parasites, external parasites, or malnutrition).
All clinical data are compiled and recorded in compliance with Chapter 1.1. on disease notification and quality of veterinary services are compliant with Chapter 3.1 of the Terrestrial Code. For additional details on the performance of veterinary services please refer to annex 3 below.

The passive surveillance system for EIA in Egypt is based on:

i. Transboundary animal disease information system (TAD info) which is located in 233 veterinary administrations in districts and operated by the field epidemiologists. The data that are recorded in veterinary clinics during the routine work are weekly transferred in electronic way to the intermediate (directorate) and central preventive medicine and epidemiology departments (GOVS) levels.

ii. A weekly and monthly paper form conclusion reports are sent from all governorates indicating the general health status of the all animals including Equids to the central level, (appendix 3)

iii. Hotline for receiving any disease notifications from owners and private sectors as well as, providing advice for any animal health related activity. The notification data from hotline is collected centrally at preventive medicine department in a specific form to be fulfilled electronically in a specific spreadsheet database to be analyzed by the central epidemiology department.

iv. Community-based animal health and outreach teams (CAHO team):

CAHO teams carry out surveillance activities through visits to epidemiological units (villages) in which the team make a direct contact with the official and private veterinarians in the village and meet with group of animal owners and farmers. The selection of the visits sites is based on:

i. suspected risky epidemiological unit as villages with high-density animal population, areas in villages that have risk factors for disease transmission as areas with water ponds and swamps or High density of risky husbandry practices;

ii. History of previous outbreaks of the endemic diseases.

- Enhanced surveillance for high-risk areas based on unusual health records and epidemiological investigations performed in previous visits and on rumors of any unusual health problems in a specific area, village, sub-village or farm.

N.B: in this case the activity of CAHO team is considered active clinical surveillance to follow these rumors in the village and all neighboring villages.

3.2. Sero-surveillance:

• The disease has never been reported in Egypt. Since 2013, GOVS carries out regularly Sero-surveillance for some diseases of equids including EIA to ensure the maintenance of freedom, in accordance with Ministerial decree No 2303/2011.

• A sero-surveillance for EIA is performed in Egypt and the laboratory diagnosis is in compliance with Chapter 3.6.6. of Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual). Serum samples are collected (whole blood without anticoagulant) under aseptic condition and must be stored at -20°C.

• ELISA is performed by the national laboratory (Animal Health Research Institute). A positive ELISA result is considered as a suspected case of EIA and positive ELISAs are confirmed using the AGID test. This is due to false-positive results that have been noted with ELISA. All samples collected over the past 3 years tested negative as shown in (tables 2 & 3) and (Appendix 4).

• In case of positive reactors, measures to be implemented are: movement restriction of sick animals from the infected area to other areas, the farm/village should be put under strict quarantine, where the movement of animals in/out is prohibited, vector control, investigations are conducted by tracing back and forward for the positive case and on the possible source of the outbreak.Confirmed positive cases are culled by euthanasia and hygienically disposed by incineration using environmentally friendly incinerators. A targeted surveillance is applied in a zone of 1 km radius within the infected premises to ensure no more cases are present.
Table (2), results of the tests performed over the past three years

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of samples</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>410</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>410</td>
<td>Negative</td>
</tr>
<tr>
<td>2020</td>
<td>410</td>
<td></td>
</tr>
</tbody>
</table>

Table (3) Number of samples collected over the past three years per Governorate

<table>
<thead>
<tr>
<th>Governorates</th>
<th>HHP samples in farms</th>
<th>Working Equids samples</th>
<th>Total Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cairo</td>
<td>30</td>
<td>45</td>
<td>75</td>
</tr>
<tr>
<td>Giza</td>
<td>15</td>
<td>60</td>
<td>75</td>
</tr>
<tr>
<td>Qaliobya</td>
<td>15</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Monofiya</td>
<td>15</td>
<td>60</td>
<td>75</td>
</tr>
<tr>
<td>Minya</td>
<td>0</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Alexandria</td>
<td>5</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>330</td>
<td>410</td>
</tr>
</tbody>
</table>

Three surveillance programs were carried out during the period from 2018 until 2020. The samples were collected according to methodology in compliance to Article 1.4.4. of the Terrestrial Code and following a sampling plan which was set out by central Epi-unit to ensure freedom of EIA. EIA is one of the main diseases of concern to the Competent Authority. Therefore, a targeted active surveillance with a sample size of 410 equids was designed in clusters of 5 animals per site (a site can be a farm or the high-density area) per year from areas with high equids population density (El Menya – Giza "the Pyramids area (Mansouriah – Nazlet El Seman – Sakkara)" - Cairo "Heliopolis (Racetrack and the Egyptian Agriculture Authority)" - Qualiobyia, Menoufia and Alexandria.

Areas were selected following a proportional distribution of villages and farms according to total number of villages and farms in the governorate.

Samples are tested at the Animal Health Research Institute (AHRI) according to the chapter 3.6.6. of the Terrestrial Manual.

4. Laboratory Capacity:

AHRI is the authorized laboratory (accredited according to ISO 17025 for diagnosis of equine diseases) to test samples for equine diseases throughout a dedicated diagnostic unit. Samples are tested for EIA according to the provisions of Chapter 3.6.6. of the Terrestrial Manual.

AHRI had participated in proficiency tests organised by the Animal Health and Veterinary Laboratory Agency (UK) for EIA for Agar Gel Immunodiffusion Test (AGIDT), ELISA for detection of Antibody against EIA. The results are shown in Appendix 7.

5. Measures to maintain freedom of disease:

   A. Regulations of exportation:

Horses destined for export are inspected by a delegation consisting of veterinarians from preventive medicine, quarantine department, animal health research institute and the approved quarantine. The delegation also checks the biosecurity measures in their holding and fulfil the specific animal health checklist (Appendix 5). Holdings must have license for working and apply all biosecurity measures (mandatory).

   - In the pre-export inspection in the farm, horses must be clinically healthy, and samples are collected and tested for EIA.
- These horses are transferred to the approved Quarantine sites (veterinary military hospital) and remain under quarantine for 40 days in case of temporary exportation and 90 days for permanent exportation. During this period, other samples are collected and sent to the OIE Reference Laboratory [for Glanders] in Dubai to be retested.
- Certificates are issued by GOVS.
- All measures of exportation are based on the Ministerial Decree No. 888 /2016, (Appendix 1)

Egyptian equids are exported to European Union countries and many Arabian countries. the HHP equids exported to the European Union, as well as the ones that participated in international events were sampled and tested for EIA by AHRL and retested again for confirmation in the Central Veterinary Research Laboratory – Dubai, UAE, the OIE Reference Laboratory for Glanders and all showed negative results for EIA. A total of 21 HHP horses were exported in 2019 and 13 in 2020, (Appendix 6).

B. Regulation for importation of equine

Equids should be imported according to Ministerial decree No. 2303/2011 and in compliance with Article 12.5.2. of the Terrestrial Code.

- Imported equids must be accompanied by a veterinary health certificate from the veterinary authority of the country of origin and submitted by the Embassy of Egypt:
  - the animals should show no clinical sign of equine infectious anaemia (EIA) on the day of shipment and during the 48 hours prior to shipment; and
  - no case of EIA has been associated with any premises where the animals were kept during the three months prior to shipment; and
  - if imported on a permanent basis, the animals were subjected to a diagnostic test for EIA with negative results on blood samples collected during the 30 days prior to shipment; or
  - if imported on a temporary basis, the animals were subjected to a diagnostic test for EIA with negative results on blood samples collected during the 90 days prior to shipment.

- The general stipulations for importation of equids, the veterinary certificate should attest that:
  1. The imported equids are free from diseases (Equine infectious anaemia - Dourine – Glanders - African horse sickness - Equine viral arthritis).
  2. The equids were kept since birth or for the last six months before shipment in a country free from contagious and infectious equine diseases.
  3. Equids showed no clinical signs of any disease on the day of shipment.
  4. All vaccination and tests applied to the equids have been recorded in the certificate.

- Equids should be quarantined in the country of origin for one month before shipment.

- A descriptive certificate and a clear photo of the equids from all directions have to be attached to the health certificate.

- Equids arrive directly from the country of origin to Egypt without stopping in any other harbor.

- Upon arrival, equids must be quarantined under the full supervision of the Egyptian veterinary services for 10 days. In case of the emergence of any clinical signs on the horses during the period of quarantine, samples should be collected by the veterinarian of the competent authority and sent to the approved labs for diagnosis. The final destination of the imported horse should be registered for future follow up by the Veterinary Authority.

- No semen from horses have been imported into Egypt during the past 24 months.

C. Improving public awareness:

Promoting notification

GOVS has a program to promote timely notification of suspected cases of diseases of equids including EIA which is conducted by distributing information material at points of contact such as farmers’ associations and unions, veterinary clinics and paramedical, agricultural colleges and universities, animal health laboratories, etc. Its
The purpose is to encourage timely reporting of a high-impact disease such as EIA. Likewise, talks and training courses are given to official veterinarians, private veterinarians, farmers, and veterinary medicine students so that the participants acquire the tools to recognize diseases and plagues such as EIA, placing the emphasis on its prevention and timely notification to GOVS.

Table (4) Training courses on Equine diseases, including EIA carried out between 2016 and 2020

<table>
<thead>
<tr>
<th>Name of courses</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of courses</td>
<td>Number of Trainees</td>
<td>Number of courses</td>
<td>Number of Trainees</td>
<td>Number of courses</td>
</tr>
<tr>
<td>Equine disease &amp; Biosecurity of farms</td>
<td>2</td>
<td>30</td>
<td>3</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>Sampling and diagnose of Equine disease</td>
<td>4</td>
<td>60</td>
<td>6</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Training on Epidemiology, Investigation and Rapid Response</td>
<td>10</td>
<td>70</td>
<td>8</td>
<td>90</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td>160</td>
<td>17</td>
<td>230</td>
<td>27</td>
</tr>
</tbody>
</table>

There is an active and formal consultation and active communication between GOVS and the Egyptian horse industry through a specific committee which has been established by Prime Ministerial Decree No. 1844/2020. This committee is led by the Ministry of Agriculture promoting the mutual coordination of activities and cooperation among GOVS, Egyptian Equestrian Racing Organization, Egyptian Equestrian Federation, Egyptian Agricultural Organization, Veterinary Services in Military force and Police Equestrian as well as private stockholders, such as Horse Breeders Association. The Scientific committees’ meetings are held with the participation of the mentioned parties’ representatives as well as specialized scientists in equine diseases and breeding to discuss, plan and take the decisions in all issues related to equine health and breeding issues.

The Central administration for Veterinary Extension and Services in GOVS is responsible for raising awareness for animal keepers, farmers and breeders throughout extension meeting and seminars in districts and at villages level. On the other hand, the workers and farmers of the HHP farms are trained on good practices for breeding, animal feeding, farms biosecurity and dealing with diseases’ suspicious and emergencies under the supervision of Egyptian Equestrian Federation, Egyptian Agricultural Organization and Egyptian Equestrian Racing Organization in collaboration with General Organization for Veterinary Services. Awareness campaigns, for the importance of Equids’ diseases surveillance, procedures of rapid reporting of suspected disease cases and subsequently the required rapid response actions, are regularly conducted for farmers and Equids’ owners.

6. Conclusions

Considering that:

- EIA is a notifiable disease supported by Egyptian legislation.
- EIA has never been reported in Egypt;
- Measures to prevent the introduction of EIA have been in place: the importations or movements of commodities into the country have been carried out in accordance with Article 12.5.2. of the Terrestrial Code;
- An early warning system is in place and notification system and epidemiological information on EIA and Egypt’s Veterinary Services comply with Chapters 1.1. and 3.1. of the Terrestrial Code respectively;
- The epidemiological surveillance and national diagnosis systems have the capacity to detect an EIA suspicion in a timely manner through compulsory notification and the application of animal health measures;
- Egyptian Veterinary Services apply the necessary measures to imported animals to ensure that these animals do not present a significant risk of introducing EIA.

The OIE Delegate of Egypt declares that the country complies with the requirements of a country historically free from Equine Infectious Anaemia as of 1 January 2021 in accordance with the provisions in Article 1.4.6. of the Terrestrial Code (edition 2021), as well as in Chapter 12.5 and consistent with information in OIE-WAHIS.
I, the undersigned, Abdelhakim Ali
Delegate of Egypt, Chairman of General Organization for Veterinary Services,
to the World Organization for Animal Health (OIE), takes responsibility for the self-declaration of Egypt as a country historically free from Equine Infectious Anemia (EIA).

DISCLAIMER
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Drawn up on 28/9/2021
Signature of the Delegate:
Annex 2

Administrative map of Egypt
Annex 3

Veterinary services in Egypt

GOVS has committed to achieve compliance with OIE standards to evaluate and upgrade its capacity to ensure that it is capable to manage and respond to any disease outbreaks in Equids by identifying the capabilities needed the critical interventions to react and prevent new cases. The OIE conducted a PVS evaluation of Egypt Veterinary Services during 2007 followed by supplementary mission in 2009 after GOVS request, to assess compliance to chapters 3.1 and 3.2 of the Terrestrial Animal Health Code. The objective of the evaluation was to provide the VS a framework for establishing priorities, strategic initiatives and action plans which will ultimately strengthen the VS infrastructure by evaluation of the four components which comprise the basic structure of the OIE-PVS Tool and which are viewed as the components of credible VS. The first PVS mission has followed by PVS gap analysis mission in 2010. According to the recommendations that have been elaborated from the PVS and gap analysis official reports and to ensure the quality of veterinary services in compliance with to chapter 3.1 of the Terrestrial Code, a road map had been developed and concrete actions have been identified and summarized to sustain and elaborate the organizational set up including revising all regulations, in order to improve the animal health situation by intensifying the efforts to control major diseases and intensify the training by improving the training facility to realize these goals. In addition, a new veterinary legislation had been developed tacking into consideration mechanisms to update national legislation to reflect emerging issues related to issues of veterinary concern (emerging and re-emerging diseases, animal transport, animal health and welfare with clear reference to control of animal movements, animal disease control and reporting systems, epidemiological surveillance and communication of epidemiological information). The new legislation is currently at final stage for adoption by the Egyptian Parliament. GOVS had drawn up and implement the policy and strategy of the most important animal diseases including Equine diseases. The governmental resource mobilization has been directed to ensure availability of human and financial resources which are required for strict and precise implementation of all stages of its strategies. In compliance to chapter 3.1 of the Terrestrial Code, by 2014, GOVS has succeeded in developing national epidemiological surveillance network and early warning system involving development and management of the 1st epidemiological data networking in Egypt connecting central, governorate and district levels supporting rapid notification of animal disease suspicions and outbreaks. The notification procedure to the OIE (immediate notification, six monthly and annual reporting) has been improved.