

Biorisk management in civil aviation

Biological risk management in transport — analysis of ways and development of strategies to minimize the likelihood of biorisks. Biorisk management assigns responsibility for the creation and implementation of the necessary procedures for reducing (minimizing) biorisk at facilities to their managers.

Biosecurity, as defined by FAO, offers a strategic and integrated approach to analyze and manage risks. It provides a policy and regulatory framework to improve coordination and take advantage of the synergies that exist across sectors, helping to enhance and facilitate trade. Spreading of SARS Cov-19 and pandemic restriction that are closely connected to biosecurity possess.

Definitions of hazard as applicable to different biosecurity sectors:

Food safety: A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.

Zoonoses: A biological agent that can be transmitted naturally between wild or domestic animals and humans.

Animal health: Any pathogenic agent that could produce adverse consequences on the importation of a commodity.

Plant health: Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products.

Plant health quarantine: A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled [3].

There are already 3212 laboratories of microbiological profile in Ukraine, which constantly work with biological agents of II–IV groups of pathogenicity. Due to its geographical location, Ukraine is considered as transit state as it was and remains a bridge between Europe and Asia, between the North and the South. On the other hand, such conditions create the higher demands for biosecurity maintenance as high passengers' traffic may induce the risk of bioterrorism-increased frequency [1].

Map of the threat and risk assessment process includes:

STAGE I. Threat identification:

1. Threat identification based on available information and actual incidents.
2. Determining the nature of the threat.

STAGE II. Risk identification:

3. Assessment of the likelihood of threat.
4. Assessment of possible consequences.
5. Analysis of measures.
6. Vulnerability assessment.

7. Remaining risk assessment and analysis.

According to Doc 10144. ICAO [2], special attention should be paid to the following aspects:

- Assessment and prioritization of risks based on data collection and analysis;
- Application of safety management principles in risk-based decision making;
- Process management and monitoring of civil aviation authority approvals, taking into account the flexibility that needs to be exercised within the aviation system to continue safe operations.

Biological risk management includes: preliminary risk management activities, identification and selection of risk management options, implementation of control measures, monitoring and review.

1. *Baranovskyy M.M., Ukrainska A.O.* Current state and approaches to biosecurity and bioterrorism prevention in aviation industry // AVIA-2021. — Kyiv: NAU, 2021. — P.17. <http://conference.nau.edu.ua/index.php/AVIA/AVIA2021/paper/view/8203/6857>
2. Doc 10144. ICAO Handbook for CAAs on the Management of Aviation Safety Risks related to COVID-19
3. https://www.who.int/foodsafety/fs_management/No_01_Biosecurity_Mar10_en.pdf?ua=1