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## Introduction

A Workshop on Veterinary Public Health in Disaster Situations in the European Region was organized by the Council of Europe and the Government of Italy, in collaboration with the Food and Agriculture Organization, (FAO), the World Health Organization (WHO) and the International Office of Epizootics (OIE). It was held from 29 October to 2 November 1984 at the WHO Collaborating Centre for Research and Training in Veterinary Public Health, Istituto Superiore di Sanità, Rome, Italy.

Participants included representatives of eight European countries (Belgium, Cyprus, Federal Republic of Germany, France, Italy, Portugal, Spain and the United Kingdom), FAO, WHO, OIE, the Italian Army Veterinary Corps, and representatives of national and international volunteer organizations including the Bioforce Development Programme, Vétérinaires Sans Frontières and ENPA (Ente Nazionale Protezione Animali).

The Honourable C. Degan, Minister of Health, Republic of Italy, welcomed the participants on behalf of the Government.

In opening the meeting, Professor F. Pocchiari, Director, Istituto Superiore di Sanità (ISS), stressed the fact that veterinary public health was a fundamental part of public health in general and had a very significant role in human primary health care and in disaster situations. He stated that, in accordance with a multidisciplinary approach, the ISS had contributed to the Workshop by providing the technical support not only of veterinarians but also of

biologists, chemists, engineers and physicians, all of whom had important responsibilities in disaster relief actions.

Introductory remarks were made by Dr J. P. Massué, Head of Division of Higher Education and Research of the Council of Europe, who explained the interest of the Council in all actions in disaster situations, including those related to veterinary public health; by Dr K. Bøgel, Chief, Veterinary Public Health, Division of Communicable Diseases, WHO; by Dr Y. Ozawa, Chief, Animal Health Service, Animal Production and Health Division, FAO; and by Dr K. Polydorou, on behalf of Dr L. Blajan, Director General, OIE. In supporting the convening of the Workshop, all the speakers referred to its timeliness and expressed thanks to the Council of Europe, to the Government of Italy and to the ISS for its organization.

Dr M. A. Parent, Centre for Research on the Epidemiology of Disasters, Catholic University of Louvain, represented Professor M. F. Lechat who unfortunately was unable to attend.

Professor A. Mantovani, Director of the ISS/WHO Collaborating Centre for Research and Training in Veterinary Public Health, was elected Chairman, Dr K. Polydorou as Vice-Chairman and Dr M. H. Hinton as Rapporteur.

1. Scope and Objectives of Workshop

Veterinary public health is a fundamental component of the wide range of public health measures needed in order to deal with calamities. Veterinary action in disaster situations is not something new. In the past, veterinary services have had to cope with a variety of emergencies, both natural and man-made, and much experience has been gained. Nevertheless, past actions have sometimes been inadequate in certain respects, especially in administrative arrangements, coordination of efforts and specific training programmes for disaster action preparedness.

It has been widely recognized that Italian experiences such as the Friuli and Irpinia earthquakes, as well as the Seveso chemical accident, and the actions taken to deal with the resultant situations, have comprised starting points for the development of guidelines for veterinary action in disasters. The problems connected with other kinds of disasters such as famine and drought require considerations of a different kind.

The most important objectives of the Workshop were defined as:

- i. identifying responsibilities for veterinary action in disasters due to earthquakes and chemical emergencies;
- ii. providing guidance for those responsible for training health workers in emergency measures, in the implementation of

surveillance and evaluation systems and in assisting the local population in all matters concerned with animal production and health;

- iii. recommending teaching material to be used in appropriate training institutions as guidelines for field workers.

The main subjects considered at the Workshop were as follows:

- i. organization of a veterinary emergency plan;
- ii. food hygiene and supplies;
- iii. animal health and zoonoses control;
- iv. control of stray dogs and other pests;
- v. chemical emergencies.

It was considered that chemical and industrial calamities represent an increasing risk in both industrialized and developing countries.

## 2. Definitions

### 2.1 A disaster may be defined as:

- i. an upheaval in the human ecology with which the stricken community is unable to cope using only its own resources;

- ii. any occurrence that causes damage, ecological disruption, suffering or loss of health on a scale sufficient to warrant an extraordinary response from outside the affected community or area.

An emergency is a sudden occurrence demanding immediate action that may be due to epidemics, technological catastrophies or to natural or man-made causes.

An epidemic emergency is an outbreak of an unusual epidemic which requires the implementation of a special intervention policy with which the normal facilities and staff of veterinary services are unable to cope.

Epidemic emergency conditions have been defined, and the measures to be taken have been described by FAO and WHO. Contingency plans, with detailed descriptions of surveillance, resource mobilization and methodologies, are described in the WHO Technical Guide on Emergency Measures for the Control of the Outbreaks of Communicable Diseases. Requirements for animal disease emergency actions and FAO provisions for such emergencies are described in the report of the FAO Expert Consultation on Emergency Disease Control, Rome, 1980.

A distinction must be made between natural disasters and those caused by man. Table 1 lists the broad categories.

Table 1: Natural and Man-made Disasters

<u>Natural</u>	<u>Man-made</u>
earthquakes	explosions and fires
flooding	chemical escape and contamination
avalanches and landslides	escape of radioactive materials
volcanic eruptions	war, civil disturbances and
storms and tidal waves	refugees
drought and famine	transportation calamities
epidemic diseases	collapse of dams
insect swarms	other technological failures
	large-scale poisonings

### 3. Responsibilities of Veterinarians

The responsibilities of veterinarians in a disaster situation can be summarized as follows, in priority order for intervention:

3.1 Immediate actions concern the first few days after the disaster:

- i. identify the food resources still available, and if necessary restore sources of human food of animal origin (meat, fish, milk and their products). Decide what should be used first on a basis of conservation potential;
- ii. organize the care or slaughter of injured animals;
- iii. destroy animal carcasses and other deteriorated material of animal origin, e.g. food contained in broken-down or otherwise unserviceable refrigerators, etc.;
- iv. re-establish food cooking, milk boiling and other food sanitation procedures for food safety;

- v. contribute to the identification of places for refugee camps which are risk-free, especially from zoonoses, and assist in their organization;
- vi. collect and care for farm animals which have lost contact with their owners; feed, water and, if necessary, milk them and provide shelter as materials became available;
- vii. control zoonoses and the spread of communicable diseases by limiting animal movements and prevent human beings from coming into contact with animals, animal wastes or carcasses.

3.2 Secondary actions concern the first few weeks after the disaster:

- i. provide food of animal origin (meat, milk, fish and their products), if possible locally, otherwise from external sources and ensure its soundness and hygiene through sanitation measures and, if necessary, by organizing mass catering;
- ii. restore normal activities in connection with slaughtering, meat inspection, milk collection and safe storage, distribution and processing of food of animal origin;
- iii. provide shelter, feed, watering and general care for those farm animals which are most important for the food supply of the people and for the future economic development of the affected area;
- iv. provide the necessary supplies of drugs, vaccines, sera, disinfectants and pesticides, as required;



- v. provide the necessary supplies of feed for animals;
- vi. control environmental pollution by animals, animal products and food of animal origin;
- vii. activate a programme as soon as possible to disinfect contaminated places or places at risk such as stores, stables, slaughterhouses, mass catering facilities, camps etc.
- viii. control pests (stray dogs, rodents, venomous snakes and other dangerous or noxious animals), vectors and reservoirs of pathogens;
- ix. identify needs, differentiating between those which may be met locally and those which require external support. Seek assistance from the appropriate agency or agencies;
- x. start epidemiological/epizootiological surveillance, including the use of animals to monitor health risks, in order to solve animal health problems as well as specific veterinary public health problems such as the control of zoonoses and of stray dog populations;
- xi. restore contacts at the higher administrative levels, as well as with diagnostic laboratories, the epidemiological surveillance system and other relevant agencies concerned with relief assistance.

3.3 The long-term objectives should include as a minimum the re-establishment of the pre-disaster situation. However, there could be the opportunity of improving animal production. The veterinary service should therefore be prepared to recommend to the planning

authorities improvements in animal health, animal husbandry and welfare.

It might be necessary to identify forbidden areas which may be heavily contaminated with pathogens, e.g. anthrax spores, or toxic chemicals.

In the event of chemical or industrial pollution, veterinarians should be continuously involved in the surveillance of the health status of animals in view of possible long-term consequences of environmental contamination.

Education and training of specialized professional groups collaborating in veterinary public health action should be included as a long-term objective.

Three points were been particularly stressed at the Workshop:

- i. Preparedness: it is very important to have as complete information as possible on the agro-economic and zootechnical characteristics and the veterinary public health problems of areas at particularly high risk to natural disasters. An up-to-date inventory of resources (infrastructure, equipment etc.) should also be kept in advance of specific emergencies in order to allow the immediate mobilization of local facilities.
- ii. Animal health problems: special attention should be paid to animal health problems. In particular, the importance of problems already recognized should be emphasized and those previously underestimated should receive more attention and be

better defined. Correct information given to the public is essential.

- iii. Education: need for graduate and post-graduate education, both theoretical and practical.

#### 4. National Emergency Plan

An emergency can be defined only within the context of the social, political and epidemiological circumstances in which it occurs. One of the basic factors is the magnitude of the disaster or disease epidemic in relation to both the administrative organization of the veterinary service and the resources available at various levels (local, regional, national). This appears particularly relevant in situations where either the veterinary services are weak, as in developing countries, or are very fragmented administratively.

Each country has therefore to define the exact meaning of veterinary emergencies according to its own situation and to publish its definitions and emergency measures through appropriate statutes.

From the foregoing, it is necessary that legislation be passed in each country which defines the authority or authorities that can declare a state of veterinary emergency and act upon it. This is especially true if responsibility for the state of emergency is to be at the highest political level.

Emergency plans should be prepared for all areas at risk and their effectiveness should be periodically tested.

It is essential that each country should set up an appropriate administrative machinery to coordinate and administer the many services that will be called upon when a disaster occurs.

As the local administration could be severely dislocated, or even in danger of collapse, a satisfactory centralized system of control should be established.

All countries are normally encouraged to collect data on a regular basis on livestock numbers, production and diseases. In areas which are disaster-prone, the data collected may require amplification so as to make the information available more valuable in case of an emergency as, for example, by adding the exact location and size of agricultural holdings and the specialized equipment that they have available.

In advance of specific emergency situations, all existing sources of personnel and supplies should be listed, as for example, veterinary personnel and animal technicians, fire brigades, police, water authorities, the army, butchers, radio amateurs and animal welfare organizations. The list should be regularly updated. The resulting data, including maps, should facilitate planning of suitable measures for a rapid implementation of relief action. This activity should be the responsibility of the local administration acting under the direction of the central governmental administration.

In the organization of veterinary relief action, three different phases can be recognized:

- i. The first is a recognition phase consisting of the collection

and analysis of as much information as possible on the status of structures and services;

- ii. The second, or absolute emergency phase, should be concerned with the identification of suitable patterns of action according to the kind of area, by defining broad responsibilities. Organization and implementation should take into consideration sources both of facilities available and of needs;
- iii. The last phase should bring about the restoration of normal conditions by reinstating usual prophylaxis programmes, by starting an epidemiological surveillance system and by improving livestock breeding technologies.

##### 5. Logistic organization

Although some countries lack a veterinary emergency organization (VEO), the need for such a structure is self-evident. It should act at two principal levels: policy making and technical planning and implementation.

Strategic policy making should be the responsibility of a permanent National Veterinary Emergency Committee (NVEC). Technical planning and implementation will require the creation of Veterinary Emergency Task Forces (VETF) including both veterinary public health and animal health specialists who should operate in close collaboration.

The main reasons warranting the formation of VETFs are that action required is usually immediate, intensive, specialized, limited in time and space and fairly unpredictable in time to the extent that it cannot be handled by the regular service. Furthermore, given the usually limited area involved, some or all of the operating regular veterinary service units have to continue their normal assigned duties and cannot be completely diverted to cope with an exceptional situation when it arises. In fact, in case of disasters, local veterinary services might well be totally disrupted.

#### 5.1 Functions of the NVEC

The functions of the NVEC should include:

- i. defining and having responsibility for the declaration of the state of emergency;
- ii. defining the tasks of the VETF in natural disasters, in epidemic and in industrial emergencies;
- iii. establishing the legislative framework and obtaining the necessary financial support, including that required for compensation, grants and loans which should be available during the restoration period.

The composition of NVECs will vary according to the legislation of each of the various countries concerned. In any case it will have to include policy makers in the various ministries involved in

emergency actions.

Functions of the VETF

The VETF should act within the existing veterinary services framework and within the framework of the civil protection organization. Its functions which must differentiate between those that can be carried out with local resources and those that require external assistance should include:

- i. defining for each member of the VETF the tasks and responsibilities in both disaster and disease epidemic situations;
- ii. reviewing laws, regulations and technical policies to ensure that emergency contingency intervention can be enacted without delay in any circumstance. Making proposals for possible modifications of present laws, regulations and technical policies should they be necessary;
- iii. activating a broad planning process for emergency intervention, in particular:
  - a) defining strategies of intervention according to the various types of emergency;
  - b) making an inventory of human, infrastructural, equipment, and financial resources needed and comparing them with those available;

- c) organizing liaison with livestock and professional agricultural organizations, animal welfare organizations, veterinary professional organizations, mass-media and other bodies and services that will take part in disaster relief intervention (medical, paramedical, church, social welfare etc.) in order to integrate resources and avoid duplication or hindrance of efforts;
  - d) establishing cooperative agreements with appropriate military and civil authorities, agencies, institutions and workers' unions to ensure prompt assignment of additional task force personnel, supplies and equipment;
- iv. drawing up detailed programming and action plan documents under which it will:
- a) identify intervention models according to type of risk and geographical areas where the various types of emergency are likely to occur;
  - b) define levels of authority delegation at both planning, programming and operative levels;
  - c) define management responsibilities; great care should, therefore, be exercised in choosing the persons responsible at the various levels for the different tasks and in giving them sufficient legal authority and resources for intervention;
  - d) define programme budgeting, resources allocation,



management and utilization.

- v. training all personnel involved in task force operations including the holding of regular refresher courses;
- vi. establishing and supervising simulation intervention exercises. The complexity and difficulties of an emergency intervention contrast greatly with the rarity of an emergency occurring; it is therefore necessary to mount periodical exercises to test the state of readiness and the operative capability of the Veterinary Emergency Organization (VEO). These exercises can also be a very good occasion on which to review and to edit mass media information material to be used in the event of a real emergency. They also provide the opportunity to acquaint the general public, breeders, and policy makers of the actions required in veterinary emergency operations;
- vii. carrying out periodical evaluation of the VEO and drawing up a report for the NVEC. These reports should include recommendations for any legislation or policy changes that may be identified when dealing with a specific emergency.

In general, the organization of the VETF has to be as similar as possible to that of the regular veterinary service because VETF personnel have to be integrated into the existing service framework. Indeed, part of the VETF personnel are regular service personnel detached from regular activities in order to serve in accordance with VETF procedures during emergency situations.

Should a general civil protection organization exist, it is advisable that, at least in the case of disasters, the VETF organization should be such as to enable its integration if possible into the general civil protection structure.

## 6. General Civil Protection Framework

The organizational units in general can be designated as follows: national centre, regional and/or provincial centre, and local centre.

Although they will always be activated in cases of emergency, the extent of their involvement will be dictated by the magnitude of the problem at hand. In any case all units will have to participate in the planning, programming, training and intervention exercises.

### 6.1 National Centres

At the national level, it is strongly recommended that if the country concerned has an exotic animal diseases centre with laboratory facilities it might be most effective to locate the operative National Centre for Emergencies there.

The National Centre must have the capability of collecting, evaluating, elaborating and distributing relevant information necessary for the planning and implementation of emergency action.

## 6.2 Regional or Provincial Centre

It will be necessary to organize intermediate coordination centres with the responsibility of supervising areas more limited than that of the national centre and which can ensure communications between the latter and the zone (or zones) where the emergency is present. These are especially important in cases of disaster when regular communication networks can either be destroyed or overburdened by all sorts of priority messages.

## 6.3 Local Centres

If, however, a VETF must operate in a limited area in a situation that calls for several field intervention groups it must choose between two alternatives:

- i. establish its operative centre solely at the Regional/Provincial Centre from which field intervention groups will operate;
- ii. establish a Local Coordination Centre.

The choice between these two alternatives will depend upon several factors such as the area to be served, the quality and quantity of the available personnel, and the communication facilities available, etc. Local Coordinating Centres offer several advantages such as:

- i. having more direct contact with the field situation and therefore a better understanding of the problems at hand, and more supplying timely task and resources distribution according to immediate needs;
- ii. representing a permanently available call point and bridge between mobile local units and regional/provincial centres.

Field task units should, as far as possible, be self-sufficient from the logistic point of view and should be supported by diagnostic laboratories.

## 7. Manpower

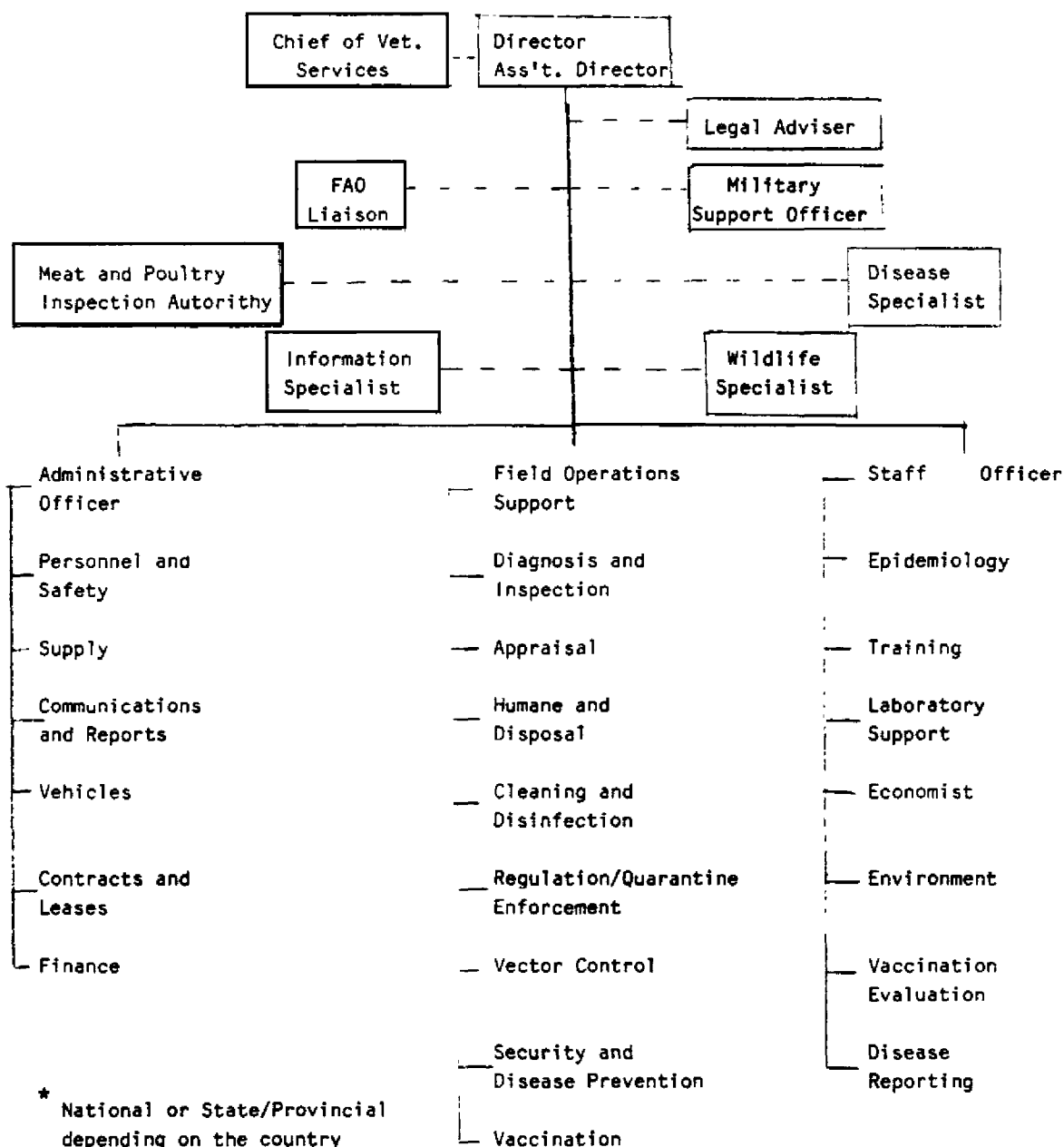
Manpower for the VETF can be divided into: (i) core personnel and (ii) additionally recruited personnel.

### 7.1 Core personnel

Core personnel will be nominated to the VETF. All core personnel do not have to be permanently attached to the VETF but must be made available when needed. The VETF, however, must have a minimum staff employed full time for planning, programming, training and evaluation. All core personnel must be readily available and always be in contact in case of emergency.

In Table 2, an organization chart for a VETF is set out. Such a chart refers specifically to emergency animal disease programmes but

Table 2. Task Force for National Emergency Animal Disease Programme\*



from: Matyas Z. Strategies for Control of Emergency Disease Situations: Zoonoses, Geneva (WHO, unpublished document CDS/Mtg./Mod/81.12)

can also be considered fully adequate in cases of emergencies arising from disasters.

It should be noted that not all personnel indicated in the chart would be needed in all emergencies. It is important, however, as stated above, that they should always be available when required.

Among core personnel should be included also all field personnel of the regular veterinary service operating in the zone involved in the emergency. However, it should be appreciated that in cases of disaster not all such personnel might be available.

ii) Additional personnel:

Additional personnel must, as far as possible, be recruited on a voluntary basis. This also applies to VETF personnel already employed by the veterinary service. In fact emergency conditions require, especially in case of disaster, such an amount of physical and psychological hardship and personal risk that compulsory recruitment must be avoided as far as possible if dedicated personnel are to be obtained. A list of personnel willing to be included on a voluntary basis should therefore be drafted and kept constantly updated.

Lists of VETF personnel to be employed in field activities should be as large as possible in view of the need for frequent rotation due to fatigue.