Organisation of Veterinary Services for the future

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Summary: Official Veterinary Services were set up to prevent and combat epizootic diseases which threaten national economies and endanger world trade.

Resource deficiencies, economic instability, public criticisms and deterioration of the environment require national veterinary organisations to adjust and re-model for the future.

Three major categories of economic, social and health activities cover over thirty identifiable veterinary functions in the public sector of governments of mixed and centrally-planned economies in developed and developing countries.

The directions of change required lie in the application of new technologies, more regard to economic analyses of animal health programmes, improvement in administrative efficiency through management training and the adoption of modern public administration techniques.

Methods for attaining these goals are discussed.


INTRODUCTION

Concerned by the prospects facing Veterinary Services throughout the world, the OIE International Committee decided in May 1985, during the 53rd General Session, to devote part of its 54th Session to studying the organisation of Veterinary Services.

During the 54th General Session, Sir William Henderson presented a comprehensive paper based on reports received from fifty-two member countries. This was discussed in great detail by participants. The OIE Committee then requested the Director General to set up a working group to prepare proposals for the future organisation of Veterinary Services.

This group, formed by the authors of the present paper, submitted a report to the 55th General Session in May 1987. The Committee approved the report and requested that it be published and communicated to governments of member countries and to International Organisations. The full text of the report follows.

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The instability of the world economy, which once seemed the direct result of the oil crises of 1974 and 1980, now appears to be a more lasting phenomenon. Economic war, overriding national interests, and intensive competition in trade have overshadowed the generous slogans of the Sixties.

Developing countries, often submerged by external debt, have seen exchange terms worsen. Countries exporting animal products find it hard to compete with developed countries which compensate higher production costs by export subsidies. Rather than earn a poor income from animal production, farmers move to the outskirts of large towns in search of employment. This rural exodus has been exacerbated in some regions, such as the Sahel, by deteriorating climatic conditions and, in other regions, by political conflicts. Apart from a few countries where the export of animal products plays a vital role in bringing in strong currency, the livestock sector is most often in great difficulty. This is particularly the case in regions where the soil is too poor for any other activity than livestock production. Driving their herds in search of new pastures and water, nomadic breeders of these regions are at the mercy of climatic conditions and devastating epizootics such as rinderpest. Politically, too, they live on the margin and generally receive little support from their governments. Thus, life styles and cultures rich in tradition are on the verge of disappearing, leaving behind them a deteriorated environment for which, in a simplistic manner, the farmers and breeders alone are held responsible.

Governments and International Organisations are often more conscious of the importance of preserving the natural resources of developing countries, than the populations themselves whose primary concern is survival. Desertification of range areas justifiably causes international concern, and Veterinary Services should play a greater part in the study of solutions to this problem and in providing the multidisciplinary approach needed.

As for developed countries, the distinction can be made between mixed and centrally-planned economies. In the first category, unemployment is a widespread problem and revenue from production is generally on the decline. Governments put up tariff or non-tariff barriers to protect their economies and reduce the funding of low-priority programmes.

The size and productivity of herds and flocks have increased during past decades while the number of breeders has decreased. The breeders are, in general, highly qualified in technical and economic matters, and are constantly kept up-to-date by the Farmers' Associations to which they are affiliated. Although few in number, they have considerable political influence. As industrialists, they try to avoid all forms of administrative supervision. The involvement of official Veterinary Services in their operations is thus limited to the major contagious diseases (e.g. foot and mouth disease, swine fever) and to programmes financed by the State (e.g. tuberculosis, brucellosis, enzootic bovine leukosis). For new disease control programmes (e.g. for Aujeszky's disease) industries increasingly take on the financial responsibility themselves.

The administration of many countries, in fact, considers that these programmes primarily benefit the breeders and therefore, that they should pay the costs. It is
likewise considered possible to reduce the resources of official Veterinary Services, since the most feared epizootics now seem to be a thing of the past. This is an illusion. There is also a tendency to think that Veterinary Services play only a protectionist role — more economic than animal health-oriented — with regard to foreign produce.

The centrally-planned economies make up the second category of developed countries. As in the previous group, devastating epizootics have now been checked. But recent experience in some parts of the world has shown the need for continuing vigilance and also the danger of complacency. Animal production here is rarely a matter of individual enterprises: it is a part of centralised, long-term planning. Animal health activities are considered as a technical tool of production. Their cost is calculated in advance, and failure to meet objectives may be ascribed to technical veterinary shortcomings. It is, therefore, the Veterinary Services that take on the technical responsibility. Confronted mainly by the problems of multifactorial diseases of intensive animal husbandry, they generally have sufficient personnel and logistical means. It is not certain, however, that they are always closely associated with planning decisions.

In all developed countries, the pressure of public opinion (and in particular, consumer associations) has given high priority to the quality and hygiene of foods of animal origin.

Pressure from ecologists and the community has also heightened demands for protection of the environment.

Community concern for animal welfare has added a new dimension to livestock management and this seems certain to increase.

The heightened sensitivity of public opinion may bring official Veterinary Services to inspect holdings for compliance with the regulations on drug and pesticide use and on animal welfare, and to certify prior to slaughter that animals are healthy and free of residues.

Confronted with issues such as these, Veterinary Services must take stock of their new political, social and economic environment and revise their policies and range of responsibilities accordingly.

FUNCTIONS AND ACTIVITIES

Historically, Veterinary Services were developed to improve the health and productivity of the national flocks and herds. Their subsequent role in food inspection aimed to protect public health and facilitate international trade. Scientific advances expanded the purely veterinary role into areas such as pharmaceuticals and clinical health care but, until relatively recent times, control and prevention of major epizootic disease was the prime concern of official Veterinary Services. This responsibility has in all countries been augmented by a much wider range of functions as authorities have responded to new community demands and changing priorities. Present-day activities are seen to fall into three major categories:

— Economic, comprising traditional areas of disease control, quarantine, animal production, pharmaceuticals and facilitation of trade;
- Social, including animal welfare, care of companion animals, environmental hygiene, training and professional relationships;
- Public health, including zoonoses, food inspection and food protection.

Many activities will be influenced by more than one of these factors, illustrating the complexity of contemporary veterinary programmes.

From one country to the next, functional tasks and responsibilities differ in detail, but in the overall national context, veterinary science includes five major areas:

- veterinary state administration of disease control, animal production, public health, quarantine and environmental protection;
- clinical health care;
- pharmaceuticals and biologicals;
- teaching;
- research.

The responsibility of the Veterinary Service in these areas will vary considerably from country to country but the Service must be closely in touch with all areas.

Specific tasks and responsibilities must be defined and approved by the national government and, whenever possible, endorsed by livestock industries and the community.

Priorities must be set and approved by the requisite authorities. New tasks should not be taken up without re-ordering of priorities and re-allocation or augmentation of resources. Tasks and responsibilities should be periodically re-assessed and re-ordered.

An approved Corporate Plan with policies, objectives, strategies, milestones, targets and a review process is increasingly recognised as a device of rational management. Such a Plan greatly assists in the determination of priorities, the securing of resources and the approval of programmes.

What functions and activities are carried out by national Veterinary Services will vary greatly according to the political system and the level of development of individual countries. The role of a veterinary private sector operating in a mixed economy will clearly demand a planning approach different from that necessary in countries with a centralised system. The veterinary programmes for developed or developing countries will also be influenced by the relative importance of the livestock industries, their nature and the state of national resources.

Notwithstanding these differences, the range of activities in the OIE member countries has much in common, in regard to both traditional activities and directions of change.

The range of activities identified in the latest survey of the 110 member countries includes:

1. Disease control: control and eradication programmes in conformity with national policies; methods of diagnosis, prevention, treatment and funding.
2. Exotic disease: surveillance, investigation, diagnosis and control; training; emergency programmes and contingency plans.
3. **Epidemiology**: information systems, data retrieval and analysis, economic and control feasibility studies, livestock identification systems.

4. **Quarantine**: import protocols, international negotiation, import priority determination, quarantine stations.

5. **Economics**: cost-benefit studies on health and production programmes.

6. **Livestock and animal products exports**: testing and certification, international negotiation, transport supervision, follow-up service, quarantine stations.

7. **Animal production**: breeding, genetics, nutrition and management; intensive and extensive systems, travelling livestock and grazing controls.

8. **Artificial breeding**: artificial insemination and embryo transfer technology, supervision and certification.

9. **Livestock marketing**: new breed development, sales and transport systems, classification of livestock and products.

10. **International cooperation**: disease reporting, regional disease control programmes, vaccine banks, technical aid programmes.

11. **Aquaculture**: fish husbandry, environmental hygiene, disease control.

12. **Wildlife**: conservation, disease control, harvesting, interbreeding studies.

13. **Zoos**: genetic resource conservation, disease diagnosis and management.

14. **Laboratory animals**: breeding and management, disease control and welfare.

15. **Animal welfare**: animal behaviour, stress management, codes of conduct, transport and management.

16. **Zoonoses**: diagnosis and control.

17. **Food inspection**: humane methods of slaughter, inspection and monitoring techniques, certification.

18. **Food technology**: production and processing methods, certification.

19. **Food hygiene**: hygiene methods, monitoring and preservation.

20. **Veterinary medicines**: pharmaceuticals, biologicals, diagnostic reagents and vaccines; storage and delivery systems; development, testing and clearance.

21. **Environmental and consumer protection**: control of water supplies, effluents and by-products from animal industries, pesticide application methods, ionising irradiation monitoring, tissue residue studies, and certification.

22. **Laboratories**: exotic and endemic disease diagnosis, pathology, immunology, biochemical and toxicology studies.

23. **Nutrition**: feeding studies, grazing and intensive industries, feedstuff standards and certification, deficiency diseases.

24. **Parasitology**: diagnostic methods, treatment, local and regional control programmes.

25. **Publications**: scientific material for the veterinary profession, para-veterinary staff and animal owners.

26. **Teaching**: veterinary undergraduate, postgraduate and para-veterinary levels.

27. **Clinical health care**: commercial livestock, companion animals, laboratory animals, birds, aquatic mammals, fish and wildlife.
28. **Professional organisations**: liaison, registration and postgraduate refresher courses.

29. **Livestock industry organisations**: liaison, consultation on animal production, disease control programmes and animal welfare.

30. **Legislation**: validating official programmes.

31. **Administration**: human resources, finance, programme evaluation systems, data handling, staff development.

32. **Research and development**: in all of these activities.

Each of these functions demands veterinary involvement. Priorities for the functions will vary between countries and even within regions. The final order of priorities and functions will be determined by governments but will be influenced strongly by industry, community and veterinary inputs.

**PROGRAMMES FOR DEVELOPMENT**

There is no ideal programme for the improvement and development of veterinary functions that will suit all countries of the world. Different levels of social development, and of public and political organisation with federal, centralised or decentralised structures, produce as many variations as there are countries. For these reasons, a course of action must be adapted to the real conditions in each country. The application of abstract idealised models serves little purpose.

It is possible, however, to describe some basic guidelines which can be adapted to the needs of individual governments and the public.

The fundamental directions for change involve the application of new technologies and methods of economic analysis as well as improvements in the efficiency of administrative systems.

**NEW TECHNOLOGIES**

The great advances made in recent years have given rise to new applications which are, in general, readily understood by veterinarians. Their basic qualifications in fields such as mathematics, statistics, biochemistry and immunology allow for the easy assimilation of new technologies such as computer and automatic laboratory techniques.

Originally designed to serve in human medicine and other biological sciences, these technologies have straightforward applications in veterinary science. Indeed, many advances have come from the veterinary field: the concept of population dynamics is the basis of herd and flock epidemiology. Particular areas benefiting from automatic data processing (ADP) include:

- communication;
- data storage and analysis;
- operational coordination;
- automated diagnostic tests;
- food protection;
- tissue residue studies;
- pharmacological control;
- emergency disease programmes;
- nutrition;
- animal breeding and genetics.

Application of these technologies will require a great deal of investment in the early stages but, apart from replacement, subsequent capital requirements should be limited. In any case, the setting up of these systems must be justified on the grounds of improved efficiency and savings in future operational costs. Labour savings should be demonstrable, with better use and greater efficiency obtained from personnel employed.

In all countries it is difficult to strike a balance between maximum employment and cost-efficiency of programmes. A large staff is, in itself, no guarantee of satisfactory programme results, particularly if this inevitably high and sustained financial commitment starves the administration of operational funding for motor vehicles, equipment, drugs and travel expenses.

It is essential therefore that complete economic studies precede the adoption of new technologies, especially ADP systems, to ensure that they are:
- more efficient
- cost-effective
- labour-saving.

Examples of new technologies likely to benefit and improve the services offered by veterinarians include:

a) ADP systems applied to disease control programmes with a network of terminals connecting the district and regional levels to a national data bank. This will improve the efficiency of epidemiological surveillance, animal movement controls, vaccination, treatment and quarantine. With data analysis more accurate, international reporting will be more timely and credible, thus enhancing internal and external trade potential.

b) ADP systems to increase the operative capacity of laboratories and the exchange and analysis of diagnostic and research data. More accurate and rapid methods of data handling will benefit animal disease programmes, food protection and quality control, animal production and drug control.

c) ADP systems more closely linking the veterinary administration to the food-processing industry. Increasing pressures for quality control by industry to supplement or replace traditional inspection methods will not be resource-saving unless the information is handled rapidly and efficiently.

d) ADP systems linking the Veterinary Services to the pharmaceutical industry to ensure compatibility in pharmacological evaluation, toxicology, safety and adequacy as well as on-going monitoring after registration. Close integration with human medical drug development is essential because of the use of animals in the evaluation and clearance studies.
e) The rapid development of new diagnostic aids which are simple to operate will allow some portion of traditional veterinary functions to be transferred from official services to private sector veterinarians and to livestock owners. If these tests are both accurate and outside the scope of national disease control programmes, Veterinary Services should support their application in order to economise resources. However, testing systems for national programmes and for international trade and reporting must retain the highest priority for the official service.

f) Developments of artificial breeding, including genetic engineering and embryo transfer, should lead to accelerated improvements in livestock production and should in the long term be resource-saving compared with traditional methods of livestock development and import quarantines.

ECONOMICS

Modern administration demands critical economic evaluation of new programmes before they are adopted and of established programmes if they are to continue.

It is no longer acceptable for a veterinary administration to eradicate a disease simply because it is present. There is strong competition for resources, and governments are aware that disease control programmes can be costly, protracted and difficult to terminate.

Cost-benefit analysis should precede any new programme and should be open to industry and public scrutiny. Veterinary administrators must expect their assumptions to be challenged and be prepared to defend or amend them.

Realistic time frameworks are essential as experience so often has shown how unexpected difficulties and interruptions can affect the best-planned schemes. The reliability of test procedures, treatments and vaccination protection must be honestly expressed. The possibility of a programme being cancelled due to an accident or an unforeseen event cannot be neglected.

Veterinarians need sufficient understanding of econometric studies to be able to communicate clearly with economists and to work in liaison with them in specific studies. Unless properly qualified, veterinarians should not undertake such studies alone. It is thus helpful to have economists out-posted to the Veterinary Service to strengthen liaison with the economic study group.

Regular economic studies are highly important for on-going programmes. The determination of options is always assisted by consideration of economic factors.

Termination of a programme is often more difficult than initiation, particularly if it has not been successful. In areas outside veterinary administration, such as education, social welfare and defence, the community and governments are accustomed to policy changes resulting from resource competition. Veterinary Services can expect no less.

IMPROVED EFFICIENCY OF THE ADMINISTRATION SYSTEM

This is the key to improved Veterinary Services. New technologies alone will not solve the problems; their application will be confusing and may even be wasteful or
destructive. Efficient administration means satisfactory management of all the technical, financial, legal, economic and human resources that make up a veterinary programme.

Veterinary training is not in itself a qualification for efficient management. But it should be a sound basis for acquiring the additional skills.

It is necessary to re-emphasise the variation among government systems and their administrative structures. Though it is not possible to establish a framework to satisfy all systems, it is possible to identify a number of areas of potential for management improvement, some of which should be applicable to all.

**a) Management training**

This is the development area of top priority. All veterinarians who pursue a career in a corporate structure, whether in the public or private sector, need management training as a complement to their technical skills. The ability to handle budgetary, legal, personnel, communication, programme development, programme evaluation and political issues comes only with special training. This training should be offered to managerial staff at all levels and is essential for top level administrators. Many forms are available, and those chosen need to be adjusted to the personal and career requirements of veterinary and other staff members. They include:

- short courses as arranged by the World Bank through the OIE;
- courses covering a wide variety of material in most countries and leading up to a formal Business Administration or Public Administration degree;
- the creation of special administration courses with a veterinary orientation in specific countries agreeing to admit foreign veterinary administrators. This project deserves support and should be explored by the OIE.

A staff back-up system should be used to cover for personnel selected for this training. In developing countries, foreign aid funding could be requested for overseas courses.

**b) Corporate planning**

This management technique is widely practised in the private sector and increasingly demanded in government administrations. The process of definition of policies, objectives, strategies and targets closely follows the scientific principle of defining a problem as the first step towards finding solutions.

Clear and unambiguous definition of corporate objectives and the planning methods to achieve them is a constructive aid to the process of efficient management.

Plans should be published and submitted to community and peer review and to regular reassessment. These plans will increase a staff’s understanding and commitment to approved programmes. Government approval and community awareness of the administrations’s aims and objectives facilitate access to resources.

**c) Structure**

The corporate structure of the organisation needs to be approved at the highest level. The number of hierarchical levels will be determined by current policy but there
is an increasing tendency towards reducing the numbers of levels in order to shorten the vertical chain of command and expedite the decision-making and implementation process.

It is essential that the veterinary organisation be headed by an administrator with a veterinary qualification. This is justified by the fact that animal health and production issues are of major importance in every country. The head administrator must also be able to carry on international communication in import/export and disease-reporting matters. It is also important that each country name a Chief Veterinary Officer who can speak authoritatively for his country and assume responsibility for the accuracy of export health certification.

Consolidation of the national veterinary activities in a single unit is most desirable to prevent wasteful duplication and to increase economic and technical efficiency. With any organisational structure, it is essential that there be effective programming and executive liaison between government units as well as with non-governmental organisations.

The head of the official Veterinary Service must have direct access to the head of his Department or Ministry and equally ready access to his Minister in case of emergencies or events of national importance.

d) Liaison

Because of the growing complexity of modern society, a multidisciplinary approach is essential to major policy development. This cannot be achieved on an ad hoc basis but must be incorporated into the regular process of administration. Liaison must be developed with other scientific disciplines as well as with government agencies dealing with budgetary, legal and personnel affairs.

Beyond government, it is important to have regular liaison with the pharmaceutical, food-processing and livestock industries, and with professional organisations concerned with veterinary-related matters.

International liaison with organisations such as the OIE, the FAO and the WHO should be maintained through a permanent unit of the veterinary organisation.

Developing countries receiving foreign aid and countries which provide assistance will find it advantageous to set up a Foreign Relations section in their organisation.

e) Finance

The competition for the national budget requires that high priority be given to securing adequate funds for capital works, staff and operational costs. Systems must be put in place to ensure that the organisation smoothly administers the resources under its control and accepts public accountability for this trust.

Administrations must be prepared to consider programme funding from sources other than consolidated revenue. There is an increasing attraction to the "user-pays" principle. This has the disadvantage of raising a direct levy but the advantages of stability and longer-term planning horizons.

An understanding of modern budgetary and accounting systems and government methods of parliamentary appropriation and expenditure review are essential prerequisites for efficient management.
f) Legal

It is advantageous to have a legislative basis for major programmes. Though sometimes tedious, parliamentary and public scrutiny can confer advantages on important policies. Where legislation is developed, it is important to define clearly the responsibilities assigned to regulatory and executive levels, and to agencies and independent organisations.

g) Regionalisation

Countries of large land mass usually have territorial subdivisions of veterinary administration for geographic, political or cultural reasons. Such decentralisation, which may have advantages at the local level, makes central and national uniformity of policy application more difficult.

Consequently, where there is some decentralisation of administration, the central organisation must ensure a communication structure and operation that allows for two-way direct transmission of reporting, policy development and decision-making.

h) Communication

This must be effective within the organisation and to outside bodies. It includes reports, policy options, public statements, advice to farmers, scientific papers, conferences, legislation, advice to Ministers and international reporting.

Communication is a special art. Veterinarians, no more and no less than other professionals, need training and practice to perform it successfully.

Veterinary Services need to be marketed to established and potential consumers.

i) Evaluation

As soon as a programme commences, the evaluation process will be undertaken by those directly affected. It is important that the organisation maintains the lead in this process and develops a regular system of self-analysis and continuous evaluation. For major programmes, outside bodies may demand, or may be invited to carry out, a more objective scrutiny.

The setting of quantifiable targets in the Corporate Plan assists evaluation.

CONCLUSIONS

The organisation and membership of the OIE reinforces the mission of the world’s Veterinary Services, which is the betterment of mankind through the welfare and production of animals.

The goals of improved human nutrition and well-being are sought through international cooperation in disease control, more efficient animal production, improved animal welfare, protection of the environment and facilitation of trade.

To achieve these goals, Veterinary Services must be provided with the necessary resources and must also be prepared to respond to the challenges of constantly
changing social and economic conditions. External pressures arise from national
governments, from climate and international trade, and from within the community.

Adoption of new technologies assists the response to new requirements, providing
the new methods are efficient and cost-effective.

Improvements in management and administrative efficiency are essential
ingredients in the satisfactory organisation of Veterinary Services for the future.

Means towards this include:

– training to improve management, which can be provided by international
  agencies and existing organisations;
– wider use of econometric methods in programme development and operations;
– consolidation of veterinary structures to ensure efficiency and to prevent
duplication;
– new approaches towards financing, including cost-recovery and private sector
  utilisation;
– strengthening the legal basis of priority services;
– wider multidisciplinary liaison;
– improved communication;
– development of the corporate planning process.