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Technical Item I: Harmonisation and effectiveness of biosecurity measures for emerging and reemerging transboundary animal diseases.



Riga, 21-24 September 2026

World Organisation for Animal Health

Survey on Biosecurity and to assess progress in its implementation since 2018

The Regional Core Group requested to cover the following main fields:

- Availability of a **legal base for biosecurity** in veterinary legislation, for specific production systems, and establishments (farms, livestock markets, laboratories and slaughterhouses...);
- Availability of **national funds** to support implementation of biosecurity;
- **Collaboration** with producers, other stakeholders and relevant authorities (e.g. farmers, hunters, public health, environmental protection) in implementation of biosecurity;
- **Monitoring** of implementation, or assessment of current practices;
- **Enforcement** of implementation of the biosecurity plans and state of play of veterinary inspection activities in different production systems;
- **New technologies** (apps etc.) and what the barriers are for industry or the Veterinary Services in improving biosecurity;
- **Methods** for **communicating** the need for effective biosecurity.

THE SURVEY WAS CONDUCTED ELECRONICALLY IN JULY 2026

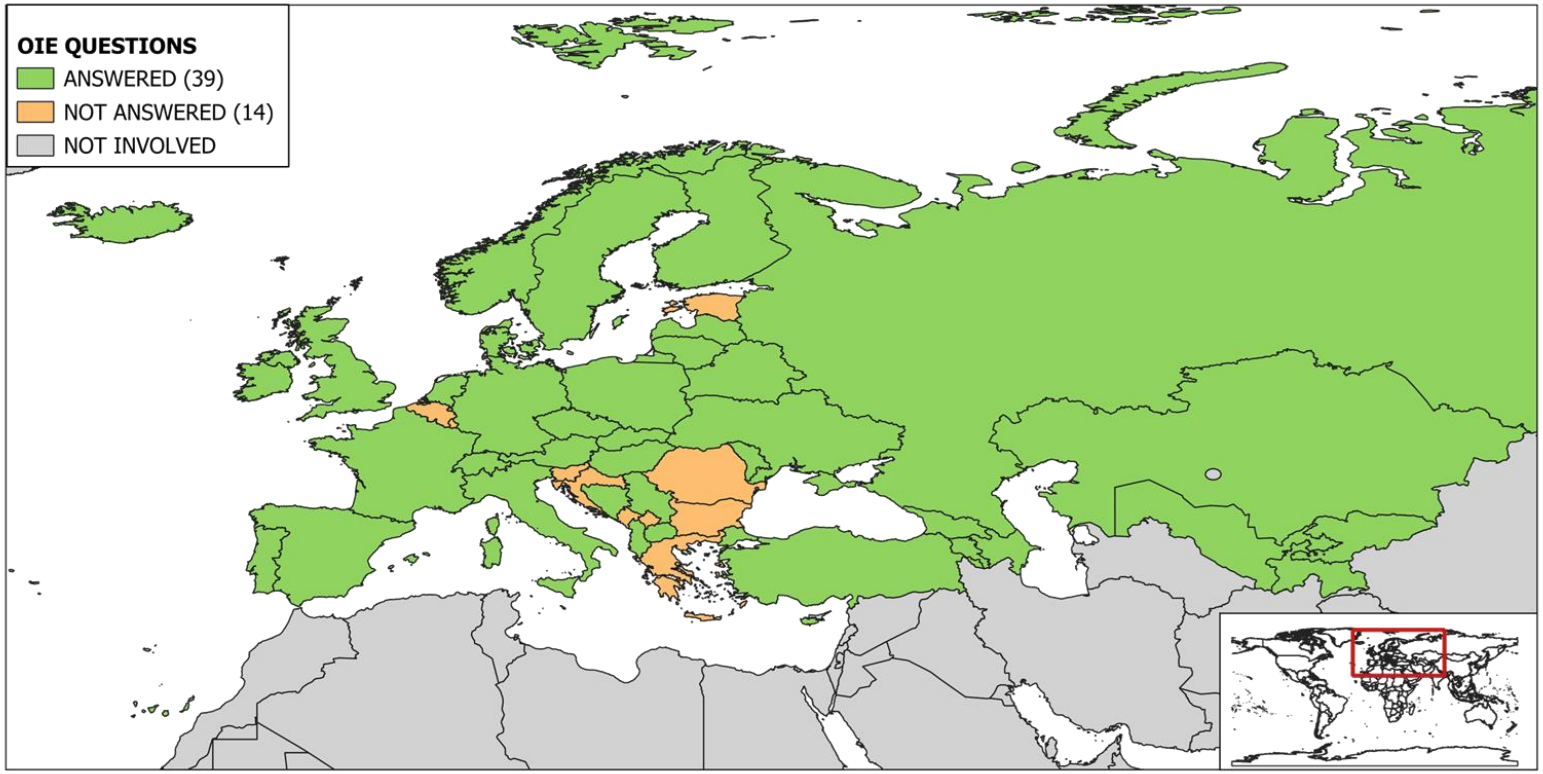
The QUESTIONNAIRE

BACKGROUND

- The survey was conceived as a questionnaire containing binary, multi choice responses, and descriptive answers.
- The survey was conducted in **July 2026**
- Data Analysis and reporting carried out in **August 2026**
- The comparison to verify the progress was conducted only for Members that responded to both the 2018 and 2026 questionnaires (Annex I).
- The findings and preliminary recommendations are presented in Riga, Latvia, in September 2026, for further discussion. The results may be useful for other Members.



Members participating in the survey on the application of biosecurity:



Overall responses received:
2018: 39/53 (73.6%)
2026: 39/53 (73.6%)

Responses included in quantitative analysis:

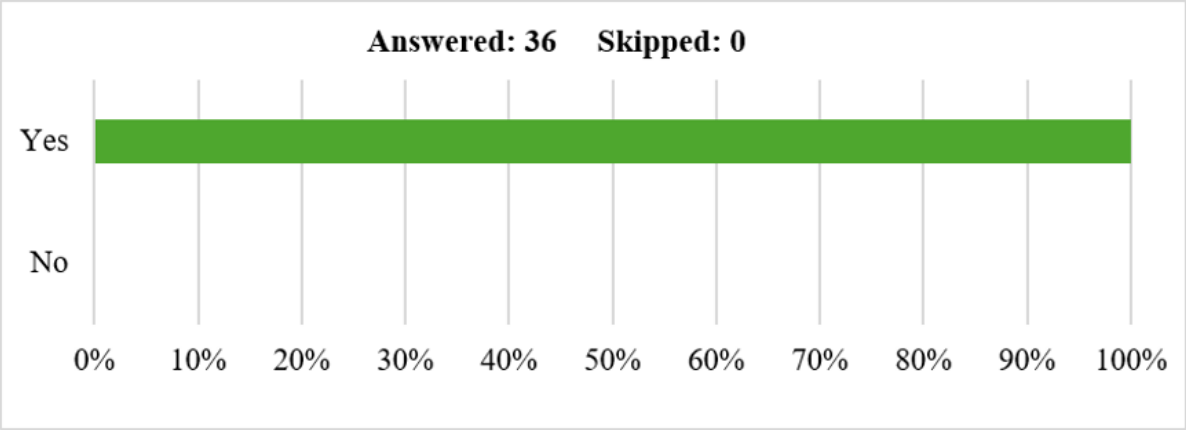
36/53 (67.9%)

Members participating:

Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Cyprus, Czech Republic, Denmark, Finland, France Georgia, Germany, Hungary, Iceland, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Netherlands, North Macedonia, Norway, Poland, Portugal, Republic of Türkiye, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, Tajikistan, Ukraine, United Kingdom, and Uzbekistan.

Q4. Does your country have a legal base for the implementation of biosecurity in veterinary legislation?

Figure 2. Members having a legal base for the implementation of biosecurity in veterinary legislation

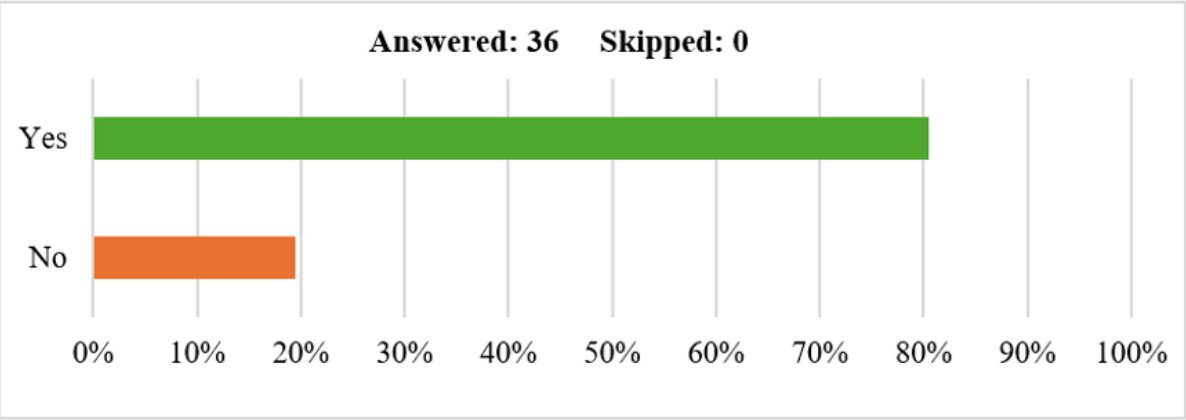


Answer choice	Response %	Response nr.
Yes	100%	36
No	0%	0
Total respondents		**36**

100% of respondents reported a legal basis for biosecurity

Q5. Does your country have biosecurity plans that are enforced?

Figure 3. Members with enforced biosecurity plans



Answer choice	Response %	Response nr.
Yes	80.56%	29
No	19.44%	7
Total respondents		**36**

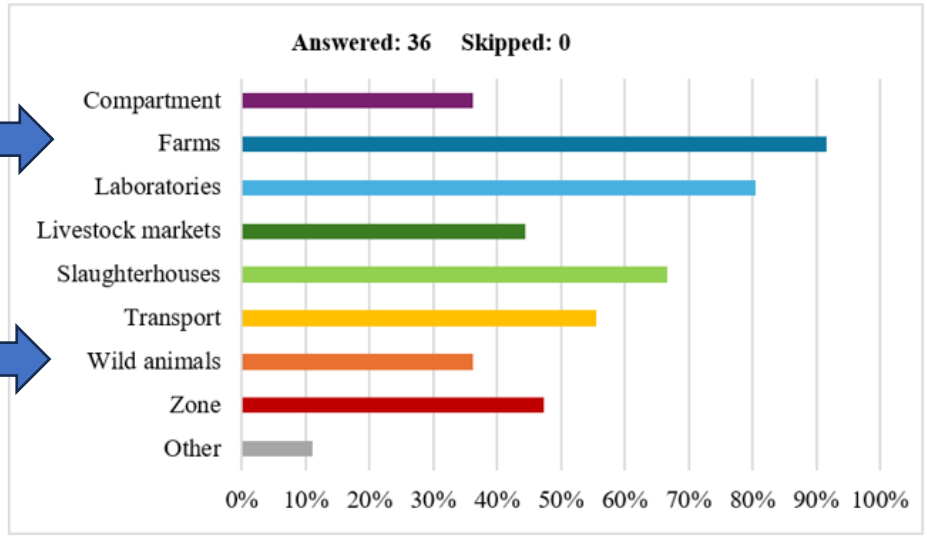
80.6%
29 / 36 countries
reported enforced biosecurity plans

Data consistency issue

7 countries reported no enforced plan
in Q5 but answered "Yes" to Q6

Q6. Please indicate to which of the following those biosecurity plans apply by ticking the appropriate box or boxes.

Figure 4. Areas in which Members have implemented biosecurity plans



Answer choice	Response %	Response nr.
Compartment	36.11%	13
Farms	91.67%	33
Laboratories	80.56%	29
Livestock markets	44.44%	16
Slaughterhouses	66.67%	24
Transport	55.56%	20
Wild animals	36.11%	13
Zone	47.22%	17
Other	11.11%	4
Total respondents: 36		

Main implementation areas:

Farms and **laboratories** (as in 2018)

Followed by:

Slaughterhouses, transport, zones, livestock markets, wild animals and others.

Cross-sector implementation

16.67% of respondents enforce biosecurity in all the considered relevant areas

Q7. If you ticked “farms” in the Q6, please indicate the animal species targeted, including aquatic animals.

Response rate

88.87% (32/36)

Most frequently reported production systems



Swine poultry and bovine.

In some instances, it was specified that biosecurity plans are only for farms where animals are kept for commercial purposes.

Other terrestrial species



Sheep, goats, horses, donkeys, camels, bees, fur animals, rabbits, farmed game, kept deer. Some respondents have also mentioned wildlife and wild boars..

Aquaculture



Trout and salmon and more in general, aquaculture animals.

Q8. If you ticked "wild animals" in Q6, please briefly describe the biosecurity plan(s) of your country applied to wild animals.

The 13 respondents who reported wild animals in Q6 answered Q8

Diseases reported

ASF, TB, AI and Rabies were reported as **example of biosecurity plans** for wild animal.

Measures to mitigate the risk of spreading

C&D, fencing and netting for the confinement of domestic animals, collection of sick and dead wild animals, management of AbPs, management of hunting activity to avoid transmission to domestic animals, protection of watering.

Biosecurity for hunters

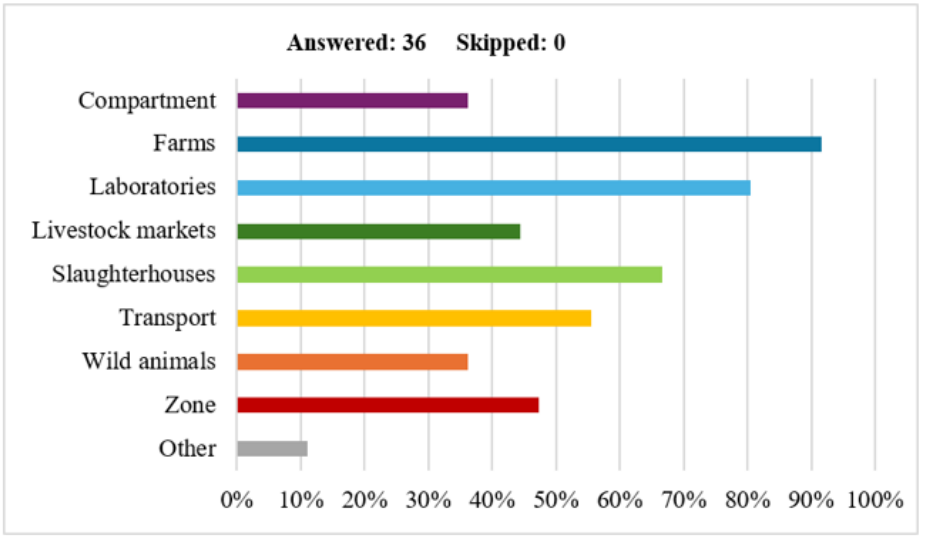
In case of ASF in wild boar: biosecurity requirements for hunters, during hunting, during sampling and in the management of the affected area to avoid further spread of the virus.

Others control tools

Vaccination, surveillance and culling of wild animals for early detection or to prevent disease spreading, regionalization.

Awareness campaigns

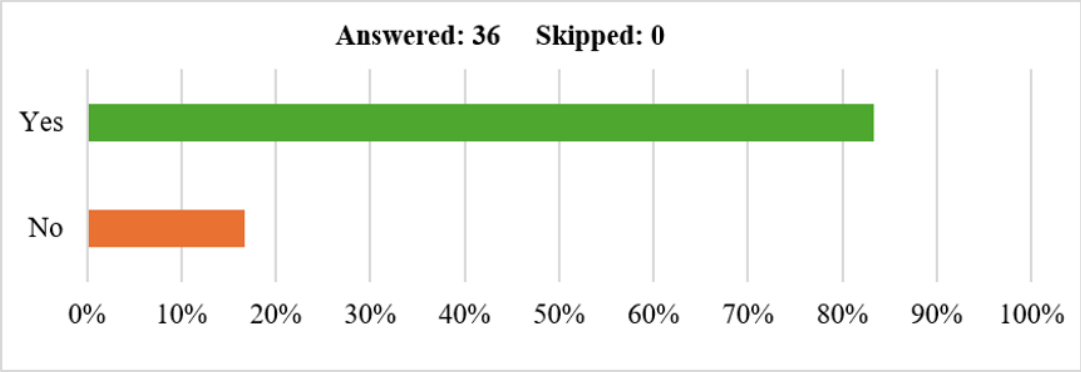
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Other	11.11%	4
Total respondents: 36		

Q9. Are procedures in place to monitor, assess and/or evaluate the implementation of biosecurity measures?

Figure 5. Members having procedures in place to evaluate the implementation of biosecurity



Answer choice	Response %	Response nr.
Yes	83.33%	30
No	16.67%	6
Total respondents		**36**

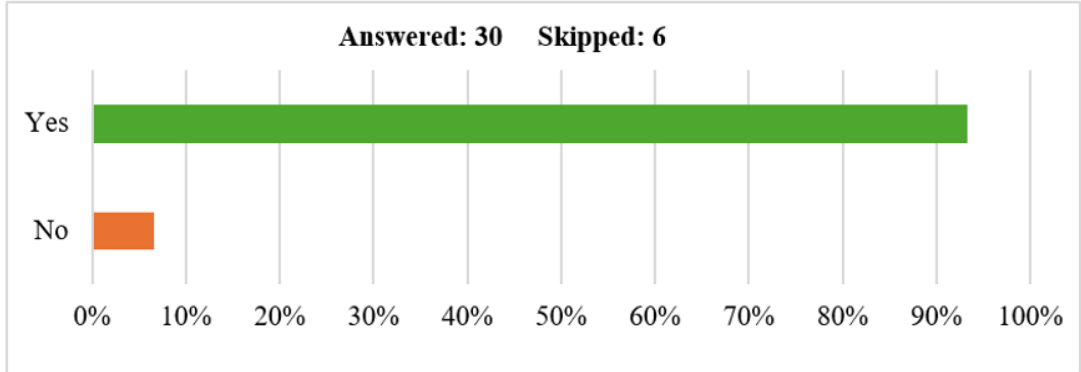
Response rate

100%

6 respondents → **NO procedure** to monitor, assess and/or evaluate the implementation of biosecurity measures

Q10. If the reply to Q9 is yes, are the Veterinary Services involved in inspecting the implementation of biosecurity plans?

Figure 6. Members with Veterinary Services involved in inspecting the implementation of biosecurity



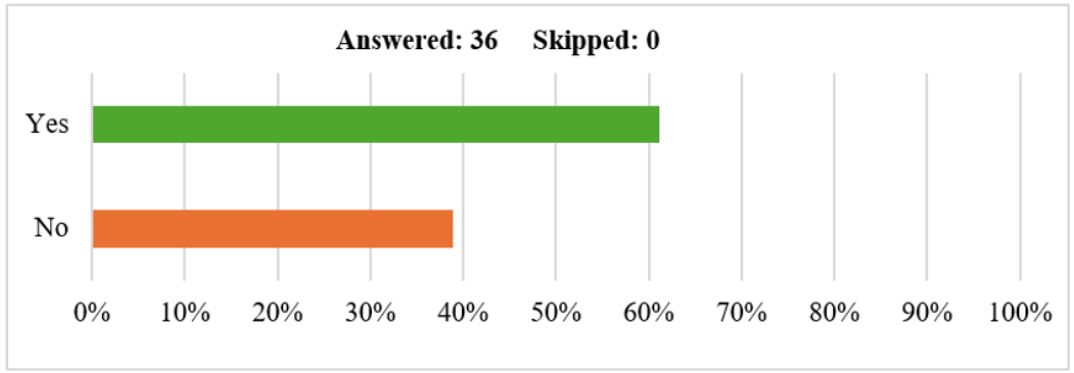
Answer choice	Response %	Response nr.
Yes	93.33%	28
No	6.67%	2
Total respondents		**30**

Response rate

83.33% (30/36)

93.33% → **Veterinary Services involved** in inspecting the implementation of biosecurity

Q11. Does your country have national funds to support the implementation of biosecurity measures or good farming practice (GFP) in different production sectors?



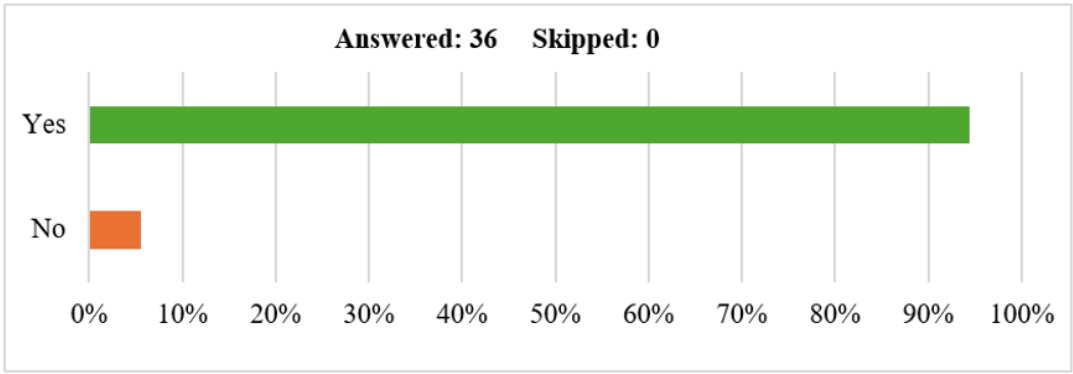
Answer choice	Response %	Response nr.
Yes	61.11%	22
No	38.89%	14
Total respondents		**36**

Response rate

100%

61% of respondents → national funds to support the implementation of biosecurity measures

Q12. In your country, have the Veterinary Services and, where appropriate, Aquatic Animal Health Services, established collaboration with producers, stakeholders and relevant authorities to implement or improve biosecurity?



Answer choice	Response %	Response nr.
Yes	94.44%	34
No	5.56%	2
Total respondents		**36**

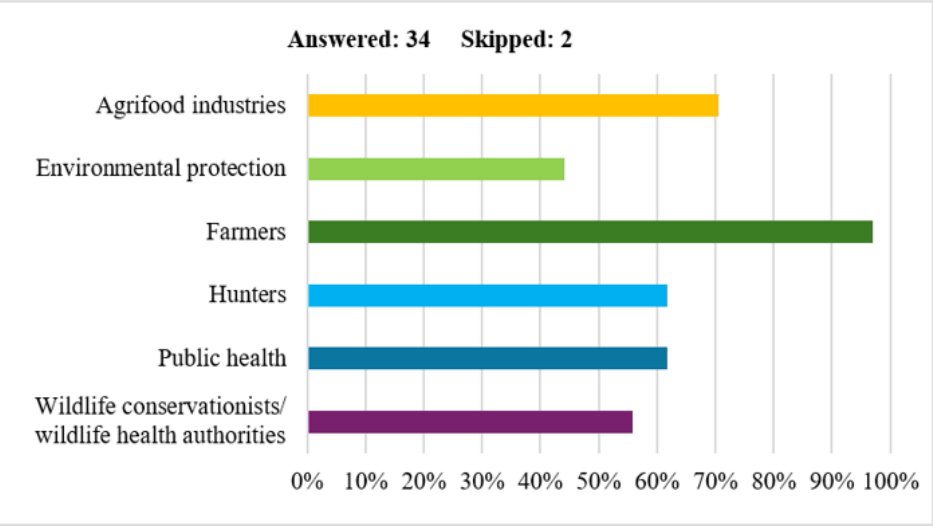
Response rate

100%

2 Members (5.56%) → no collaboration

Q13. If the reply to Q12 is yes, please indicate with whom collaboration has been established. Please, select the appropriate box or boxes.

Figure 9. Authorities and stakeholders with whom collaboration have been established for the implementation of biosecurity



Answer choice	Response %	Response nr.
Agrifood industries	70.59%	24
Environmental protection	44.12%	15
Farmers	97.06%	33
Hunters	61.76%	21
Public health	61.76%	21
Wildlife conservationists/wildlife health authorities	55.88%	19
Total respondents: 34		

Response rate

94.44% (34/36)

Collaboration was most frequently established with **farmers** (97.1%), **agrifood industries** (70,59%), **hunters** and **Public Health Authorities** (61,76%).

Cross-sector collaboration

29.4% of respondents reported collaboration with all stakeholder categories.

Q14. In your country, which of the following adversely affects the ability of industry and the Veterinary Services to apply biosecurity? Please select the appropriate box or boxes.

Context

The replies to this question most likely relate to the context of commercial holdings.

Understanding of biosecurity

From previous research, it appears that in most rural sectors, personnel generally have a poor understanding of biosecurity

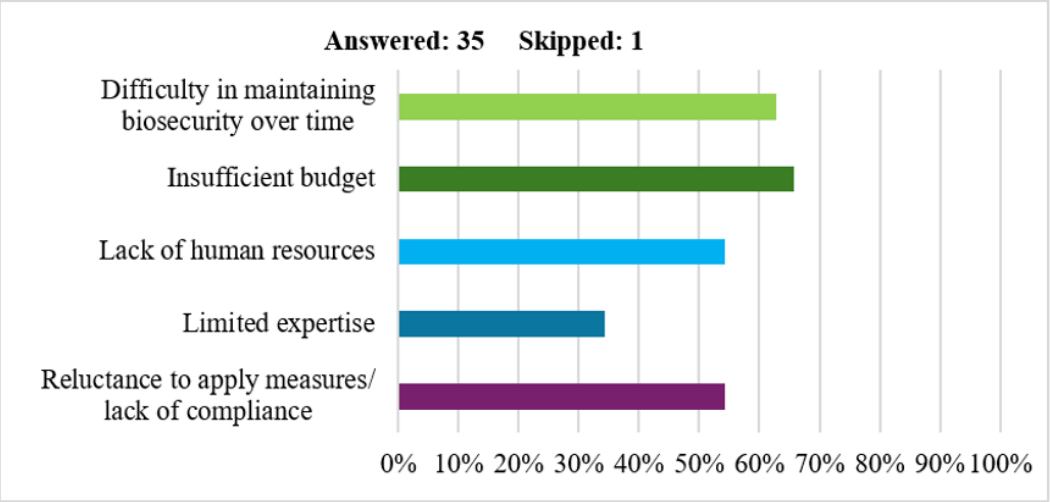
Human-induced risk factors

Furthermore, in the backyard sector the main risk factors are human induced, such as:

- illegal movements of infected pork meat
- swill feeding
- suspected cases of underreporting
- “emergency sales”

Whereas in commercial farms the main RF is related to maintaining over time Biosecurity

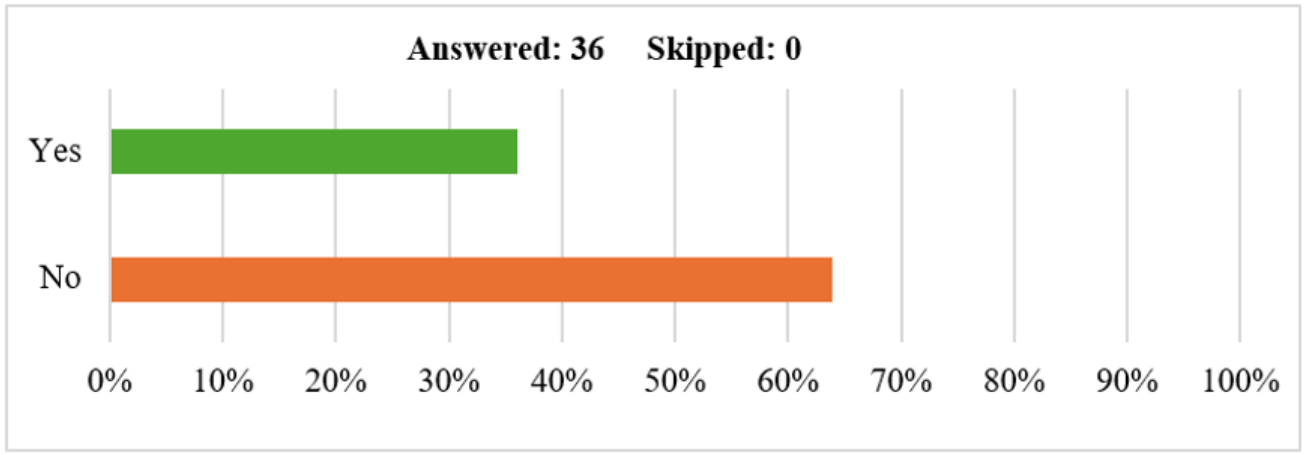
Figure 10. Factors adversely affecting the implementation of biosecurity



Answer choice	Response %	Response nr.
Difficulty in maintaining biosecurity over time	62.86%	22
Insufficient budget	65.71%	23
Lack of human resources	54.29%	19
Limited expertise	34.29%	12
Reluctance to apply measures/lack of compliance	54.29%	19
Total respondents: 35		

Q15. Would your country have an example of best practice in biosecurity to share?

Figure 11. Members having examples of best practice on biosecurity to share



Answer choice	Response %	Response nr.
Yes	36.11%	13
No	63.89%	23
Total respondents		**36**

Response rate

100%

13 countries (**36.11%**) had an **example of best practice in biosecurity** to share

Example of best practice: strategic biosecurity plan for pig farms

The plan has three main objectives:

- to assess the overall level of biosecurity on pig farms;
- to raise awareness of the importance of implementing appropriate biosecurity measures;
- to specifically identify the risk of introduction and spread of Aujeszky's disease in pig farms.

Q15. Would your country have an example of best practice in biosecurity to share? Example reported

- National plan to improve pig farm biosecurity.
- It was first rolled out in 2015 and 2016 and was implemented in phases, with specific biannual targets.
- Vet Auth assess biosecurity using a specific questionnaire, which take into consideration the biosecurity measures implemented on the farm such as: minimum distance from other farms, perimeter isolation (fencing), access for external vehicles, C&D, procedures to access to changing rooms, feed handling, water supply, carcass management, slurry management, staff training, the registration of visitors and vehicles, risks associated with the entry of animals, animal health surveillance and veterinary control, disinfection, insect control and rodent control programme.
- Each farm receives a score from very high to very low and according to the score further actions follow, including corrective measures and limitation for certain activities
- The same respondent reported that a specific awareness campaign had been implemented, targeting small-scale farms.
- One country reported the adoption of a single national legislative framework to prevent and control diseases in both humans and animals

Q16. Concise description of the legal base in veterinary legislation for implementation of a biosecurity programme (BP) in production and trade of animals

The respondents reported on the existence of **national legislation** that establishes biosecurity requirements for farm animals in the food production chain, establishments and animal transport

The legal act **may** include **sanctions in case of non-compliance**

Most countries reported that biosecurity is only foreseen for holdings of a certain size (commercial holdings)

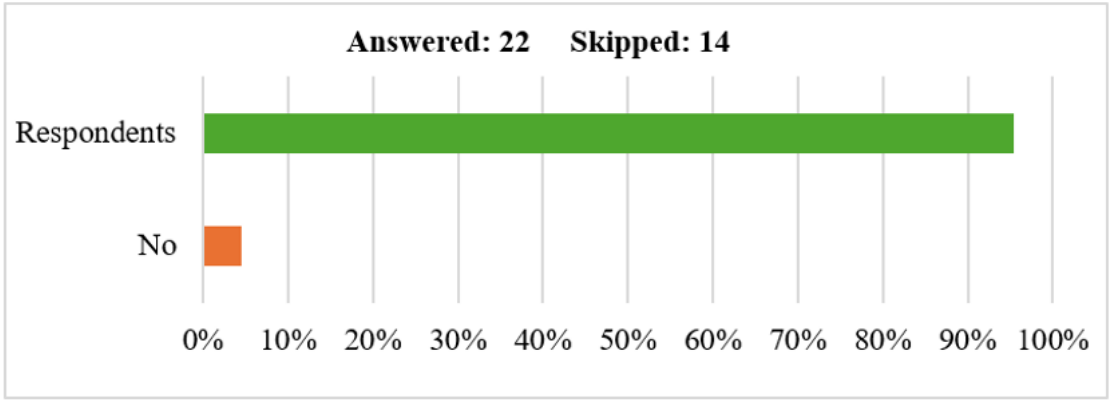
Risk assessment was mentioned as a means to establish the level of risk of holdings, with **mitigation measures** applied based on the outcome of the assessment

Poultry, **pigs**, and **ruminants** are the production animals for which biosecurity measures are most frequently applied

It was also reported that the **Veterinary Authority** establishes the general framework for biosecurity

Veterinary Services may or may not be involved in **funding** the contents of biosecurity programmes

Figure 12. Description of the legal base in veterinary legislation



Answer choice	Response %	Response nr.
Respondents	95.45%	21
No	4.55%	1
Total respondents		**22**

Based on the requirements of Article 3.1.2. of the *Code*, the Veterinary Services should develop and document appropriate procedures and standards "**for prevention, control and notification**" of diseases

Q17. Explanation of a production system where a BP is implemented, with a brief description.

Response rate 50% (18/36)

BP are developed according to holding size, production type, disease and identified risks **(√)**

Pigs were the production system most frequently covered by biosecurity programs and examples provided. Poultry, ruminants and aquaculture systems were also reported. Disease-specific measures were also mentioned (TB

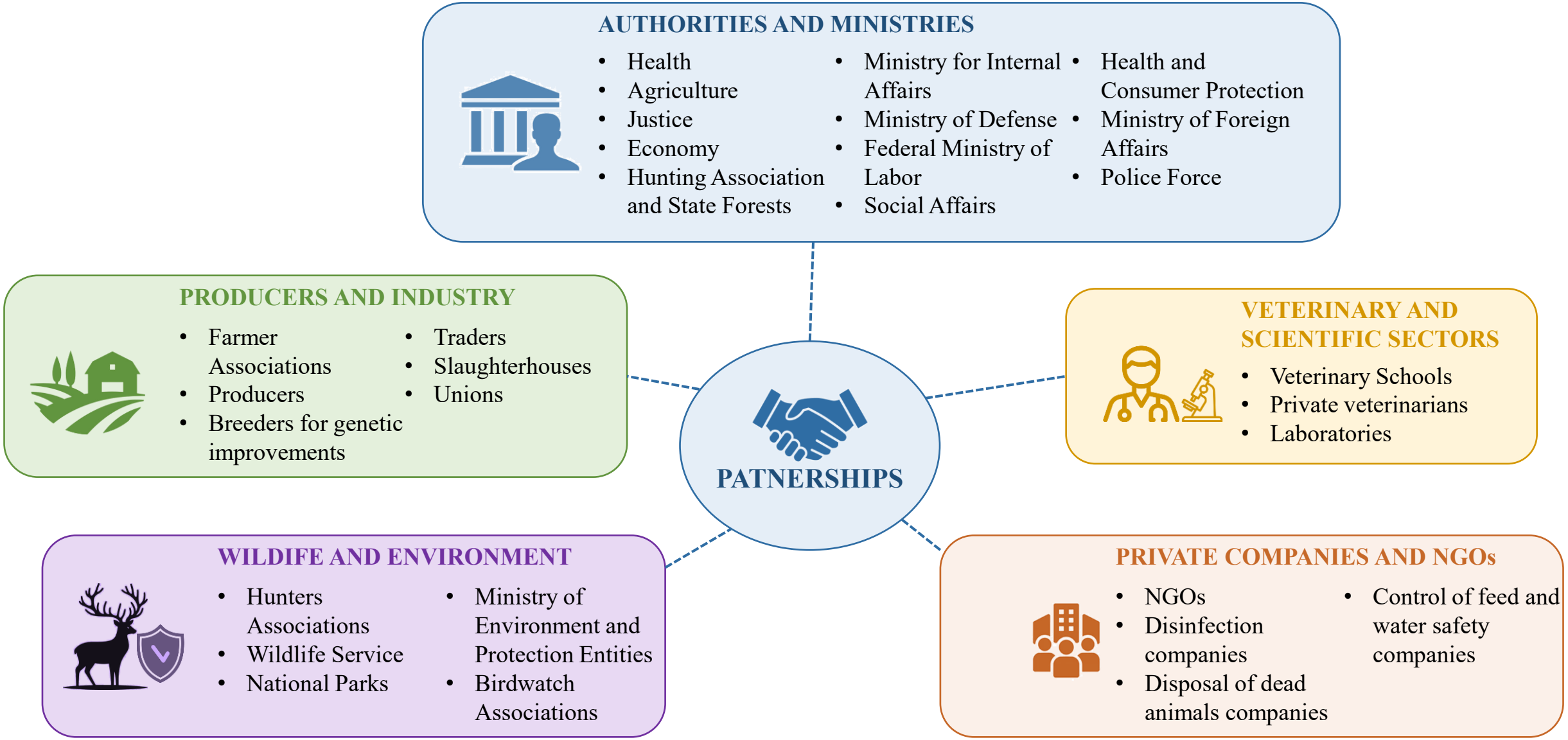
Preventive measures implemented in pig establishments were provided, including:

- Monitoring animal health status (evidence of diseases, production parameters), visits of veterinarians.
- Management practices to prevent the spread of pathogens (registration of pig movements, registration of movements of means of transport, personnel and external people).
- Structural requirements, including quarantine areas, storage facilities for dead animals, entrance and exit zones, changing areas and fencing. According to the reported rules, free-range farming is allowed only where double fencing is in place. EXTERNAL BIOSECURITY
- C&D procedures.

CONSIDERATIONS

- **Biosecurity can be used as a tool for improving the health status, productivity** or for **disease control purposes** (during emergencies) and in this case measures should be defined for establishments keeping susceptible species and located in affected or at-risk areas. Therefore, **minimum biosecurity requirements** should be established, for commercial holdings and, where relevant, backyard farms.
- The role of **swill feeding** in disease transmission should be considered and, when relevant, mitigated through appropriate preventive measures.

Q18. Possible partnership between different stakeholders in implementation of a BP



Q19. Evaluation of current level of implementation of a BP.

Response rate 50% (18/36)

- The level of biosecurity implementation is considered good in the pig and poultry sectors, while further improvement is still needed in cattle. Reference is made to commercial farms
- Inspections are carried out either on a risk basis or according to predefined percentage-based criteria, in some countries by Vet Services.
- Inspection in hunting grounds was mentioned in only one case.
- One respondent reported that the assessment mainly focuses on external biosecurity, which is also regarded as the component with the highest level of implementation.

A biosecurity plan supports the systematic implementation of biosecurity measures and should incorporate the ***necessary provisions for its maintenance and continuous improvement***. ***Accordingly, the assessment of its implementation constitutes an integral component of the plan.***

Biosecurity at farm level



EXTERNAL BIOSECURITY

- Isolation (barriers, fences, gate, signs..)
- Quarantine
- Area for the disinfection of vehicles (Equipment, disinfectants)
- Loading/Unloading area
- Movements management (animals, vehicles, waste, carcasses, feed)
- C&D: people, vehicles, equipment
- Recording of the movements: animals, people, vehicles
- **Buying-in Policy**
- Partnership
- Training

INTERNAL BIOSECURITY

- Isolation of animals
- Grouping of animals: age, health status..
- **Removal of dead animals**
- Mannure
- Vaccination (I/E)
- Feeding
- Pocedures for internal control: feed, water..
- Recording: animal testings, diseases, treatments, productions..
- C&D
- Rodents control
- Training

Buying-in Policy

- Careful evaluation of the health status of the supplier(s)
- Low number of supplier(s)
- Transport management
- C&D loading/unloading area
- Quarantine



Q20. Additional activities and benefits arising from the implementation of Biosecurity

- Early detection and disease prevention were reported as the main benefits of biosecurity implementation.
- Biosecurity plans important for strengthening **trust and collaboration among stakeholders and** Veterinary Authorities.
- **Classification and certification schemes** can support animal health improvement and access to national subsidies.
- Additional reported benefits included market access, participation in food assurance schemes and compensation mechanisms linked to biosecurity compliance.

CONSIDERATIONS ON STRATEGIC BENEFITS OF BIOSECURITY

- **During epidemics**, complying with **specific biosecurity requirements** may allow **trade continuity** and sending animals to slaughterhouses despite movement restrictions (restriction zones, movement of at-risk commodities from these areas is prohibited).
- Biosecurity requirements are generally **not disease-specific** and are effective against multiple pathogens. Therefore, its application can improve the health status of the farm (and productions)
- Biosecurity contributes to **reduced use of veterinary medicinal** products, **lower disease-control losses** (reduced culling, lower economic losses) and **improved sustainability** of animal production.
- Additional benefits include improved **animal welfare**, protection of livelihoods, stronger **food security** and enhanced **food safety**.

Q21. Publicity activities, awareness raising of training programmes implemented as part of BP…

- Several activities have been conducted to raise awareness on biosecurity, including t**raining for farmers, veterinarians and hunters**. Additionally, to promote the application of correct biosecurity measures**, leaflets, guidelines, brochures and posters** have been used.
- Other awareness activities, such as **seminars, workshops, courses, meetings, publications** in specialised magazines or on **Web pages** (INTERPORC, ANPROGAPOR and MAPA, etc.), were used as an additional means to convey messages.
- Manual, videos, webinars, check lists (also for self assessment)

Q22. Evaluation of implementation of a BP by the Competent Authorities (e.g. veterinary inspection services).

Response rate 50% (18/36)

- Most of the respondents reported that Vet Services carry out official controls on farm biosecurity. Some Members reported the use of checklists to assess compliance.
- Non-compliance is followed up with appropriate enforcement measures.
- Biosecurity inspections may also be carried out in animal markets, quarantine facilities and slaughterhouses.
- One country reported that inspections are carried out by field veterinarians, who submit the inspection results to the central Veterinary Authorities for their evaluation.
- One responded reported that the County Administrative Boards are responsible for the official control of Veterinarians Hygiene Plan. Each year, a risk-base selection of veterinary practices is inspected, if deficiencies are identified, corrective actions are taken.

Key findings

1. **Governance & Legislation**
   - **Biosecurity is supported by** veterinary **legislation** in all responding countries; 81% reported enforced biosecurity plans and 61% national funding. Overall, results suggest a slight improvement compared with 2018.
   - Responsibility for biosecurity implementation varies between **Veterinary Authorities** and **stakeholders**.
2. **Assessment & Control**
   - **Biosecurity assessment** procedures are established in most countries, and Veterinary Services are involved in inspections in 93% of responding countries, with no major changes compared with 2018.
3. **Production sectors**
   - Biosecurity plans mainly target commercial **poultry**, **pig** and **cattle** farms. Biosecurity plans for **aquatic animals** were reported, although practical examples were not provided.

   At least market-associated holdings should be included in biosecurity programs (animal movement risks).
4. **Priority diseases**
   - **HPAI**, **ASF** and **tuberculosis** were the most frequently reported examples of biosecurity plans.
5. **Wildlife & Animal Movements**
   - **Preventive measures** to reduce disease transmission from wild to domestic animals were reported, alongside vaccination, surveillance, zoning and culling activities aimed at early detection and prevent diseases spreading.
   - **Hunting**-related biosecurity was considered important, including the removal and safe disposal of animal remains.

   Food waste was not identified as a potential risk factor for disease transmission.
6. **Stakeholders & Cooperation**
   - **Farmers and hunters** remain the main stakeholders involved in biosecurity implementation, with some respondents highlighting the relevance of the **private sector**.
   - Biosecurity plans were recognised as a tool to strengthen **cooperation** and trust **among stakeholders** (farmers, private veterinarians, Veterinary Authorities, etc.).
7. **Innovation, Awareness & Training**
   - **Digital tools** and **decision-support systems** are increasingly used to support biosecurity and surveillance.
   - **Awareness campaigns** and **training** were consistently identified as key enablers of biosecurity implementation.

Recommendations

THE REGIONAL COMMISSION FOR EUROPE RECOMMENDS THAT:

1. **Members strengthen the effective and sustainable implementation of biosecurity measures**, in accordance with relevant WOAH international standards, including Chapter 4.20 of the Terrestrial Animal Health Code, through appropriate governance, adequate capacities and sustainable arrangements for human, technical and financial resources required for implementation, and clearly defined roles and responsibilities of Veterinary Services and relevant public and private stakeholders;

2. **Members promote risk-based biosecurity plans** and measures that address the epidemiologically relevant parts of animal production and value chains and the main pathways for disease introduction and spread, taking into account, as appropriate, commercial and non commercial holdings, animal movements and transport, markets and slaughterhouses, and interfaces between domestic animals and wildlife;

3. **Members strengthen the engagement and shared responsibility** of animal keepers, farmers, private veterinarians and other relevant stakeholders in the implementation of biosecurity measures, including through targeted awareness and training based on identified needs and through appropriate public-private collaboration;

4. **Members regularly assess the implementation and effectiveness** of biosecurity measures and use the results to identify gaps, target corrective actions and continuously improve biosecurity plans and programmes, making appropriate use of digital tools and other monitoring approaches where relevant;

5. **WOAH support Members** in the implementation of relevant international standards on biosecurity, including the newly adopted Chapter 4.20 of the Terrestrial Animal Health Code, through appropriate guidance, capacity building activities and the dissemination of relevant technical resources;

6. **WOAH**, through its Regional and Sub-Regional Representations and relevant regional mechanisms, **facilitate the exchange of experiences and good practices** among Members on the implementation of this recommendation, including, common challenges and areas where further WOAH support may be required.

Acknowledgements:

The authors wish to express their gratitude to the respondent Members and to WOAH for facilitating this work and for its valuable contribution to the development of the questionnaire and the implementation of the survey among WOAH Delegates.

Address

Website

Thank you very much for your attention!

World Organisation for Animal Health