Food and Agriculture Organization of the United Nations

WORLD ORGANISATION FOR ANIMAL HEALTH

Regional training :

Import Risk Analysis for *African swine fever* (Africa)

Report of the online event ¦ English language

9, 15, 23, 30 November, 7, 14 December 2021 – six sessions at one week intervals

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Acknowledgements

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FAO and the OIE also acknowledge with much gratitude the valuable and continuous technical support of the Canadian Food inspection Agency, Canada, University of Pretoria, South Africa, University of Califonia, Davis, United States of America, International Livestock Research Institute, Nairobi, FAO and Private sector Pig Value Chain experts, OIE Headquarters, Scientific, Standards, World Animal Health Information and Analysis Departments, OIE Regional Representations for Southern Africa and Eastern Africa, before, during and after the meeting, as well as of the experts from the OIE Regional Reference Laboratories for ASF, Onderstepoort Veterinary Research Campus (ARC-OVR), Pretoria, South Africa.

Finally, FAO and the OIE would like to express their deep appreciation to all English-speaking countries of the Africa region and the *Regional Economic Communities* for their commitment and contributions over the years.

Abbreviations

ARC-OVR	OIE Reference Laboratory for ASF, Onderstepoort Veterinary Research, Pretoria, South Africa
ASF	African swine fever
ASF WG	ASF Working Group
CVO	Chief Veterinary Officer
DTRA	Defense Threat Reduction Agency of the US Government
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization of the United Nations
GF-TADs	Global Framework for the Progressive Control of Transboundary Animal Diseases
IGAD	Intergovernmental Authority on Development
IRA	Import Risk Analysis
OIE	World Organisation for Animal Health
SADC LTC	Southern Africa Development Community, Livestock Technical Committee
TAD	Transboundary Animal Disease(s)

Table of contents

Introduction

ASF is a disease that affects pigs and wild suids, is mostly endemic, but sometimes epizootic in isolated pockets within the Africa region. The disease is difficult to eradicate given the absence of registered efficacious vaccine and the existence of wildlife reservoirs and the Argasid tick, *Ornithodoros species* vectors. The recent pandemic spreading in Asia and Europe has seriously devastated the global pig industry. Since 2019, ASF has become a global priority transboundary animal disease for the GF-TADs coordination mechanism and a global initiative for the control of ASF has been launched in 2020 (see the ASF section of the GF-TADs website).

In line with the WTO SPS Agreement, Member Countries have the right to protect animal life or health, to manage overall risk reasonably and effectively. A country's import health measures must be based on international standards (OIE); or import risk analysis. The import risk analysis is justifiable in the absence of a relevant standard; or when a member country chooses to adopt a higher standard of protection than the international standard provides.

Objectives

The objectives for the training were for the participants;

1. to develop understanding on the epidemiology of ASF,
2. to build capacity in risk assessment for national veterinary services,
3. to review the current knowledge of ASF in sub-Saharan Africa region and;
4. to conduct a qualitative assessment of the risk of the introduction, spread and establishment of ASFV in accordance with the OIE's Risk Analysis framework to identify pathways and measures to strengthen ASF control.

Expected Outcomes

The expected outcomes of the training were for the participants to:

1. exchange information on the latest studies on ASF surveillance, prevention and control,
2. identify the context and situations where risk analysis should be used to support ASF control,
3. improve understanding of the OIE import risk analysis guidelines,
4. undertake a qualitative risk assessment,
5. identify and evaluate risk management options,
6. communicate the risk analysis findings to disease managers and decision makers,
7. foster partnerships among key regional animal health players, including relevant private sector.

Background

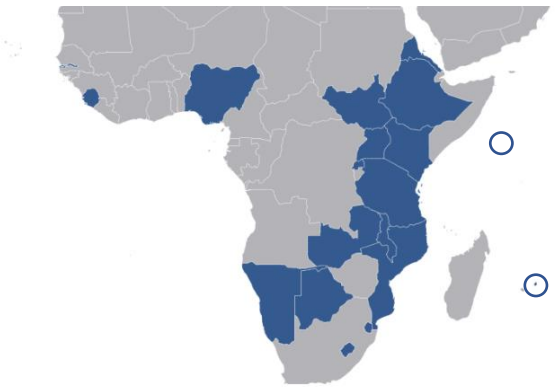
Since 2018, under the technical supervision of the OIE Standards Department, a regional training workshop for English-speaking OIE Delegates (or their designated representatives) from Africa on import risk analysis had been planned to support facilitating safe international trade.

The current regional training workshop on import risk analysis for *African swine fever* (ASF) was the first workshop of its kind in Africa, but other workshops have already been conducted in Asia and Europe.

The training workshop took place under the technical supervision of the OIE Science Department, the OIE Standards Department, and the OIE World Animal Health Information and Analysis Department. It was organised under the umbrella of the *Global framework for the progressive control of Transboundary Animal Diseases* initiative for the global control of ASF.

Summary

The six-day (20 hour) training was supported by the respective Member Countries who gave their national ASF control coordinators and epidemiologists time off from routine work in addition to internet connectivity to facilitate attendance at the 6 sessions and submit the completed weekly homework tasks. Overall, 62 country representatives, regional and international experts and observers attended the virtual training workshop.



Participating countries (there are 27 English speaking countries in Africa, out of 54 Members). Circled are Mauritius (bottom) and the Seychelles (top).

The agenda is copied in **annex 1.**

The training was attended by 17 countries, though some only attended only (part of) one session :

- Botswana
- Eswatini
- Gambia
- Ghana
- Kenya
- Lesotho
- Mauritius
- Mozambique
- Namibia
- Nigeria
- Rwanda
- Seychelles
- Sierra Leone
- South Sudan
- Tanzania
- Uganda
- Zambia

The most regular attendees (and also those responding regularly to the “homework” assignments) came from Botswana, Eswatini, Kenya, Mauritius, Namibia, Sierra Leone, Tanzania, Uganda and Zambia. Though only two representatives per countries were invited, some countries registered with rather large teams of 4 or 5 (Botswana, Mauritius, Namibia).

Overall the meeting was attended by 62 individuals over the 6 week period, including country representatives, expert-trainers, OIE staff and observers. Several OIE Delegates registered but only one Delegate attended in person, and consistently, i.e. Dr Roland Dlamini from Eswatini.

The 13 trainers comprised three from South Africa, two from Kenya, one from Tanzania, one from Canada, one from the United States of America, three from the OIE headquarters, and one each from the OIE Sub-regional representations for Eastern and Southern Africa respectively:

- Tim Carpenter, University of California - Davis, USA
- Charmaine Chng, Standards Department, OIE, France
- Thomas Dulu, Sub-Regional Representation for Eastern Africa, OIE, Kenya
- Peter Evans, South African Pork Producers Organisation, SAPPO, South Africa
- Folorunso Fasina, Food and Agriculture Organisation, FAO, Tanzania
- Livio Heath, Onderstepoort Veterinary Research, OVR, South Africa
- Moetapele Letshwenyo, Sub-Regional Representation for Southern Africa, OIE, Botswana
- Noel Murray, Canadian Food Inspection Agency, Canada
- Edward Okoth, International Livestock Research Institute, ILRI, Kenya
- Mary-Louise Penrith, University of Pretoria, South Africa
- Paolo Tizzani, World Animal Health Information and Analysis Department, OIE, France
- Gregorio Torres, Science Department, OIE, France
- Sharon Tsigadi, Farmers Choice Ltd K, Kenya

On December 14, the last session, closing remarks were made by Dr Roland Dlamini, OIE Delegate, Eswatini, Council Member and Vice-President of the GF-TADs Africa Regional Steering Coordination Committee who thanked the trainers for invaluable knowledge they imparted.

At the close of the training 23 country participants (Botswana, Ethiopia, Eswatini, Kenya, Lesotho, Mauritius, Namibia, Seychelles, Sierra Leone, Tanzania, Uganda, Zambia) qualified for issuance of a certificate of attendance (4 or more sessions attended), signed by the FAO ADG for Africa and the OIE Regional Representative for Africa (GF-TADs format).

All speeches, country testimonies and technical presentations were recorded to facilitate later translation into French. Power-Point templates were designed so as to consider the space below to add subtitles and include the speaker's information.

Narrative report (per session)

Session 1 Opening ceremony, an overview of ASF in Africa

The opening ceremony was graced with remarks by Mr. Yurdi Yasmi, Deputy Regional Representative (FAO Regional office for Africa) who highlighted that the fast spread of ASF pandemic is viewed with great concern at the FAO as disease outbreaks have jeopardized the earlier achievement of sustainable development goals, which negatively impacts food security and livelihoods. The training is expected to strengthen core competencies of health workers, minimise losses to small holder farmers and improve the capacity of veterinary services and good hygiene. In his opening statement on behalf of World Organisation for Animal Health, Dr Gregorio Torres, Head OIE Science Department (OIE Headquarters), gave official opening remarks on behalf of Dr Eloit, the Director General. He mentioned that since 2019 ASF has killed 25% of the world's pig population, therefore application of the OIE import risk analysis standard, together with public and private sector partnerships, is necessary for the success of the global initiative for the effective control of ASF. He urged participants to be open minded throughout the training. The participants were given an opportunity for introduce themselves through the chat box in addition to listing their expectations. The objectives of the workshop were enumerated, followed closely by 5 presentations which dwelled on the overview of ASF in Africa.

The presentations highlighted,

i) Global ASF situation,

The ASF global situation was presented to introduce the session. All the data presented were derived from official notifications submitted by OIE Members through OIE-WAHIS. Since 2005, 71 Members have reported the occurrence of the disease to the OIE, with an increasing trend since 2013. More than 50,000 outbreaks were reported during this period through Immediate notification and follow up reports, the majority of them in domestic animals (more than 30,000) and after 2018 (around 90%). Regarding the specific regional situation, 32 Members reported the disease as present in Africa since 2005, 2 in the Americas, 18 in Asia, 18 in Europe, and 1 in Oceania. In terms of outbreaks recently reported through immediate notification and follow-up reports (during 2020 and 2021 as of 21st October) 135 outbreaks were reported in Africa, 94 in the Americas, 2,415 in Asia, 18,679 in Europe, and 1 in Oceania. The epidemiological data reported by Members, highlight the deterioration of the epidemiological situation of the disease, that it is now widespread at global level. In this context, the OIE encourages its Members to share all the available information on the disease occurrence in a transparent and timely manner.

ii) African swine fever status and transmission routes in the African region,

African swine fever (ASF) evolved in eastern and southern Africa in an ancient sylvatic cycle between warthogs and argasid ticks of the *Ornithodoros moubata* complex that live in their burrows. This region has a long history of ASF outbreaks in domestic pigs and is home to all the 24 known genotypes of the virus. The sylvatic cycle is known or strongly suspected to exist or have existed in 17 countries of the region; it is not present in Lesotho and Eswatini that are south of the known distribution area nor in any of the Indian Ocean islands. Currently 31 countries are not free of ASF, including the island of Madagascar after an introduction of the virus in 1998. Three countries (Mali, São Tomé e Principe, Mauritius) have suffered point incursions that were rapidly eradicated. The ASF virus exists in three cycles in Africa: the warthog-tick cycle, a cycle between domestic pigs and related ticks that has far been confirmed in Malawi but may be more widespread, and a cycle involving only domestic pigs. In the warthog-tick cycle transmission to domestic pigs depends on the bites of the ticks, as after the first few weeks of life warthogs do not develop high viraemia or shed virus. In the domestic pig cycle, with domestic pigs being efficient shedders of virus especially in the acute phase of infection, transmission depends on direct contact with infected pigs, consumption of the tissues of infected pigs, or fomites contaminated with infected organic material. The virus can persist for long periods in chilled and frozen pork. The domestic pig cycle is the predominant cycle worldwide including throughout Africa. Prevention is achieved by the implementation of basic biosecurity measures on pig farms and throughout pig and pork value chains.

iii) An overview of African Swine Fever (ASF) in Southern Africa,

iv) African Swine Fever Perspective from West and Central Africa,

In *West and Central Africa* (WCA), pig production is an important activity, particularly in the rural and peri-urban areas. It is largely a smallholder activity with approximately less than 10 % of large commercial farms. The production and marketing systems are associated with the value chain that exposes pig farms to incursions from African swine fever. Exposure factors include the marketing of live pigs at popular live animal markets, auctions, slaughter slabs and exchanges of boars, a common practice among smallholder producers. Other factors include the lack of empirical ante-mortem inspections, seasonal variation in pig prices, which influences the movement dynamics of pigs, the farm gate buyers and other value chain actors. There is local and regional pig trade within the WCA sub-regions but pigs are hardly ever officially exported outside the countries of WCA. Based on historic and current perspectives, ASF transmission in WCA is typically linked with the domestic pig cycles, and these are facilitated by road networks, unmonitored value chains, swill feeding, indiscriminate visceral content and waste disposal, and value chain actors. The weak veterinary infrastructures, as well as limitations of the workforce and resources continue to militate against effective control of ASF in WCA. Large-scale commercial farms are able to organise and operate in a formal market but their operations are constantly challenged by infection dynamics ,which often arises from smallholder farms.

v) African Swine Fever (and Private Sector) Perspective (Eastern Africa).

Session 2. Epidemiology of ASF in Africa with an emphasis on trade related risks

Session 2. started with presentations on the overview of the epidemiology of ASF in Africa with an emphasis on trade related risks, discussion and presentation of tasks from selected topics from the previous session.

The trainers covered;

i) the ASFV transmission cycles,

ii) distribution and survival of ASF virus in various tissues/ commodities,

iii) diagnostic challenges associated with the use of unlicensed vaccines in Asia, and, diagnostic tests to support trade (OIE Manual of Diagnostic Tests and vaccines for Terrestrial Animals).

Session 3. An overview of value chains associated with swine production and marketing in Africa

This session was set aside to gain insights on value chains associated with swine production and marketing in Africa and presentation of tasks from session 2.

The trainers shared:

i) the demographics of the swine population,

Pigs in Africa constitute roughly 5 per cent of the global pig population. East Africa has 41 per cent of the African pig population, followed by West Africa with 36 per cent, Central Africa with 20 per cent and Southern Africa with 4 percent. North Africa has a negligible numbers of pigs. Pigs are important in Africa for livelihoods and income generation, food security and improved nutrition, ceremonies, and other uses such as making soap and fulfilling societal roles such as gifts to comfort the bereaved. A wide variety of pig breeds are found in Africa, including an array of local breeds as well as modern improved breeds imported from abroad and

hybrids between local and modern breeds. There are also limited numbers of Eurasian wild boars descended from animals imported for various purposes and their hybrids with domestic pigs. Large scale commercial farms including ASF-free compartments that are certified for export exist in the region, and also supply pigs through formal outlets to retailers. However, the majority of the pigs in most countries are reared in smallholder or traditional husbandry systems. These systems are often characterised by poor or no biosecurity, with pigs allowed to roam freely to find their own food. When the pigs are confined their diet may include leftover kitchen waste. This sector is served by value chains that may include farm-gate buyers and live markets. Most ASF outbreaks occur in this sector.

ii) production and marketing practices associated with free-ranging pigs through to large scale intensive piggeries,

Based on available reports, the three highest pork producing countries in Africa are Nigeria, South Africa and Malawi at 270 000, 250 000 and 127 000 tonnes respectively per annum, which constitute approximately 46% of total production in Africa. The African pork market is worth an estimated US$ 10 billion per annum with at least 28 million pigs slaughtered per annum. Many countries of Sub-Saharan Africa, with the exception of countries north of the continent, consume pigs. In terms of pig and pork exports, South Africa, Kenya and Angola appear to be the major players taking a chunk of the approximately 30,000 tonnes of annual exports. The associated value chain in Africa is complex and dynamic in both smallholder and large commercial farms, with the key component being inputs, production, outputs, processing, marketing and consumers and end users. Each of these components creates multiple livelihood opportunities but also carries some degree of risk through the facilitation of infection (ASF and other pig diseases) along the value chain. To date, the major challenges of pig production and marketing systems are: 1) the recurrence of diseases and the associated closed borders due to disease statuses, 2) high production costs, 3) non-tariff barriers, 4) low yield and poor genetics, 5) market inefficiencies, 6) no or prohibitive policies, 7) lack of capital for production or scale-up, and 8) limited knowledge or lack of technical expertise. Future pig sector growth will depend on utilization of modern technologies, up scaled consumer demands, availability of resources and labour, innovative infrastructures, facilities and equipment to drive industry growth.

iii) behaviour of the people involved in all stages of swine production and marketing.

In pig production, there are many value chain actors including but not limited to producers (farmers) and farm workers, butchers, middlemen, farm gate buyers, speculators, abattoir operators, cleaning staff, transporters, and pork shop operators among others. While domestic pigs, anthropogenic (human) behaviours and activities, wild suids, competent vectors and fomites have been identified as major categories of risks, human activities have been identified as probably the most important ones. Lack of or partially implemented farm biosecurity (especially in backyard farms), the introduction of new pigs to the farm without testing and quarantine, borrowing and use of untested boars, insufficient boot cleaning and disinfection, not changing clothes, introduction of visitors and value chain actors (farm-gate buyers, pig traders, middlemen, transporters), unscrupulous and unprofessional services by livestock field officers, para-veterinarians and veterinarians, insufficient cleaning & disinfection of farms, facilities and equipment, feeding of non-cooked or under cooked swill for example commercial or household food waste, under-reporting of suspected ASF cases, keeping of survivor pigs, lack of capacities to or insufficient capacity to recognize ASF clinical signs and symptoms, culling of sick pigs within the farm premises, rush-sale of sick pigs, slaughtering of pigs within the farm premises without veterinary supervision, improper disposal of carcasses and offal all constitute various human behaviours that may drive infections and transmission in farms and along the value chain.

Session 4 Business continuity in the context of ASF. Zoning and compartmentalisation.

Session 4. opened with a participant's feedback quiz using MentiMeter (www.mentimeter.com) to discern the transfer of knowledge and understanding during the training workshop, presentations that focussed on business continuity in the context of ASF, Zoning and compartmentalisation and successes or challenges in South Africa.

The trainers' presentations included,

i) understanding of the OIE concept of zoning, compartmentalisation and commodity risk management,

ii) Key principles of compartmentalisation and implementation tools based on OIE compartmentalisation guidelines and, the South Africa application as best practices or examples including experiences and challenges of how the requirements for a country, zone or compartment free from ASF application...

A Zoom poll was undertaken followed by a presentation by the country participants of the homework tasks and concluded the day with presentation on:

iii) overview of the SPS Agreement and obligations for Member countries.

The sanitary and phytosanitary agreement is one of the fifteen World Trade Organisations agreements that cover trade in animals and animal products. The WTO agreements spell out the principles of liberalization and permitted exceptions. The raft of agreements are often called the WTOs trade rules and the WTO is often described as rules-based system based on rules. The SPS agreement under the standards and safety category allows Member countries to set their own standards based on science and applied only to the extent necessary to protect human, animal or plant life or health. Nevertheless, the sanitary measures must not be arbitrary and inconsistent with provisions of the agreement, must be applied to the extent necessary to reasonably and effectively manage overall risk, must not be a disguised trade barrier, should not distort or divert trade, must be technically, operationally and economically feasible. The overview covered the general principles for formulation of the WTO SPS agreement that includes harmonisation, scientific risk assessment, equivalence, regionalisation, no discrimination, least trade restriction and transparency among others. Highlighted linkages of SPS agreement to OIE international standards as ascribed on the Terrestrial Animal Health Code and Terrestrial manual which contribute to a fairer rules based trading system by supporting international harmonisation.

Impressed Member countries obligations on timely WTO SPS notifications, specific trade concerns and annual reports on implementation of SPS Agreement that inform on the development and review of OIE standards for ASF control, Animal health and welfare.

Session 5 Applying the OIE Import Risk Analysis Framework to facilitate safe trade

The trainers' presentations focussed on Applying the OIE Import Risk Analysis Framework to facilitate safe trade. The presentations included,

i) an introduction to the OIE's Risk Analysis Framework,

The OIE's Risk Analysis Framework provides an invaluable tool to identify and examine the disease risks associated with international trade as well as developing conditions that allow trade to proceed safely. The framework consists of four interrelated steps:

- risk communication: an open, interactive, iterative, and transparent exchange of information on hazards and their associated risks, together with proposed mitigation measures amongst stakeholders

- hazard identification: identifies pathogens that could potentially produce adverse biological, environmental or economic consequences

- risk assessment: evaluates the likelihood of and the biological, environmental and economic consequences associated with the entry, establishment or spread of a hazard

- risk management: the process of identifying, selecting, and implementing sanitary measures to effectively mitigate against the risks posed by the hazard(s)

It is a very flexible framework that can be easily adapted to support both Terrestrial and Aquatic Animal Health Programs more broadly including disease control and eradication, surveillance, Compartmentalization, etc. Risk analysis itself is a structured way of thinking to aid decision making in the face of inevitable uncertainties by identifying, assessing and managing risks through a consideration of what can go wrong, how likely would it be to go wrong, how serious would it be if it went wrong and what can be done to reduce the likelihood and/or the seriousness of it going wrong. Right from the very start it is essential that all involved have a clear understanding of the questions(s) being posed as well as the purpose and scope of the analysis. To ensure that a reasonable level of objectivity is obtained, it is essential that all the data, information, assumptions, uncertainties, and conclusions be transparently documented, and that the analysis is subjected to peer review.

ii) identifying and describing risk pathways for the entry, exposure and consequence assessment steps using scenario (event) trees,

Prior to embarking on the risk assessment, it is important to ensure that all the appropriate risk (biological) pathways leading to a commodity harbouring a hazard when imported, susceptible animals and/or humans being exposed and potential "outbreak" scenarios are considered. To help with identifying these pathways, it can be helpful to draw a scenario tree (also known as probability or event trees). The process of developing and applying scenario trees using several examples is described.

iii) identifying, selecting and implementing sanitary measures to effectively mitigate risk.

Risk management is the fourth step in the OIE's Risk Analysis Framework. It is process of identifying, selecting, and implementing sanitary measures to effectively mitigate against the risks posed by the hazard(s) associated with the commodity under consideration. It is not acceptable to simply identify a range of measures that might reduce the risk. There must be a rational relationship between the measure(s) and the risk assessment so that the results of the risk assessment support the measure(s). The objective is to manage risks effectively and reasonably to minimise the likelihood of disease incursions, participate fairly in international trade and fulfil obligations under international trade agreements, principally the SPS Agreement. There are four steps: risk evaluation, option evaluation, implementation, and, monitoring and review. When selecting sanitary measures, it is important to ensure they are technically, operationally, and economically feasible; implemented to the extent that is reasonably necessary to protect human or animal health; and, applied consistently across a range of commodities likely to contain the same or similar hazards to avoid situations where different levels of protection arise. It is also important to avoid situations where some parts of a risk pathway are over managed

by considering each option from the perspective of the entire risk pathway, not in isolation. If the contribution of a particular option to the overall reduction in risk is insignificant or negligible, it is effectively redundant and should not be included as it could create unnecessary and unjustifiable technical and/or operational challenges as well as an unwarranted inflation in costs. In most, if not all situations, it is not necessary to apply a measure at each and every step in the risk pathway. OIE standards are the preferred choice. Where OIE standards do not exist, or where the proposed measure(s) result in a higher level of protection than that provided by an OIE standard, the measures must be supported by a risk analysis.

After the health break Session 5's homework exercises were presented for participants to prepare for the next session. The day finished with selected country participants (Kenya, Namibia) presenting their homework tasks on Compartmentalisation from the preceding week.

Session 6 Summary and closeout

Session 6. opened with finalization of a country presentation from Session 4 task 2 by the Botswana team leader. Dr Torres provided a critique and commended the team for a job well done. The rest of session 6 was used by the country teams (Botswana, Eswatini, Namibia, Tanzania and Uganda) to share their completed session 5 risk exercises presentations. Dr Murray and Prof Carpenter moderated the plenary discussions and pointed out the weaknesses and strengths of the group work outputs. They commended each team for the excellent standard of their work and their commitment in completing the exercises. At the close of the discussion the participants attempted a Mentimeter Quiz administered by Dr Murray to recap the training undertaken in Session 5. A link was shared for regional training workshop evaluation.

The closing remarks were made by Dr Roland Dlamini, OIE Delegate, Eswatini, Vice-President, GF-TADs Africa Regional Steering Coordination Committee who thanked the trainers for invaluable knowledge they imparted.

At the close of the training 23 country participants (Botswana, Ethiopia, Eswatini, Kenya, Lesotho, Mauritius, Namibia, Seychelles, Sierra Leone, Tanzania, Uganda, Zambia) qualified for issuance of certificate of training.

Annexes

Annex 1. Agenda

WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

Regional training workshop : import risk analysis for *African swine fever*

Day > Time (EAT) Date >	Tuesday 9 November	Monday 15 November	Tuesday 23 November
15:00-15:30	Zoom check-in, problem solving, housekeeping		
15:30-17:20	Session 1 : Opening ceremony Mr. Yurdi Yasmi (FAO RAF) Dr. Gregorio Torres (OIE ScD) Objectives of the workshop Introduction of participants [1] An overview of ASF in Africa • ASF status and transmission cycles within the region • Commodities traded historically and associated challenges • Future opportunities for trade (Paolo Tizzani, OIE, world-wide) (Mary-Louise Penrith, UP, Africa-wide) (Moetapele Letshwenyo, OIE, Southern Africa) (Folorunso Fasina, FAO, Western and Central Africa) (Sharon Tsigadi, Private sector perspective, Eastern Africa)	Session 2 : Introduction of participants [2] Epidemiology of ASF in Africa with an emphasis on trade related risks • Transmission cycles • Distribution and survival of ASF virus in various tissues/commodities • Diagnostic challenges associated with the use of unlicensed vaccines in Asia • Diagnostic tests to support trade (OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, etc.) (Edward Okoth, Livio Heath)	Session 3 : Introduction of participants [3] An overview of value chains associated with swine production and marketing in Africa • Demographics of the swine population • Production and marketing practices associated with free-ranging pigs through to large scale intensive piggeries • Behaviour of the people involved in all stages of swine production and marketing (Fasina Folorunso, Mary-Louise Penrith, Sharon Tsigadi)
	Break	Break	Break
17.30 – 19:00	Discussion Presentation of tasks to prepare for the next session	Discussion Presentation of tasks to prepare for the next session Presentation of tasks from last week's topics (selection)	Discussion Presentation of tasks to prepare for the next session Presentation of tasks from last week's topics (selection)

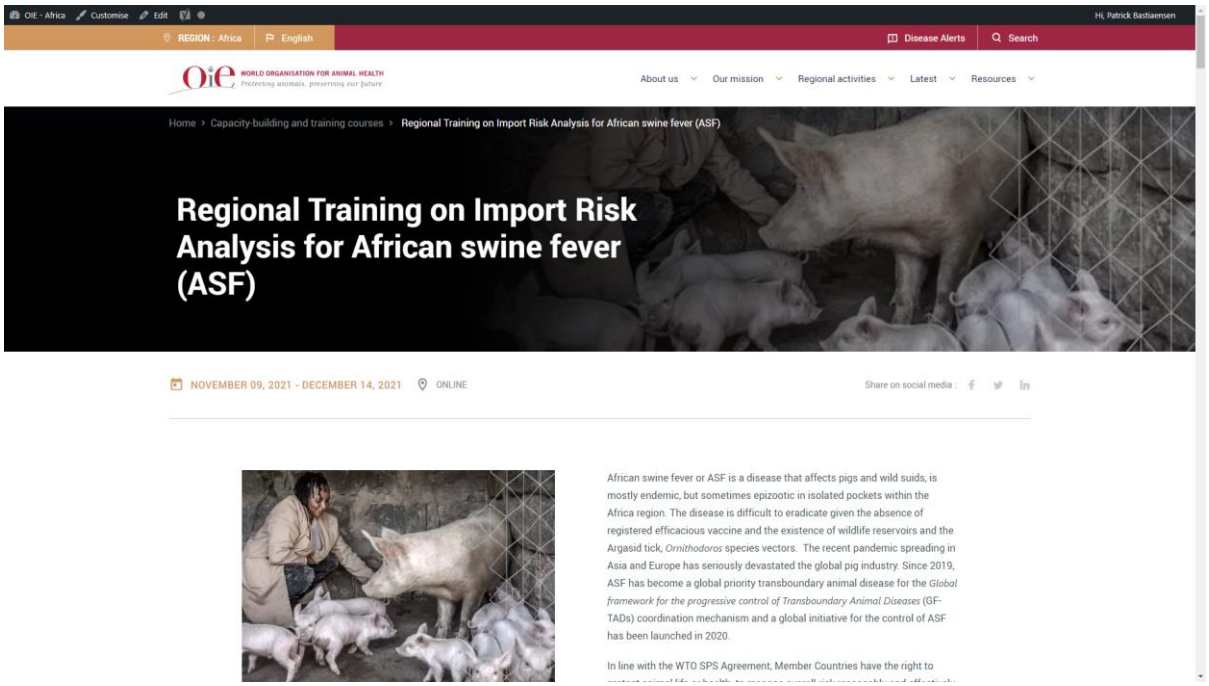
Day > Time Date >	Tuesday 30 November	Day > Time Date >	Tuesday 7 December	Tuesday 14 December
15:00-15:30	Zoom check-in, problem solving, housekeeping			
15:30-17:00	Session 4 : Participants feedback (quiz) Business continuity in the context of ASF. Zoning and compartmentalisation. • Understanding of the OIE concept of zoning, compartmentalisation and commodity risk management • An overview of the OIE requirements for a country, zone or compartment to be considered free of ASF • Example(s) including successes and challenges of how the requirements for a country, zone or compartment free from ASF have been applied in Africa (Gregorio Torres, Peter Evans, Charmaine Chng) Discussion Presentation of tasks to prepare for the next session	15:30-15:20	Session 5 (continued) : Applying the OIE Import Risk Analysis Framework to facilitate safe trade (continued) • Identifying and describing risk pathways for the entry, exposure and consequence assessment steps using scenario (event) trees • Identifying, selecting and implementing sanitary measures to effectively mitigate risk. (Tim Carpenter, Noel Murray)	Session 6 : Presentation of tasks from last week's topics (selection) Summary and closeout • Group exercises, presentations and discussion • Closing (including GF-TADs for Africa and GF-TADs Global Secretariat)
	Break		Break	
17:10-19:00	Session 5 : Applying the OIE Import Risk Analysis Framework to facilitate safe trade • An overview of the SPS Agreement and obligations for Member countries • An introduction to the OIE's Risk Analysis Framework (Thomas Dulu, Noel Murray) Discussion Presentation of tasks from last week's topics (selection)	17.30-19:00	Discussion Presentation of tasks to prepare for the next session	

Annex 2. You Tube streaming and website report

A total of 6 YouTube videos were recorded for each of the sessions which included trainer and country participants completed homework presentations and plenary discussions on the links below:

- Session 1 :: https://www.youtube.com/watch?v=zkth6X7L1jg&t
- Session 2 :: https://www.youtube.com/watch?v=mML6Di5YaZU
- Session 3 :: https://www.youtube.com/watch?v=KlbPNZAtDWY
- Session 4 :: https://www.youtube.com/watch?v=d0zMkDvjEDo
- Session 5 :: https://www.youtube.com/watch?v=JibEs9oUJ_U
- Session 6 :: https://www.youtube.com/watch?v=p1-p8Ar2wh8

Website brief : click here



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