

# GLEWS

Global Early Warning and Response  
System for Major Animal Diseases,  
including Zoonoses



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## List of Acronyms

AGAH	Animal Health Service (FAO)
AGE	Joint Division (FAO/IAEA)
BSE	Bovine Spongiform Encephalopathy
EMPRES	Emergency Prevention System for Transboundary Animal Diseases (FAO)
ECTAD	Emergency Centre for Transboundary Animal Disease Operations (FAO)
FAO	Food and Agriculture Organization of the United Nations
GF-TADs	Global Framework for Transboundary Animal Diseases (FAO/OIE)
GOARN	Global Outbreak Alert and Response Network (WHO)
GLEWS	Global Early Warning and Response System for major animal diseases, including zoonoses
IAEA	International Atomic Energy Agency (Vienna)
IHR	International Health Regulations
INFOSAN	International Food Safety Authorities Network
MoA	Ministry of agriculture
MoH	Ministry of health
OIE	World Organisation for Animal Health (Office International des Épizooties)
SOP	Standard Operating Procedure
TAD	Transboundary Animal Disease
TCP	Technical Cooperation Programme (FAO)
WHO	World Health Organization

## Definitions used in the context of GLEWS

"*dissemination*" is the one way transmission of information to the public.

"*early warning*" is to rapidly detect communicable disease phenomena with the potential for serious socioeconomic consequences or international public health concerns in order for adequate and timely response to be taken.

"*event*" means infection, manifestation of disease or occurrence that creates a potential for disease.

"*forecasting*" is the monitoring of specific risk parameters helping to predict situations that could lead to the occurrence of a given disease and its subsequent spread. The main objective of forecasting is not to provide an accurate prediction of disease epizootics but to regionally highlight areas where targeted surveillance should be implemented.

"*official information on animal health*" is only information submitted to OIE by Delegates of OIE Member Countries and from OIE reference laboratories and information provided by a WHO member state to WHO, regarding zoonosis in the context of this agreement. For non OIE Member Countries: FAO/WHO public domain reports. For FAO it is furthermore information obtained from the government ministries of agriculture and health, as well as country or regional project reports and field mission reports after they have been cleared by the national authorities.

"*verification*" refers to the actions undertaken by the different organizations (OIE, FAO, WHO) in order to validate the accuracy of the data they find or receive.

"*response*" is identified as all actions that would be targeted at rapid and effective containment of, and leading to, the elimination of a disease outbreak, thus preventing it from turning into a serious epidemic. This includes contingency planning and emergency preparedness.

"*sanitary information*" means information on the animal health and disease status of a country's food animal production, population (livestock, poultry, aquatic animals and bees), wildlife, or that of companion animals.

"*Zoonosis*" means any disease or infection which is transmissible from animals to humans.

## **Executive summary**

The Global Early Warning and Response System for Major Animal Diseases including Zoonoses (GLEWS) is a joint FAO, OIE and WHO initiative which combines the strengths of the three organizations to achieve common objectives. Through sharing of information on animal disease outbreaks and epidemiological analysis the GLEWS initiative aims at improving global early warning as well as transparency among countries.

The response component of the GLEWS will be complementing the existing response systems of FAO, OIE and WHO (in the field of zoonosis) in order to deliver rapid coordinated international response to animal disease emergencies.

Jointly, the three organizations will be able to cover a wider range of outbreaks or exceptional epidemiological events with the provision of a wider range of expertise.

This document provides a basic text on the GLEWS initiative agreed by all three organizations that will serve as reference in internal and external communications on GLEWS.

# **Global Early Warning and Response System for Major Animal Diseases including Zoonoses (GLEWS)**

## **1 Introduction**

Early warning of outbreaks and the capacity for prediction of spread to new areas is an essential pre-requisite for the effective containment and control of epidemic animal diseases, including zoonoses. As experienced throughout much of the globe, weaknesses of disease surveillance systems and the inability to control major diseases at their source have contributed to the spread across geographical borders of diseases confined to livestock, such as foot-and-mouth disease, as well as diseases with a zoonotic potential, e.g. BSE and avian influenza.

Early Warning and Response is based on the concept that dealing with a disease epidemic in its early stages is easier and more economical than having to deal with it once it is widespread. From a public health perspective, early warning of outbreaks with a known zoonotic potential will enable control measures that can prevent human morbidity and mortality. Also, new previously unknown human infectious diseases have emerged and will continue to emerge from the animal reservoir.

Several initiatives, at national and regional level have already been developed in the field of early warning. At the international level FAO, OIE and WHO have each developed Early Warning and Response Systems that systematically collect, verify, analyse and respond to information from a variety of sources, including unofficial media reports and informal networks. In addition, the OIE and WHO mandates include official notification of disease or infection outbreaks to the international community within conditions determined by their Member Countries. FAO has a broad mandate to disseminate information, including all agricultural statistics, to Member Countries.

The Global Early Warning and Response System for Major Animal Diseases, including Zoonoses (GLEWS), builds on the added value of combining the alert and response mechanisms of the different organizations, enhancing the Early Warning and Response capacity for the benefit of the international community. Through sharing of information on disease alerts, unjustified duplication of efforts will be avoided and the verification processes of the three organizations will be combined and coordinated. For zoonotic events, alerts of animal outbreaks can provide direct early warning so that human surveillance could be enhanced and preventive action taken. Similarly, there may be cases where human surveillance is more sensitive and alerts of human cases precede known animal occurrence of disease.

On the other hand, sharing assessments of an ongoing outbreak will enable a joint and comprehensive analysis of the event and its possible consequences. Joint dissemination will furthermore allow harmonized communication by the three organizations regarding disease control strategies.

Regarding the joint response to disease emergencies, the three organizations will be able to respond to a larger number and cover a wider range of outbreaks or exceptional epidemiological events with the provision of a wider range of expertise. This will improve international preparedness for epidemics and provide rapid, efficient and coordinated assistance to countries experiencing them.

GLEWS is based on the notion that infection does not recognize geographical nor species borders. For its zoonotic component it takes a stand in the shift in paradigm from independence to interdependence of agencies and professions involved in zoonotic control.

## 2 Existing Early Warning and Response Systems within the three Organizations

### 2.1 Legal framework of existing Early Warning and Response Systems

#### 2.1.1 The International Health Regulations

The revised International Health Regulations adopted by the World Health Assembly in 2005 (IHR (2005)) are an international legal instrument that will come into force on 15 June 2007, replacing the current IHR.

The purpose and scope of the IHR (2005) are to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade. IHR(2005) is legally binding on all WHO Member States who have not rejected them. and on all non-Member States of WHO that have agreed to be bound by them.

The IHR(2005) require States to notify WHO of all events that may constitute a public health emergency of international concern and to respond to requests for verification of information regarding such events. National IHR Focal Points will provide to and receive information from WHO on a 24 hour a day basis, seven days a week. This will enable WHO to ensure appropriate technical collaboration for effective protection of such emergencies and, under certain defined circumstances, inform other States of the public health risks that merit action on their part.

The IHR(2005) require WHO to cooperate with other competent intergovernmental organizations or international bodies in the implementation of the Regulations, including FAO and OIE.

#### 2.1.2 The Terrestrial Animal Health Code

OIE Member Countries are committed to notify the OIE on diseases, infections and any other significant epidemiological events as per their obligations described in Chapter 1.1.2. entitled 'Notification and epidemiological information' of the *Terrestrial Animal Health Code* ([http://www.oie.int/eng/normes/mcode/en\\_chapitre\\_1.1.2.htm](http://www.oie.int/eng/normes/mcode/en_chapitre_1.1.2.htm)). In its article 1.1.2.3., it is stated: Quote: "Veterinary Administrations shall send to the Central Bureau:

1. notification from the Delegate of the country by telegram, fax or e-mail, within 24 hours, of any of the following events:
  - a. first occurrence of a listed disease and/or infection in a country or zone/compartment;
  - b. re-occurrence of a listed disease and/or infection in a country or zone/compartment following a report declared the outbreak ended;
  - c. first occurrence of a new strain of a pathogen of an OIE listed disease in a country or zone/compartment;
  - d. a sudden and unexpected increase in the distribution, incidence, morbidity or mortality of a listed disease prevalent within a country or zone/compartment;

- e. an *emerging disease* with significant morbidity or mortality, or zoonotic potential;
  - f. evidence of change in the epidemiology of a *listed disease* (including host range, pathogenicity, strain) in particular if there is a zoonotic impact;
2. weekly reports by telegram, fax or e-mail subsequent to a *notification* under point 1 above, to provide further information on the evolution of an incident which justified urgent *notification*; these reports should continue until the situation has been resolved through either the disease being eradicated or it becoming endemic so that six-monthly reporting under point 3 will satisfy the obligation of the country to the OIE; in any case, a final report on the incident should be submitted.
  3. a six-monthly report on the absence or presence, and evolution of diseases listed by the OIE and information of epidemiological significance to other countries;
  4. an annual report concerning any other information of significance to other countries.

## 2.2 Existing Early Warning Systems

**OIE** has set up an animal health information search and verification system for non-official information from various sources on the existence of outbreaks of diseases or exceptional epidemiological events that have not yet been officially notified to the OIE. It then relies on the capacity of its Member Countries and on their capabilities to verify the outbreak information.

OIE operates an early warning system to warn the International Community of exceptional epidemiological events in its Member Countries. This alert system is aimed at the decision-makers, enabling them to take any necessary protective measures as quickly as possible.

**FAO**, through its special EMPRES priority programme established in 1994, developed an early warning and response system. The system benefits from the official information furnished by the OIE and combines other sources of information such as those generated by technical projects, consultancy missions or personal contacts and provides an analysis of the situation through bulletins, electronic messages and reports for better disease containment and control. In addition, FAO has also developed information search and verification systems of information from various sources (so-called “data mining”).

**WHO** systematically gathers official reports and rumors of suspected outbreaks from a wide range of formal and informal sources. Reports of suspected outbreaks are received from ministries of health, national institutes of public health, WHO Regional and Country offices, WHO collaborating centres, civilian and military laboratories, academic institutes, and nongovernmental organizations (NGOs). With the advent of modern communication technologies, many initial outbreak reports now originate in the electronic media and electronic discussion groups.

## 2.3 Existing Response systems

The Global Framework for Transboundary Animal Diseases (GF-TADs) launched by **FAO** and **OIE** initiates and supports strategic regional and national cooperation for the control of TADs. The Framework is designed to empower countries and regional alliances in the fight

against TADs, to provide capacity building and to assist in the establishment of programmes for the targeted control of certain TADs based on their regional priorities. It contributes to the strengthening of national disease reporting structures and mechanisms to fulfill international animal health monitoring functions effectively. The GLEWS initiative is a major contributor to this Framework.

The Technical Cooperation Programme (TCP) is an instrument that enables **FAO** to respond rapidly to urgent needs for technical and emergency assistance in member countries and to contribute to their capacity building. The programme does not operate in isolation, but is closely associated with other normative and field activities of the organization.

In addition, **FAO** has launched the Emergency Centre for Transboundary Animal Diseases Operations (ECTAD) within its EMPRES programme in November 2004, to operate as the corporate centre for the design and delivery of FAO's services as the Chief Veterinary Officer of the organization. ECTAD's primary aim is to implement a clear, simple chain of command between AGAH/EMPRES and the field to deal efficiently with the emergency at hand and to ensure an integrated approach of the relevant groups and services involved in the response.

**WHO** offers assistance to affected countries in the form of technical advice, supplies and by mounting coordinated international investigations. The Global Outbreak Alert and Response Network (GOARN) is building on new and existing partnerships of national and international institutions and networks, to deal with the global threats of epidemic-prone and emerging diseases in humans and to prepare for rapid deployment and coordination of international resources in response to an outbreak of international importance. GOARN aims at ensuring appropriate technical support to affected human populations quickly, assessing risks of rapidly emerging epidemic disease threats and sustaining containment and control of outbreaks by contributing to national outbreak preparedness.

**OIE** has emergency funds that can be rapidly mobilized for sending experts from OIE Reference Laboratories to assess the epidemiological situation in a country and define the actions required.

## **2.4 Existing systems for dissemination**

**OIE** disseminates official information about animal diseases including zoonoses in the three OIE official languages. The dissemination of emergency messages and follow-up reports (as per the OIE Early Warning System) is done using different tools: faxes, electronic distribution lists and the OIE website. Also, Animal Health Information, from the OIE six-monthly and annual monitoring system is disseminated using the OIE website and in hardcopy (World Animal Health publication).

**FAO** disseminates bulletins, reports, descriptive and analytical early warning and emergency messages. The tools used to disseminate information are: FAO/AGAH/EMPRES web site and electronic distribution lists. The EMPRES bulletin is also distributed in hardcopy. Concerning HPAI, a specific bulletin FAO AIDENews is issued every month or when appropriate.

**WHO** disseminates information through a restricted e-mail list, the WHO web site and information bulletins. The Weekly Epidemiology Record is available in hard copy and electronically.

INFOSAN has been developed by **WHO** in cooperation with **FAO** to promote the exchange of information on food safety and to improve collaboration among food safety authorities at national and international levels.

### **3 GLEWS: A joint FAO/OIE/WHO initiative to enhance Early Warning and Response at international level**

#### **3.1 Project background and rationale**

The GLEWS initiative started with the voluntary participation of representatives of FAO, OIE and WHO, who share the common objective to enhance the Early Warning and Response capacity for the benefit of the international community. Mutual benefit through collaboration has been identified throughout the Early Warning and Response process.

##### Early Warning

The three organizations use complementary and partly overlapping sources of information to identify infectious disease events. Through sharing of information on disease alerts, the capacity for early warning of the three organizations could be enhanced while avoiding unjustified duplication of efforts. In some instances the geographical coverage of disease alerts could be improved, e.g. through the use of FAO/AGAH animal health information for non OIE countries.

For zoonotic events, alerts of animal outbreaks provide direct early warning so that human surveillance could be enhanced and preventive action taken. Similarly, there may be cases where human surveillance is more sensitive and alerts of human cases precede known animal occurrence of disease.

There is also added value in combining and coordinating the verification processes. One source of information is often not sufficient to verify or deny the presence of a disease in a country that did not spontaneously report it. A rumour might be denied by an official institution, although the epidemiological context tends to demonstrate the contrary. Each disease event tracked has therefore to be verified in light of the current and most updated epidemiological knowledge. Socioeconomics and demographic data on livestock also represent a valuable source of information in this exercise.

Joint dissemination of risk assessment would also benefit from the different information sources providing a comprehensive analysis of the event and its possible consequences in its specific context.

##### Response

Sharing assessments of ongoing outbreak undertaken by either of the organizations, e.g. based on reports from local representation or field missions, would be of value to all three organizations. Furthermore, the organizations would, in accordance with their different mandates, bring together different pieces of information from different sources that would enable a joint assessment of the outbreak. Immediate notifications to the OIE would provide initial details of the outbreak and any immediate control measures taken. FAO would bring the integration of other data and information, e.g. on animal production systems, factors affecting movements of livestock etc, crucial for the assessment of the risk of further spread. Joint analysis and assessment by the three organizations would also benefit from the different specific competencies and resources of the three different organizations and may form the basis for a joint infection control strategy. Joint dissemination would enable harmonized communications by the three organizations regarding disease control strategies.

The existing response systems of FAO and OIE enable the provision of assistance to countries facing national or regional animal disease threats. WHO and the Global Outbreak Alert Response Network (GOARN) on the other hand ensures quick and appropriate technical support to populations affected by human disease epidemics on a national, regional or even international level. For the control of animal disease epidemics with a complex epidemiological appearance, the potential for regional or international spread and/or a public health dimension, no global response network has yet been established. There is a clear need to fill this gap by building a response network ideally complementary to GOARN when relevant, so both can share their expertise in responding to disease emergencies

A system for joint response to disease emergencies would improve international preparedness for epidemics and provide timely and coordinated assistance to countries experiencing them. Jointly, the three organizations would be able to cover a wider range of outbreaks or exceptional epidemiological events with the provision of a wider range of expertise.

### **3.2 GLEWS Definition and Objectives**

#### ***3.2.1 Definition of GLEWS***

**The Global Early Warning and Response System (GLEWS) is a joint system that builds on the added value of combining and coordinating the alert and response mechanisms of OIE, FAO and WHO for the international community and stakeholders to assist in prediction, prevention and control of animal disease threats, including zoonoses, through sharing of information, epidemiological analysis and joint field missions to assess and control the outbreak, whenever needed.**

#### ***3.2.2 Overall aim of GLEWS***

The overall aim of GLEWS is to improve the early warning and response capacity to animal disease threats of the three sister organizations for the benefit of the international community.

#### ***3.2.3 Specific objectives of GLEWS***

- Allow member countries to better prepare themselves to prevent incursion of animal diseases/infection and enable their rapid containment
- Improve the detection of exceptional epidemiological events at country level
- Increase timelines and sensitivity of alerts
- Improve transparency among countries and compliance with reporting to OIE
- Improve field animal health information quality in near real time
- Improve national surveillance and monitoring systems and strengthen networks that include public health, medical and veterinary laboratories working with zoonotic pathogens.
- Improve international preparedness for animal and zoonotic epidemics and provide rapid, efficient and coordinated assistance to countries experiencing them.
- Improve the capacity of the three organizations for early detection of new emerging disease threats, including zoonoses
- Provide technical support to regions/nations on issues at the animal/human interface of outbreak control

Improve integration of human and animal surveillance allowing for simultaneous recognition of disease occurrence across species

### **3.3 Individual responsibilities of the three organizations**

**OIE** will continue to work towards promoting transparency of the world-wide animal health status as per its mission through its Animal Health Information System on designing strategies and guidelines to control major animal diseases including zoonoses and strengthening veterinary services.

For OIE, the GLEWS is meant to complement the OIE Early Warning System through the inclusion of additional factors that might have an implication on the occurrence of animal diseases or infections. It will provide a mechanism for improved communication and collaboration with FAO and WHO.

**FAO** will continue to promote national and regional disease surveillance and monitoring systems, the development of contingency plans, good emergency management practices and technology transfer. FAO will continue to develop strategies and guidelines by working in close collaboration with OIE, and WHO when relevant, to ensure they are aligned with the *Code and Manual*; and, design and implement urgent intervention activities/programmes for the prevention, control of diseases, and improved husbandry practices.

FAO/EMPRES will communicate additional data and information with a possible implication on the occurrence of animal diseases or infections (climatic factors, price differential across borders, displacement of people and their livestock) to GLEWS to improve control and prevention.

**WHO** will continue to track evolving infectious diseases, sound the alarm when needed, share expertise, and mount the kind of response necessary to protect human populations from the consequences of epidemics, whatever and wherever their origin might be.

For WHO, GLEWS will provide a mechanism for improved communication and collaboration with OIE and FAO. WHO's task is to ensure that efforts to track zoonotic diseases are maintained and information is shared.

### **3.4. Goals and expected outputs of GLEWS**

The goals and expected outputs of GLEWS are the following:

Disease alert and early warning messages. These messages will concentrate on predicting animal disease threats, through epidemiological analysis and the integration of additional factors that could have an impact on the occurrence and spread of such diseases (such as economic factors, civil unrest, climatic changes, etc).

Development of coordinated responses to animal health emergencies. If in consultation between the three partners there is clear value for onsite assessment of the situation, an urgent joint field mission can be considered engaging the country authorities, in order to obtain a better appreciation of the situation and to offer assistance in the formulation of urgent intervention strategies.

### **3.5 GLEWS operational framework**

#### ***3.5.1 The GLEWS task force***

Each organization has designated *GLEWS focal points* that constitute the *GLEWS task force* (see Annex 1).

Members of the GLEWS task force participate in regular task force meetings. The main objective of these meetings is to further develop the concept originally brought to the fore in 1998 and make it operational.

The focal points are the points of entry into each organization and act as the interface between the GLEWS network and the respective early warning and response systems in use in these organizations, including in their respective regional offices. Other experts involved in disease surveillance and emergency response interact with the GLEWS focal points according to the situation. It is understood that the list of focal points is not restrictive and can evolve over time depending on the further development of the GLEWS initiative.

#### ***3.5.2. GLEWS Standard Operating Procedures***

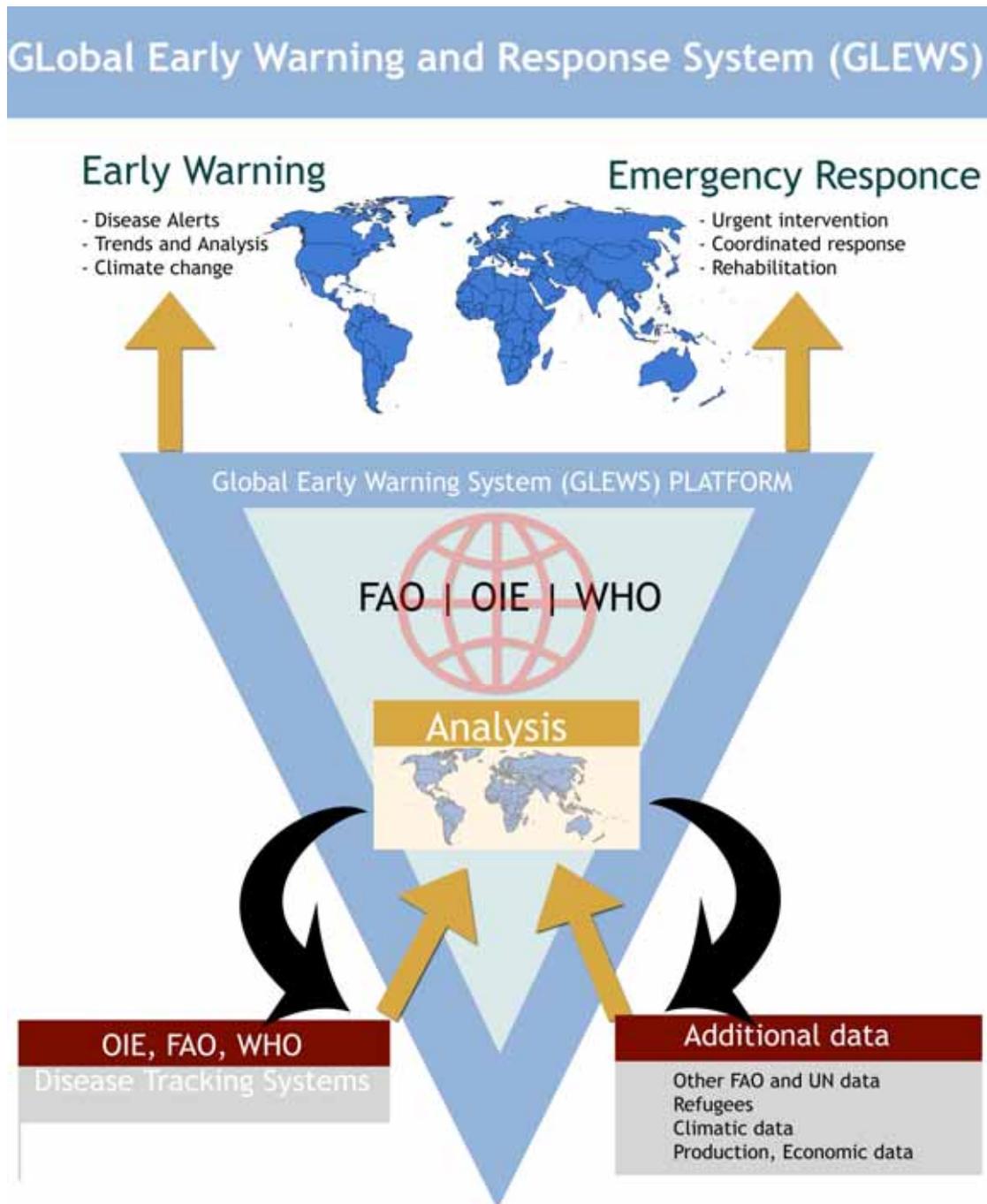
GLEWS activities are guided by *Standard Operating Procedures* (SOPs) developed by the GLEWS task force. GLEWS SOPs have been developed for information sharing and verification. The SOPs are not restrictive and will develop over time (see Annex 2).

### **3.6. GLEWS Activities**

The main GLEWS activities will be disease tracking and validation, analysis and assessment, dissemination and emergency response.

The flow of information will be as follows (see Figure 1): after the GLEWS network has been notified of a rumour, suspicion or forecast regarding a disease outbreak of common interest, the information gathered through the respective tracking and verification channels of each organization will be fed into a GLEWS electronic platform (yet to be developed, pending funding). In this platform information will be further analyzed, monitored and/or sent out as Early Warning Messages. Specific analysis and modeling of trends will be carried out utilizing selected OIE and FAO Collaborating Centres, OIE and FAO Laboratories and where appropriate WHO Collaborating Centres and Laboratories. A GLEWS Emergency Response will only be necessary, if there is clear indication for a joint onsite assessment or intervention mission.

**Figure 1: GLEWS flow of information**



### 3.6.1 Disease Tracking and Validation

#### Event identification

The three sister organizations use their channels and contacts within their respective mandates to track information on disease outbreaks. This information is generated from country or regional project reports, field mission reports, partner non-governmental organizations (NGOs), cooperating institutions, ministries of agriculture and health (MoA, MoH), country representations of the three organizations or other UN parties, public domains, the media and web-based health surveillance systems such as the Program for Monitoring Emerging Diseases (ProMED) or the Global Public Health Intelligence Network (GPHIN).

Information gathered through these tracking mechanisms is assessed with respect to whether the event is of interest in the context of GLEWS, i.e. a *GLEWS event*. Before being classified as a “GLEWS event”, the following criteria have to be considered:

- The event is part of a priority list of diseases of common interest, as defined in annex 3, although shared information should not be restricted to the list.
  
- In addition to the list of diseases of common interest, each event will be assessed for its potential international importance by criteria derived from the IHR and the Terrestrial Animal Health Code:
  - unusual event defined as:
    - first occurrence or reoccurrence of a disease/strain
    - unusual event for the area or season.
    - event associated with an unknown agent
  - emerging disease with significant mortality and/or morbidity or zoonotic potential
  - high morbidity and/or high mortality in humans and/or animals
  - potential for transboundary spread
  - potential interference with international travel or trade

Information relating to GLEWS events should be shared between the three organizations. Until the GLEWS information platform has been developed, the information is communicated via e-mail using a standard reporting format for initial reports to the GLEWS focal points. Different levels of confidentiality in the exchange of information between the three organizations have to be defined and respected (see SOPs, Annex 2) and the information used with all the precautions needed so as not to jeopardize these relationships between the organizations.

#### Event verification

The verification process involves the use of various sources of information and networks that need to be cross-checked and validated.

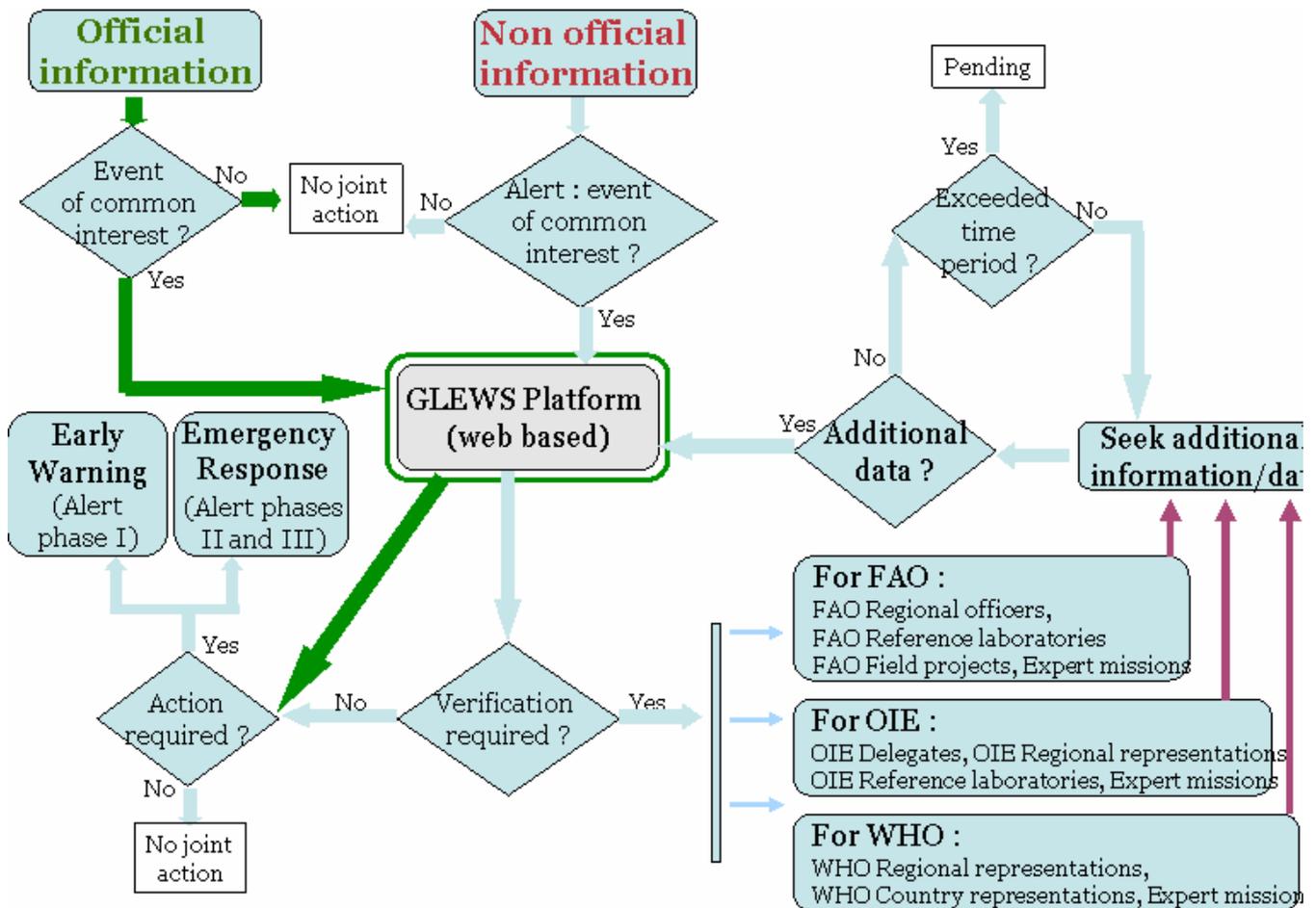
**OIE**, through its information verification system, verifies it with the Delegate of the Member Country (this is meant to improve the quality of the official information). For non OIE member countries, the confirmation will be provided by FAO/EMPRES (FAO/EMPRES public domain information). OIE Reference laboratories results are also used to verify the information. Collaborating centers are also participating for the analysis of the situation, as IAEA Centre for ELISA and Molecular Techniques in Animal Disease Diagnosis.

**FAO/EMPRES**, through its network of FAO offices in each country and Regions, through project and activities in its member countries, would also verify the reliability of the information and work towards improving transparency by encouraging countries to report officially the information to the OIE if verified. For FAO/EMPRES: Verification/validation involves seeking factual knowledge or proof from FAO Representatives, Regional Specialized Organizations, in country contacts, ongoing projects, expert missions, laboratories and collaborating centers. In addition, AGE distributes a bulletin on project and research activities with a strong emphasis on laboratory capacity, methods training, and new tools for combating transboundary diseases – including early warning devices.

For **WHO** verification means provision of information by a state party to WHO confirming the status of an event within the territory or territories of that state party. This is done through the WHO Regional Office or WHO country representative who will consult with the national ministry of health.

The first step described in Figure 2 (verification and validation) could be considered as the first phase of an alert when preliminary mechanisms are activated. According to the result of the verification process, this would lead to a phase II whereby a more thorough investigation would be needed to assess the situation.

**Figure 2: Alert phase 1: actions to be undertaken after information has been received**  
(Web based GLEWS platform in development)



### 3.6.2 Analysis and assessment

Disease analysis is at the core of the GLEWS system. As of now, very few joint activities have been carried out in this field. To become fully operational, GLEWS should give high priority to both sharing assessments undertaken by either of the organizations as well as joint analysis and assessment of epidemiological, epizootiological and other data. For relevant animal diseases, data management and follow up on the joint platform activities will be facilitated, supported and integrated through staff located in FAO Headquarters in close collaboration with staff fully dedicated to GLEWS activities in OIE and WHO Headquarters. External expert advice may be needed and would require networks that include specialists from medical and veterinary laboratories, public health, research e.g. in events of unknown cause or newly emerging diseases to assess the zoonotic potential and risk of further spread. Joint analysis and assessments would need to be closely linked to a capacity to respond the disease emergencies.

For some infections, mainly vector-transmitted infections, outbreaks are strongly influenced by environmental factors; their associated risk factors can be monitored and forecasting of

outbreaks applied to a certain extent. So far, there is limited experience of the predictive value and little joint activities have been carried out in this field. GLEWS will also encourage studies in those fields where gaps have been identified.

### **3.6.3 Information Dissemination**

No mechanism of information dissemination has yet been implemented through GLEWS. However, OIE, FAO and WHO usually communicate jointly on major animal health crisis via press releases. Once the system becomes fully functional, relevant disease alerts and analysis should be issued by the GLEWS to describe the possible implications of disease spread in its specific context. Dissemination will be done through a joint web application and electronic distribution list. Procedure and the type of information to be disseminated is to be defined in order to complement but not duplicate existing OIE, FAO and WHO information systems.

### **3.6.4 Response to Disease Emergencies**

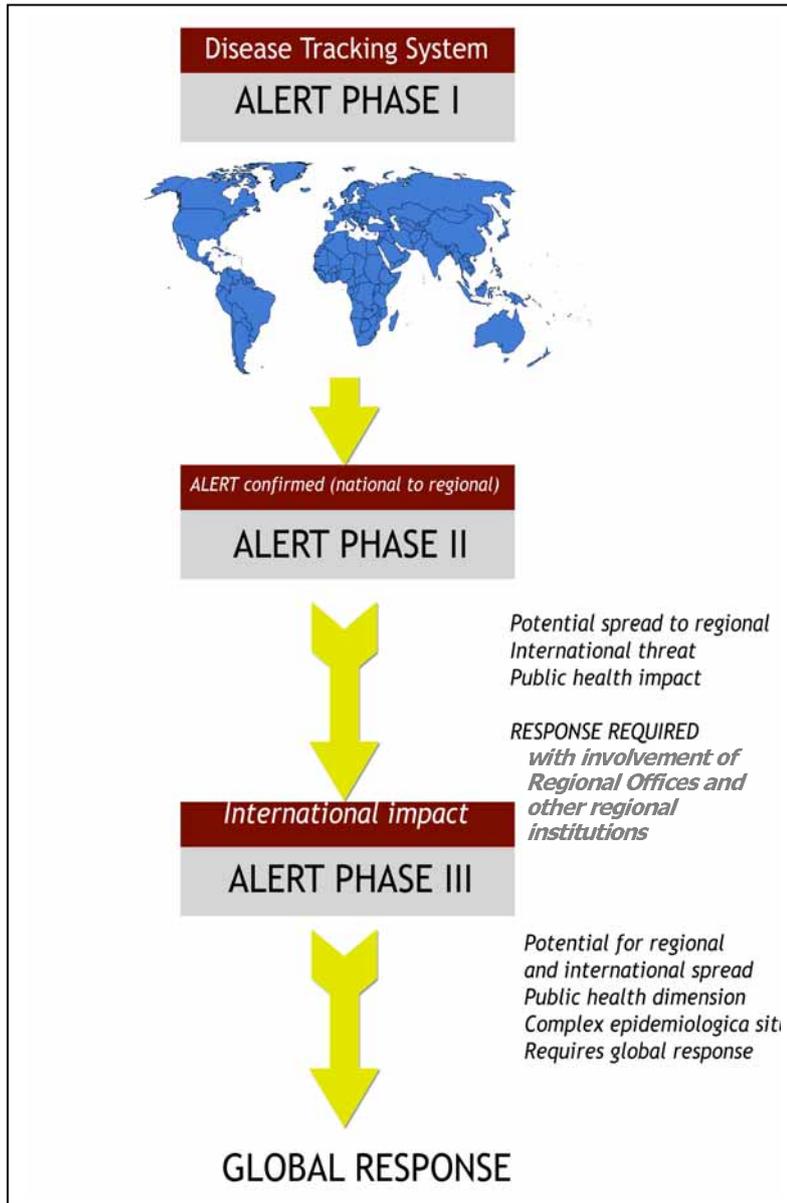
If in consultation between the three partners there is clear value for onsite assessment of the situation, an urgent joint field mission should be considered (Alert phase II). This joint mission would engage the country authorities, especially those of the ministries of agriculture and health when relevant, for obtaining a better appreciation of the situation and offer assistance in the formulation of urgent intervention strategies. Participants in the joint mission will be responsible for briefing supervisors and suggesting options for intervention and prioritization.

The usual route for activation of a national, regional or global response will be an official request for assistance from an affected country. Requests for assistance may also come from other sources such as a UN agency or NGO. In such cases, FAO/OIE/WHO will offer joint assistance to and seek a request for joint assistance from the empowered authority.

Each organization will activate its own response mechanisms and the respective mission experts will assess the current outbreak situation and the request for assistance jointly with external experts on the subject matter. The three partner organizations will then make operational decisions on the nature, scale and scope of the response. In certain cases, a coordinated global response might be necessary (Alert phase III).

Response Guidelines, including a response protocol and Standard Operating Procedures (SOPs), a list of experts with their respective fields of expertise and the identification of partners and key stakeholders will be addressed in a separate document.”

**Figure 3: Outbreak Alert and Response mechanism**



### 3.7 GLEWS resources

The basic minimum financial needs take into account the fact that the three organisations have already existing early warning and response systems and will be used to implement the activities in relation with animal health information sharing, epidemiological analysis studies between the three sister organisations as well complementing their existing response systems for a more rapid and a better coordinated international response to animal disease emergencies (WHO will be involved in the field of zoonoses).

### 3.8 GLEWS next steps

- Development of a strategy for resource mobilization
- Development of Response Guidelines, identification of partners and key stakeholders for emergency response
- Assessment of the need for additional partners and/or establishing of networks to improve early detection and assessment of potential animal disease threats, e.g. with regards to wildlife and emerging zoonoses.
- Development of a web-based GLEWS information platform. The following components should be considered:
  - Tracking component:* sharing of tracked information of major animal disease threats, including zoonoses
  - Risk assessment component:* providing epidemiological analysis and assessment of major animal disease threats, including zoonoses
  - Modelling component:* provide access to prediction and prevention studies of major animal disease threats, including zoonoses

The user requirements of the platform need to be further defined and further functions considered, e.g. providing a discussion forum for technical and policy issues in the human/animal interface.

## Annex 1: The GLEWS Taskforce

	<b>Focal point 1</b>	<b>focal point 2</b>	<b>Focal point 3</b>
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## **Annex 2: Standard Operating Procedures (SOPs)**

### **1 SOP for disease alert information sharing between FAO-OIE-WHO in the Context of the GLEWS System**

Each organisation's management must identify a primary and a back-up focal point for communications. The contact information for these people must be shared and updated regularly.

Information sharing will pertain to the joint disease list (Annex 3), but will not be restricted to the list. As new diseases emerge, the focal points should use their professional judgment in deciding what additional diseases may be of interest to the sister agencies. Annex 3 should be updated accordingly if it is agreed that a new disease is of common interest for surveillance.

Communications could be verbal or by e-mail. The communications should ideally be tracked in a joint data base with the originator of the information responsible for entering the information.

E-mail messages should include: disease being reported; country or location; source of information; time limited follow-up, if needed; for what reason

When communicating unofficial or sensitive information, the focal point should clearly indicate the level of confidentiality.

Confidential information can be shared with others within each organization on a need to know basis, but not with outside parties. The receiving focal point must make sure that the level of confidentiality is understood and adhered to by recipients within the organization.

If one of the sister organizations feels information that has been deemed confidential must be shared with outside parties, explicit permission must be obtained from the originator of the information.

## **2 SOP for information verification/validation through FAO-OIE-WHO in the context of GLEWS**

The originator of information communicated through the GLEWS network must indicate current verification status, actions taken by the originator to verify the information and the perceived need including reasons for the perceived need by the originator for further action to verify the information by the sister organizations.

After an alert has been communicated through the GLEWS network indicating a need for further verification by the sister organizations, the primary focal points must reply to indicate actions taken to verify the event.

The additional information must be circulated through the GLEWS network as a “Follow up Report”, with clear reference to the Initial Report and clearly stating the source of information and current verification status.

For the Follow up Report, the “SOP for Disease Alert Information Sharing...” applies.

If no additional information can be obtained through the respective channels, negative reporting to the GLEWS network is mandatory after 14 days. If information becomes available to one of the partners after this time period it should be shared.

### **Annex 3: List of diseases of common interest**

#### **Non zoonotic**

African Swine Fever (ASF)  
Classical Swine Fever (CSF)  
Contagious Bovine Pleuropneumonia (CBPP)\*  
Foot and Mouth Disease (FMD)\*  
Peste des Petits Ruminants (PPR)  
Rinderpest – Stomatitis/Enteritis

#### **Zoonotic**

Anthrax  
Bovine Spongiform Encephalopathy (BSE)  
Brucellosis (B. melitensis)  
Crimean Congo Hemorrhagic Fever  
Ebola Virus  
Food borne diseases  
Highly Pathogenic Avian Influenza (HPAI)  
Japanese Encephalitis  
Marburg Hemorrhagic Fever  
New World Screwworm  
Nipah Virus  
Old World Screwworm  
Q Fever  
Rabies  
Rift Valley Fever\* (RVF)  
Sheep Pox\*/Goat Pox  
Tularemia  
Venezuelan Equine Encephalomyelitis  
West Nile Virus

\*diseases for which trend analyses and forecasting will be emphasized