The Veterinary Epidemiology and Risk Analysis Unit (VERAU)

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Rationale

• The increasing globalization of trade in animals and animal products increases the chances of the spread of diseases.

• In response to this prospect of trade deregulation there is now an imperative need to establish mechanisms which can be used to speed up international trade, but at the same time protect the animal health situation of the countries involved.
• A wider recognition of the high level of complexity of food safety issues and increasing demands from consumers for maximum protection,

• The need for epidemiology of food-borne pathogens.

• To overcome with these challenges, protection of food from contamination, spoilage, and alteration is no longer limited to domestic issues;

• Regulatory authorities must respond to increasing demands for a safer international trade.
The **International Animal Health Code (IAHC)** of the OIE

- The principal aim of import risk analysis is to provide the importing country with an objective and defensible method of assessing the risk associated with the import of animals, animal products, animal genetic material, feedstuffs, biological products, and pathological substances.

- This analysis should be transparent, with a clear and documented decision on the conditions imposed for **acceptance or refusal** of importation.

- Import risk analysis provides a more objective decision tool, and enables Veterinary Administrations to consider different approaches (based on the conclusion) concerning potential risks.
Epidemiology as the basic science of public health

• It is simply defined as the study of how a disease spreads across a population. It encompasses investigation, analyzing and prevention or control of a disease across a population.

• Veterinary Epidemiology capacity will have the responsibility to manage the Animal Health Information System, back up policy and strategy development as well as to assess and manage disease risk.

• It is also responsible for collection, collation and analysis of data, generation and dissemination of epidemiological information for early warning and for fulfilling the country’s reporting obligation to International and Regional communities.
The Veterinary Epidemiology and Risk Analysis Unit should be the national resource Centre for decision making on issues relevant to disease control and import/trade regulations.

The unit should be set to cover a wide range of international, national and local animal health matters, including:

- Reporting on animal health activities.
- Maintenance of a database on animal diseases.
- Maintenance of a National Livestock Identification and computerized traceability System integrated with an AHIS.
Major activities under the VERAU include the following

(Duties and responsibilities)

- Maintain national animal disease database.
- Advice concerned authorities, planners and policy makers for appropriate action.
- Act as a national focal point for National Animal Health Information Management System (NAHIMS).
- Provide technical guidance to implement contingency/emergency preparedness plan in order to control Trans boundary Animal Diseases (TADs) in the country.
- Assist in the development of animal health programs.
Duties and responsibilities

- Publish epidemiological bulletins (quarterly and annually) for information dissemination and transfer of updated knowledge on specific diseases.
- Develop (facilitation of) a simple and effective system for information exchange between various organizations involved in animal health related activities at national / regional and international levels.
- Provide official epidemiological information on animal diseases and zoonosis to OIE/FAO/WHO on monthly, quarterly and/or annual basis.
- Carry out import risk analysis requests
Advantages of establishing an epidemiology unit

- A functional reporting system can be developed for livestock, poultry, bee and fish diseases.
- Developing data compilation program.
- Performing electronic transfer of monthly epidemiological report.
- Developing Animal Quarantine Management Information System according to **OIE** requirements.
- Dynamic website management system using latest technology.
- Introduction of GPS and other tools for better epidemiological surveillance of animal diseases.
Basic structure of an epidemiology unit
Examples of Duties and Responsibilities of Staff
1- Duties and Responsibilities of the GIS officer

- The Geographic Information System (GIS) Expert shall operate under the overall supervision of the Chief Veterinary Officer (CVO).

- The officer will be under the direct technical supervision of the coordinator of the unit. In particular, he/she will:
Duties and Responsibilities of the GIS officer

- Identify the appropriate animal population, marketing chain and disease data sets for epidemiological analysis and incorporation into GIS mapping outputs (for example animal population data, market location data etc);

- In close cooperation with the epidemiologists, prepare risk maps based on likely points of introduction of Animal Diseases (TADs) and other Emerging Infectious Diseases (EID);

- Work with the international consultants to integrate GIS mapping into the reporting system for animal diseases;
Duties and Responsibilities of the GIS officer

- Conduct trainings in GIS for Government staff and the staff of the epidemiology unit;

- Prepare a periodical mission report after each task articulating achievements, recommendations and explaining all draft legislation prepared;

- Perform other related duties and activities upon instructions from the coordinator of the unit and the CVO.
2- Veterinary Epidemiologist

• Veterinary Epidemiologist shall operate under the overall guidance and responsibility of the Chief Veterinary Officer (and the coordinator of the unit), to help establish improved disease surveillance and control systems.

• The epidemiologist will have the responsibility of providing specialist epidemiological expertise to the Government’s VERAU.

• Specifically, the epidemiologist will focus on reporting systems, data collation, analysis, and epidemiological assessment of animal disease surveillance and control.

• He/she will assist in monitoring the impact of the disease control programs on disease incidence as well as conduct targeted research when required.
Duties and Responsibilities

1. Analyze disease epidemiological data and provide reports of such analyses to help guidance the technical direction of the country program;
2. Assist in designing and conducting animal disease epidemiological studies in close collaboration with other Veterinary Services divisions;
3. Periodically review the national surveillance information system and advise on improvements;
4. Respond to requests for data analysis and epidemiological advice from the Government;
5. Conduct field visits regularly to observe control program activities, field conditions, and carry out field investigations of disease outbreaks;
6. Contribute to the development of an Operational Plan for the implementation of the National Strategic Work Plan for the Progressive Control of animal diseases;
7. Review and advise on effective vaccination monitoring program for the different animal sectors;
8. Liaise with the Ministry of Health’s epidemiologists on joint activities;
9. Liaise with the Information, Education and Communication team to provide technical information and reports to interested parties and the media;
10. Develop and maintain a work plan for the Epidemiology Team to identify work activities and resources required for reliable surveillance and epidemiology for disease control, according to the agreed operational plan;
• Knowledge of risk factors is paramount to direct further research investigation and to implement disease control measures.

• The use of epidemiological methods is needed for disease surveillance, outbreak investigation, and identification of risk factors of zoonotic disease in both human and animal populations.
• A veterinary epidemiology unit will increase the frequency of reporting and the use of epidemiological analysis as part of the daily performance of the Veterinary Services.

• Establishing a veterinary epidemiology unit means having a tool to convince the government’s decision-makers to allocate a higher budget for animal health activities implemented by the national Veterinary Services.
• Epidemiology unit is a scientific tool to link all animal health activities within the Veterinary Services and help coordinate different sections’ performance.

• As a result of data analysis, contingency plans can be developed that match the country specific needs. It can also help mobilize the resources and identify priorities of the country.

• The concept of national animal disease database through an epidemiology unit is always reflecting how veterinary services are delivered.
Recommendations

- The work of the epidemiology unit is not an alternative to other veterinary administrations or activities, but a complementary to all programs.

- The real need of epidemiological surveillance and disease reporting system is part of a country’s involvement in the activities of the OIE and to apply its specific pathways for disease control, and to comply with the OIE codes’ guidelines.
• It is highly recommended that veterinary epidemiology unit works in close collaboration with similar units of the human health sectors.

• Electronically connected epidemiology units at the provincial level will assist coordinating field operations and response to disease emergencies.

• Veterinary Epidemiology Unit should develop modules for the spread and control of animal diseases to be used in response to disease emergencies according to the situation and resources of the country.
• Epidemiological surveillance of animal diseases should be an essential and integral part of the national Veterinary Services.

• The OIE RR for the Middle East can assist Members who are eager to establish or upgrade the performance of their epidemiology structure.
THANK YOU