Organisation of veterinary public health in Africa

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Summary: Veterinary public health (VPH) is not integrated into the mainstream of public health services in Africa. There are no formal mechanisms within government public health services through which veterinary skills and resources can be effectively harnessed to bear upon community health. There is no conscious, overt or substantial effort by public authorities to incorporate VPH services in the overall approach to public health. VPH activities cover mainly the control of the major animal diseases transmissible to man (zoonoses), meat inspection and, to a limited degree, the quality control of milk, fish and their products. These services are carried out by the Veterinary Services of the Ministry of Agriculture in each country.

Concerning education, only 7 of the 28 schools of veterinary medicine in Africa have separate departments where VPH subjects such as epidemiology, food hygiene, zoonoses, biostatistics, community health, public administration, preventive medicine and other related fields are taught by public health-trained and oriented staff. Elsewhere the teaching of VPH subjects is delegated to staff whose foremost interests are in pathology, microbiology and clinical medicine. Postgraduate training in VPH is fast developing in the veterinary schools of Nigeria, Kenya and Uganda.

Political instability, war, famine and poverty which deplete human and material resources, lack of intersectoral cooperation in matters of public health and lack of vigour on the part of the veterinary profession as a whole to assert its broader role in the community also contribute to the poor organisation of VPH in Africa.

International collaboration in VPH is spearheaded by the Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO). These agencies, along with the Office International des Epizooties (OIE) and other international organisations or groups, are active in promoting the development of VPH programmes by setting guidelines on the organisation and management of VPH, coordinating control programmes for the major zoonoses and providing financial and technical expertise.

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The concept and practice of veterinary public health (VPH) in Africa is somewhat different and limited with respect to the generalisation of the discipline described by the Joint Food and Agriculture Organisation (FAO) and World Health Organisation (WHO) Expert Committee in VPH (8). VPH in Africa is not regarded as a component of public health services. Public health authorities pay only lip service to the concept of organised community effort or an interdisciplinary approach to public health problems. Many health units have little or no coordinating relationship with other government units involved in human welfare. For instance, the environmental health services of a typical health unit in an African country (6) include waste disposal, water and food protection, control of pests and animal reservoirs of disease. Although these services all lie within the competence of public health veterinarians, health officials prefer to undertake them exclusively, in spite of the shortage or lack of expertise of the medical personnel involved, particularly regarding meat inspection and the control of zoonoses.

In the textbook of preventive medicine which is generally considered the most important of the university medical texts in Africa (15), the presentation of the guidelines for organising health services emphasises the need for “interterritorial health cooperation and coordination particularly in the control of communicable diseases and in the alleviation of malnutrition”. Unfortunately this splendid ideal of cooperation and coordination is confined to medical, nursing and paramedical circles. The root cause of this situation, according to Fajewonyomi (5), is “the historical separation of veterinary and medical services in different departments between which there is no effective collaboration”. The lack of understanding of the veterinarian’s potential contribution to community health care is exacerbated by the shortage of skilled veterinary manpower, deficient infrastructures and logistics (13); and the inadequate orientation of many veterinarians to their broader responsibilities in public health. Over and above these considerations, many countries in Africa have been subjected to political instability, civil war and famine for many years. Human and material resources have been applied on priority to political matters and to averting the spectre of hunger, leaving a limited portion for social development. Veterinary Services are one sector among many given least priority in the allocation of scarce resources, except in a few countries where the livestock industry contributes substantially to the national economy, as in Botswana and, to some extent, Lesotho and Zimbabwe.

Over the years the medical and veterinary sectors have been exhorted to cooperate and take a multidisciplinary approach to public health problems in Africa. The areas of activity where physicians and veterinarians can collaborate were specified in a 1977 symposium held in Kaduna, Nigeria (2). In 1978 the author also proposed the establishment of a veterinary public health and zoonoses centre in Nigeria to promote the utilisation of veterinary manpower for public health in the subregion of West Africa. This was an attempt to extend the global network for the utilisation of veterinary skills, knowledge and resources for the promotion of public health (21). In 1981 he called upon the Nigerian Veterinary Medical Association to make a strong appeal in government for the creation of a VPH unit in the Federal and State Ministries of Health; and he outlined the contribution to be made by such a unit in national development in Nigeria (E.D. Belino, unpublished communication). Fajewonyomi proposed the appointment of public health veterinarians “to work in the veterinary
public health units of preventive medical services” which were then non-existent in Africa (5), or even to involve the entire population of Nigeria in public health efforts (6). More recently, the OIE Regional Commission for Africa (19) recommended that “recognition should be given to the need to exploit the skills of the veterinarian trained in highly specialised fields to avoid the wastage of human resources”. An instance of real cooperation between the veterinary and medical sectors was provided in 1987 in Nigeria when the National Veterinary and Research Institute and the National Institute for Medical Research jointly organised the First National Conference on Zoonoses. The conference attracted many prominent veterinarians and medical doctors and a resolution was adopted for continued cooperation (J.U. Umoh, personal communication).

Nevertheless, it seems clear that the full participation of the veterinarian in public health service delivery (through a veterinary public health unit in the public health service) has not been possible since the creation of Veterinary Services in Africa by the colonising powers. Even in recent years, the increasing numbers of veterinarians who have specialised training in VPH and those who have keen interest in public health objectives have been unable to gain access and become active participants in public health programmes. There are no formal mechanisms in the public health services whereby public health veterinarians could participate in the organisation and implementation of VPH activities, except in a rare instance in Uganda where a veterinarian with a postgraduate degree in public health has been employed by the Ministry of Health since 1975 to take charge of the veterinary aspect of human sleeping sickness (S. Mugwanya, personal communication). Veterinary activities with an impact on public health are normally carried out by the animal health service of the Veterinary Services of the Ministry of Agriculture in most African countries. Some VPH units have been created but these operate within the Veterinary Services and as such their activities remain isolated from the mainstream of public health programmes.

Given the various constraints on the establishment of a VPH unit in the public health service, the operation of such units within the animal health service of the Veterinary Services of the Ministry of Agriculture has been considered “the most effective and cost-efficient organisational arrangement” by an FAO Expert Consultation on strengthening animal health services in developing countries (13). A WHO Regional Workshop on national programme development in VPH (3) concluded that VPH units operate very well within the Veterinary Services of the Ministry of Agriculture.

GENERAL ORGANISATION OF VETERINARY PUBLIC HEALTH SERVICES IN SOME AFRICAN COUNTRIES

Given the dearth of published references on the subject, it is not possible to cover the organisation of VPH activities in every country of the continent. Much of the information in this paper is based on the reports, working papers and discussion with participants at seminars and training courses held at the FAO Regional Training Centre for Meat Inspectors and Meat Technologists in Africa (Lobatse, Botswana) from 1985 to 1990, and from the responses by Chief Veterinary Officers to a questionnaire survey on the organisation of VPH services.
The VPH functions discussed here are limited to the control of common zoonoses and the quality control of food of animal origin, both of which are undertaken by the Veterinary Services of the Ministry of Agriculture in each country. Other veterinary activities intended to enhance livestock and their products, and thereby indirectly contribute to human welfare, are beyond the scope of this review.

ALGERIA

The Directorate of Veterinary Services of the Ministry of Agriculture and Fisheries is the agency responsible for activities related to the wholesomeness of meat and foods of animal origin including fish and fishery products and for the control of the major zoonoses which include bovine tuberculosis, brucellosis and rabies.

Veterinary inspectors of the Meat Inspection Service in each Regional Veterinary Directorate are responsible for the inspection of live animals, abattoirs, meat products, fish shops and all premises where food animals, meat and fish are processed, stored or purveyed to the public.

The veterinarians and personnel of the Animal Health Service, in collaboration with the National Committee for the Control of Zoonoses, are responsible for zoonoses control through epidemiological surveillance. The control scheme for rabies includes health surveillance for dogs, vaccination of pet dogs, destruction of stray dogs and public education. The regional committees implement the control scheme at the local level (19).

ANGOLA

The Veterinary Public Health Division of the Department of Livestock, Ministry of Agriculture is the national agency responsible for VPH activities, mainly meat inspection and zoonoses control. Functions are delegated to VPH sections at the provincial and municipal levels. The legislation and regulations governing the wholesomeness of meat and other products of animal origin including fish were made in 1931 and have never been amended. Under this legislation, veterinary inspection of meat is the exclusive function of the veterinarian and his auxiliary staff. Veterinary control includes the inspection and registration of meat shops, cold stores, restaurants and other places where meat and meat products are stored or sold. The service is hampered by inadequate finances, shortage of qualified personnel and antiquated legislation (C. Santos Almeida, personal communication).

BOTSWANA

Zoonoses control is carried out within the Animal Health and Production Department of the Ministry of Agriculture, under the direct supervision of the Director for Disease Control. Countrywide vaccination of animals for the two major zoonotic diseases – anthrax and rabies – is conducted annually. Veterinary centres located in the municipalities and urban centres provide free vaccination of dogs and cats and assist the local medical officer in obtaining information on rabies in dogs. Laboratory
diagnosis of rabies in domestic dogs and wildlife is performed by the National Veterinary Laboratory (1, 17).

The controlling authority for the export of meat from Botswana is the Ministry of Agriculture through the Director of Animal Health and Production and the staff of the Abattoir Hygiene and Quality Control Division of this department. Veterinary officers in the European Economic Community (EEC) approved export abattoirs supervise all hygiene aspects of abattoir operations. This veterinary inspectorate has a staff of qualified meat inspectors and auxiliary personnel. In addition, the inspectorate has available the facilities of the National Veterinary Laboratory and Botswana Meat Commission (BMC) for laboratory support. Veterinary inspectors from the EEC make periodic visits to the export abattoirs to ensure that the local inspectorate implements all aspects of the EEC Directive on meat export. The control of municipal abattoirs is the responsibility of the individual local authorities and meat inspection is performed by the health inspectors of the Ministry of Health in these authorities. An attempt has been made, however, by members of the Department of Animal Health and Production to draft some amended legislation by which not only the needs of the export abattoirs would be met but also those of all categories of abattoirs dealing with the supply of meat for local markets.

CAMEROON

The Section for Animal Protection and Veterinary Public Health of the Veterinary Service Department, Ministry of Livestock, Fisheries and Animal Industries is directly responsible for the veterinary sanitary inspection of live food animals and their meat, and fish and their products, throughout Cameroon. The Section operates at the national and provincial levels as well as through village zootechnical centres. Its activities are carried out by professional veterinarians, veterinary nurses and meat inspectors in accordance with the modalities of meat inspection practice under the Veterinary Sanitary Inspection Decree. This personnel also undertakes the inspection of fish and fish products at seaports, cold stores, smoking and packing houses, and places of storage and sale. As in meat inspection, products found unfit for human consumption are seized and destroyed.

CHAD

Prior to becoming independent there was no legislation to regulate meat inspection in Chad. Following independence, the Livestock Decree of 24 July 1961 created the Department of Livestock and under it several departments (the Farcha Laboratory, the Farcha Abattoir, Animal Products, Animal Health and Veterinary Sanitary Meat Inspection). The principal activities of the Veterinary Sanitary Inspection Department are inspection of marketed meat, the slaughter slab, meat shops and restaurants; inspection of fish and fish products; control of animals and meat entering the country; and protection of the public against zoonotic diseases. Meat inspection in the Farcha abattoir is conducted by the Department of the Farcha Abattoir. Vaccination is the main approach to the control of anthrax and rabies.
EGYPT

The General Organisation of Veterinary Services of the Ministry of Agriculture is responsible for all programmes of zoonoses control and meat inspection through the Directors of the Zoonoses Department and the Abattoirs and Animal Products Department respectively. The zoonotic specialist is responsible for the control and eradication of tuberculosis and brucellosis through the test and slaughter method (with compensation) as well as other zoonotic diseases which include hydatidosis, liver fluke infestation and rabies. The Department of Abattoirs and Animal Products implements the inspection of meat and other animal products according to the legislation (Part II of Animal Health) issued in 1988 and reoriented by Ministerial decrees in the years following.

ETHIOPIA

Proclamation No. 274 of 1970 empowers the Minister of Agriculture to control and regulate abattoirs and establishments to ensure the wholesomeness of meat and meat products for both foreign and domestic markets. The Minister of Agriculture performs these functions through the Meat Inspection and Quarantine Division which is responsible for the sanitary control of industrial, rural and municipal abattoirs as well as meat and meat products.

The Veterinary Services Department is not empowered to control and ensure the wholesomeness of meat and meat products slaughtered outside the abattoirs and slaughterhouses in rural areas. The sanitary control of handling of meat and meat products is the responsibility of the Ministry of Public Health and the municipalities.

The authority to inspect and control sanitary conditions of imported foods of animal origin belongs to the Ministry of Public Health. There are no regulations for inspection of milk, milk products, fish and fish products for local consumption. The Ministry of Agriculture has full powers, however, to control and inspect the sanitary conditions of abattoirs, slaughter slabs, meat and meat products, fish and fish products and other animal products intended for export.

GAMBIA

The Veterinary Public Health Division of the Ministry of Agriculture is the agency responsible for meat and fish inspection and the control of zoonoses in the Gambia. The VPH Division is headed by a Senior Veterinary Officer who is assisted by Meat Hygiene and Milk Hygiene Officers. These two veterinary officers direct an auxiliary staff of veterinary public health assistants, laboratory technicians and livestock attendants. The Medical Research Council Foundation and the Central Veterinary Laboratory provide laboratory services for the detection of radioactive substances and residues of antibiotics and hormones in meat.
GHANA

At present, meat, milk and fish inspection is jointly carried out by the VPH unit of the Animal Health and Production Department, Ministry of Agriculture and the Ministry of Health. These activities will be transferred entirely to the VPH unit once the National Food Law comes into effect. Zoonoses control (e.g. rabies, tuberculosis, anthrax, brucellosis and cysticercosis) is carried out by the VPH unit with full cooperation from the Ministry of Health. For example, dogs which have bitten humans are referred to the VPH unit for quarantine; the unit is also consulted in the disposal of slaughterhouse effluents and other livestock wastes. At the national level, the Deputy Director coordinates and monitors all of the unit’s activities. Regional and district animal health and production officers supervise the unit’s activities at these levels.

KENYA

Prior to 1976, meat inspection was the responsibility of the Ministry of Health (Public Health Act, Cap. 242), except for the Export Abattoir of the Kenya Meat Commission, supervised by the Department of Veterinary Services. The Meat Control Act of 1976 transferred the responsibility for meat inspection to the Veterinary Department in the Ministry of Agriculture whereas milk and fish quality control remain in the Ministry of Health. This transfer was nationwide, although some rural areas remain the responsibility of the Ministry of Health.

The control of rabies is a collaborative undertaking between the Ministry of Health and the Veterinary Department, with the former providing health education, vaccine and serum for pre- and post-exposure treatment in humans, and the latter responsible for rabies control in animals through mass vaccination of dogs, destruction of stray dogs and surveillance of disease incidence (16). Brucellosis is not notifiable; hence there are no official control measures (1).

LESOTHO

The Meat Inspector of the Veterinary Division, Ministry of Agriculture is responsible for meat hygiene at the National Abattoir and Maseru Municipal Abattoir only. Districts and rural areas are the responsibility of health inspectors and local health officers.

The Animal Health Service of the Veterinary Division is responsible for the control of brucellosis and rabies in animals. Surveillance on the recurrence of brucellosis in modernised dairies was started in 1984 and on animals at the National Feedlot and Export Abattoir under the Market Cattle Identification Programme in 1986. All animals found positive were traced to their herd of origin then slaughtered. Rabies control is effected mainly by free mass vaccination of dogs and cats. Vaccination points are set not more than 5 km apart and the dates of vaccination are made known to the public by radio broadcasts, public meetings and posters in strategic places. This campaign is conducted yearly (1).
MALAWI

The Veterinary Service of the Ministry of Agriculture, through its veterinarians and meat inspectors, is the agency officially responsible for meat inspection throughout the country. However, public health inspectors of the Ministry of Health perform meat inspection in areas not covered by the personnel of the Veterinary Service (D. Ndovi, personal communication). The Veterinary Service is also responsible for rabies and brucellosis control in animals. Rabies control is focused on domestic dogs, with compulsory annual vaccination for all dogs over the age of three months. Diagnosis of rabies in animals is conducted by the Central Veterinary Laboratory. The control of brucellosis is performed through the test and slaughter of positive animals and the vaccination of young stock; strict quarantine rules are applied to breeding herds. Vaccination is performed mostly on government farms. The absence of compensation for the slaughter of positive animals is a major obstacle in the application of the slaughter policy in private herds (1, 18).

MALI

The Veterinary Sanitary Inspection Division of the Department of Livestock, Ministry of Environment and Livestock is responsible for the inspection of meat and meat products and other products of animal origin including eggs, fish, crustaceans, molluscs and other fish products.

MAURITIUS

The Official Veterinary Services are responsible for the authorisation of all importation of meat and its inspection on arrival in the country. Inspection of fresh meat at the abattoir is carried out by veterinarians attached to the Mauritius Meat Authority which is a parastatal body. Health inspectors of the Ministry of Health are concerned with general inspection of food items including hygiene of meat shops. They can seize only those meat items which have deteriorated following inspection by Veterinary Officers. However, there is still some confusion as to whether it is the Ministry of Agriculture or the Ministry of Health which is legally empowered to seize meat unfit for human consumption. This matter is under study and new legislation is being prepared.

MOZAMBIQUE

The Veterinary Public Health Office of the Animal Health Department of the National Directorate of Livestock, Ministry of Agriculture coordinates all activities related to the control of food hygiene (products of animal origin) and zoonoses through its provincial offices. The VPH Office is responsible for the inspection of all meat and animal products in slaughterhouses and processing plants. In contrast, the Ministry of Health is responsible for controlling the hygiene of marketed meat products. The hygiene of fish and other marine products for export is the responsibility of the State Secretary for Fishing.
Rabies control in animals is based on annual compulsory vaccination of dogs and destruction of strays (14). The VPH Office is responsible for the vaccination of dogs and cats and the diagnosis of rabies in animals. The capture and impounding of stray dogs are performed with the assistance of the City Council. Certificates of vaccination are required for all dogs entering and leaving the country. The Central Veterinary Laboratory produces the Flury strain LEP vaccine for dogs and the HEP vaccine for cats and cattle. Laboratory diagnosis of rabies both in human and animals is provided by the Central Veterinary Laboratory and provincial laboratories.

The national programme for brucellosis control is integrated into the national programme for animal disease control and calls for prevention through compulsory vaccination of all female calves, serological testing and slaughter of positive animals, control of animal movements and establishment of Brucella-free herds (1). Control of tuberculosis is carried out through annual tuberculin testing in cattle. Positive animals are slaughtered in abattoirs and, according to the degree of infection, carcasses are totally or partially condemned.

NIGERIA

The Federal Department of Livestock and Pest Control Services of the Ministry of Agriculture took over responsibility for meat inspection from the Ministry of Health in 1968, by virtue of the Meat Edict of 1968. This Edict is operative in all twenty-one states of the Republic. The Veterinary Public Health Division is directly responsible for the implementation of programmes in dairy and meat quality control, zoonoses and environmental sanitation, and abattoir management and by-product utilisation.

SENEGAL

The Veterinary Services of the Ministry of Rural Development and Hydraulics comprise a national Directorate and decentralised services in every region. Responsibilities of the Veterinary Services include:

- control of the origin and wholesomeness of animal products and by-products (meat, eggs, milk and their derivatives; skins, hides, etc.)
- hygiene control in food industries
- control and sanitary surveillance of animals, especially at border stations
- zoonoses control (in collaboration with the public health services)
- mass vaccination campaigns
- other activities including development of range farming, organisation of farmers' associations, animal economy and husbandry programmes.

SEYCHELLES

The Veterinary Services Department is the agency responsible for the quality control of meat and other foods of animal origin.
SIERRA LEONE

There is no veterinary public health unit within the Veterinary Services Department. Veterinary activities relating to public health are carried out by regional veterinary officers serving in the seven agricultural regions. Every region is divided into two districts, each under the control of the District Veterinary Officer who is directly responsible for the control of zoonoses in animals and ante-mortem inspection of food animals. Post-mortem inspection is carried out by the health inspectors of the Ministry of Health.

SOMALIA

Zoonoses control in animals and meat hygiene, both nationwide, are the responsibility of the Veterinary Services of the Ministry of Livestock.

SUDAN

Under the Meat Inspection Act (1974), the Ministry of Agriculture is responsible for the organisation and implementation of meat inspection and hygiene. The professional work of meat inspection and hygiene throughout the country is carried out by veterinarians, meat inspectors and their assistants in the various regions and districts in the Sudan. The Disease Control and Eradication Division is responsible for the control of zoonoses in animals.

TANZANIA

The Food (Quality Control) Act of 1978 empowers the Minister of Health to control the hygiene of all foods in Tanzania. However, the meat hygiene regulations of 1962 which assign the duty of meat inspection to veterinarians and trained meat inspectors were incorporated into this Act. Under this provision the veterinarians and meat inspectors are the officers authorised to conduct meat inspection.

The Department of Veterinary Services, Ministry of Agriculture is responsible for the control of brucellosis and rabies. Control measures for rabies consist of vaccination of dogs and cats and the capture and destruction of strays. For brucellosis control, the measures are import restrictions, calfhood vaccination, test and slaughter, restriction of animal movements, hygiene and sound management (I).

UGANDA

The Veterinary Public Health Division is supervised by the Director of Medical Services of the Ministry of Health. The head of the VPH unit is a veterinarian with a postgraduate degree in public health. He is in charge of veterinary aspects of the sleeping sickness control programme of the Ministry of Health. Control of other
zoonotic diseases (e.g. hydatidosis, brucellosis, anthrax and rabies) is implemented by the Animal Health Service of the Department of Veterinary Services. Meat inspection is the responsibility of the Department of Veterinary Services.

There is an interministerial coordinating committee between the Ministries of Health and Agriculture for the control of rabies. Veterinary control of rabies consists mainly in quarantine, control of movement of cats and dogs, mass vaccination of dogs and cats and the capture and destruction of stray dogs and wildlife reservoirs such as jackals. Brucellosis control consists in vaccination of calves, sheep and goats on a voluntary basis, along with education of farmers and the general public concerning good hygiene practices (1).

ZAMBIA

Responsibility for meat inspection is shared between the Department of Veterinary Services and the Department of Health, with the Ministry as the overall controlling authority. The participation of veterinarians and meat inspectors is confined to the inspection of meat produced in the large export abattoir. The hygiene of slaughterhouses and slabs and the inspection of meat are the responsibility of the health inspectors of the local health administrations, with the assistance of available veterinary meat inspectors.

Veterinary control of rabies in Zambia consists of vaccination of dogs and cats, surveillance of rabies carriers and the destruction of infected and stray dogs. The national programme for dog rabies which started in 1984 aims to vaccinate over 80% of the canine population over a period of five to six years. Its initial emphasis was on highly urbanised areas. The Department of Veterinary and Tsetse Control Services conducts serological surveys to establish the incidence of brucellosis in support of the brucellosis control policy, which includes slaughter of animals found positive in the commercial herds in order to establish brucellosis-free herds, calfhood vaccination using S19 vaccine produced by the Central Veterinary Research Institute, slaughter of all positive animals from other herds, control of breeding stock and improved animal husbandry (22).

ZIMBABWE

The Veterinary Public Health Branch of the Department of Veterinary Services (Ministry of Lands, Agriculture and Rural Resettlement) is the organisational unit responsible for meat inspection in Zimbabwe's export abattoirs. The staff of the VPH Branch consists of the Chief Veterinary Health Officer, VPH Officer, chief meat inspector, abattoir supervisors, senior meat inspectors and apprentice meat inspectors. The hygiene of other abattoirs and slaughter places and the meat processed there are controlled by the health inspectors of the Ministry of Health. New regulations are under consideration which would transfer the inspection of meat in rural and communal areas to the Veterinary Services; veterinarians are, in general, expected to play an increasing role in all meat hygiene affairs. The Field Branch of the Veterinary Department, supported by the Research and Training Division, is responsible for the control of zoonoses including rabies, anthrax, brucellosis,
tuberculosis, trypanosomosis, leptospirosis and Rift Valley fever (1). Zoonoses measures are based upon the various Animal Health Regulations issued under the Animal Health Act (1961). The Ministry of Health reports all cases of dog bites to the Veterinary Department for the diagnosis of rabies in the biting dog.

VETERINARY PUBLIC HEALTH EDUCATION AND TRAINING

The quality and intensity of VPH activities in a given setting are influenced by the training the public health veterinarian has received. Colonial governments introduced veterinary education in many of the African countries and for this reason, the curricula of the existing veterinary facilities in Africa bears a close resemblance to those of the veterinary institutions associated with their development. But over the years many veterinary institutions in Africa have lagged behind, taking little note of the rapid changes and developments in contemporary veterinary education that have occurred elsewhere in the world, particularly with regard to fields such as VPH. In certain quarters, pathology is still considered the cornerstone of veterinary education (23), despite the current view that epidemiology is basic to all problems of (health or) disease and veterinary community medicine (20).

VPH as a distinct field or discipline is a relatively new concept on the African continent and is not given adequate support and encouragement by the veterinarians themselves (J.U. Umoh, personal communication). The teaching of VPH subjects in the majority of the 28 schools of veterinary medicine is delegated to teachers whose foremost interests are in other disciplines such as microbiology, parasitology, pathology and medicine. VPH subjects (mainly meat hygiene and control of zoonoses) are incorporated into the major veterinary departments of pathology and microbiology or medicine. The former are not taught by a distinct and qualified public health staff except in some schools of veterinary medicine in Nigeria (full Departments of Veterinary Public Health and Preventive Medicine exist in the Faculty of Veterinary Medicine in the University of Ibadan, Ahmadu Bello University, University of Maiduguri, University of Sokoto and University of Nsukka), Kenya (the Faculty of Veterinary Medicine of the University of Nairobi, has a Department of Public Health) and Uganda (Makerere University also has a separate Department of Veterinary Public Health). In these cases, VPH includes food hygiene (meat, milk and fish), biostatistics, epidemiology, zoonoses, environmental health, jurisprudence, public health administration, etc.

In 1984, the FAO Expert Consultation on veterinary education in Africa (11) recommended an emphasis on “preventive medicine and veterinary public health rather than on therapeutic veterinary medicine”. Eldisougi (4) proposed that at least 6% of the total undergraduate veterinary teaching load should be devoted to VPH subjects such as food hygiene, zoonoses and epidemiology. Of the 28 African veterinary schools surveyed by the author in 1991, only 14 indicated that 2-7% of the undergraduate veterinary teaching load was devoted to VPH subjects. According to responses to the survey, veterinary faculties in Zambia, Tanzania, Egypt, Libya, Kenya and Nigeria offer postgraduate courses in the field of VPH leading to postgraduate diplomas, master’s or doctoral degrees. Forty-one veterinarians in Nigeria have at least one postgraduate degree in VPH (J.U. Umoh, personal communication).

Subprofessional education and training in meat inspection and VPH was introduced in Nigeria in 1972 (9). The FAO Regional Training Centre for Meat
Inspectors and Meat Technologists in Africa was established in Lobatse, Botswana in 1984 as a follow-up to the Training Centre for Meat Inspection in Kenya, nationalised in 1976.

RESEARCH RELATED TO VETERINARY PUBLIC HEALTH

International agencies are actively involved in coordinating research on the major animal diseases of public health importance in Africa. A vast number of research projects on various aspects of trypanosomosis control and other diseases are being conducted in the region by the WHO, International Atomic Energy Agency (IAEA), World Bank, International Centre of Insect Physiology and Ecology (ICIPE), International Laboratory for Research on Animal Diseases (ILRAD) and International Trypanotolerance Centre (ITC). From 1984-1987, the FAO accorded fifteen research contracts on various aspects of trypanosomosis control in eleven African countries (12).

Research on various topics of VPH importance is planned and executed mainly by students in the postgraduate degree programmes and by the staff of the Departments of Veterinary Public Health.

INTERNATIONAL ORGANISATIONS INVOLVED IN VETERINARY PUBLIC HEALTH IN AFRICA

The control of African and human trypanosomosis is the major public health problem that has called for the cooperation of various international organisations. The FAO plays the coordinating role in the FAO programme for the “Control of African animal trypanosomiasis and related development”. The WHO is responsible for coordinating action in the thirty-six African countries where sleeping sickness is endemic. Other international agencies involved in this continent-wide effort include the United Nations Development Programme (UNDP) and the World Bank which, in collaboration with the WHO, have a special programme for research and training in tropical diseases. The IAEA has a technical cooperation programme with the FAO in Ghana, Tanzania, Zambia, Uganda and Zimbabwe. The WHO programme of “Primary care for the prevention and control of African trypanosomosis” includes technical support to governments where trypanosomosis is endemic, and assistance in the mobilisation of bilateral and multilateral financial support; the WHO Field Programme includes tsetse control projects in Cote d’Ivoire, Zaire, Uganda and other countries; the FAO promotes and supports research in Benin, Burkina Faso, Cote d’Ivoire, Ethiopia, Ghana, Mali, Niger, Rwanda, Tanzania, Zambia and Zimbabwe on the various aspects of trypanosomosis control. As the coordinator for human and animal trypanosomosis projects in Africa, the Organisation of African Unity (OAU) works through the International Scientific Council for Trypanosomosis and Research Control (ISCTRC) which meets every two years to promote the exchange of scientific knowledge and research achievements in trypanosomosis (7, 10, 12). Recently, four international organisations have outlined a set of “Guiding principles for planning, organisation and management of veterinary public health programmes” which is relevant to the African situation (3).
The Office International des Epizooties (OIE) has long been involved in the development of Veterinary Services in Africa. Thus, during the 48th and 49th General Sessions in 1980 and 1981 respectively, the OIE International Committee recommended:

a) the establishment of a methodology for socio-economic analysis, suitable for adaptation to different regional situations

b) the creation of data bases suitable for research purposes

c) the introduction of programmes of training, education, and research in epizootiology and veterinary economics at all appropriate levels and on a regional basis

d) the elaboration of techniques of economic analysis to assist planning, evaluation and implementation of programmes for production and animal health at farm level and on a national level

e) the integration into the information system for animal diseases of the data needed for economic analysis, particularly the structure of herds, parameters of productivity, the effects of diseases on them and the cost of prophylactic measures available to governments and farmers.

The essence of some of the foregoing recommendations was elaborated and translated into programmes of action at the 6th Conference of the OIE Regional Commission for Africa held in Harare from 22 to 25 January 1985. The specific functions of the OIE recommended in this conference included that:

a) the Director General of the OIE pursue his efforts towards the implementation of the Pan African Rinderpest Campaign

b) the Director General seek funds for a feasibility study on the establishment of vaccine banks at vaccine producing laboratories or the storage of vaccines in threatened countries, and to examine which vaccine types should be stocked on either a regional or subregional level in Africa, to cope with emergency situations

c) during the next General Sessions, the International Committee of the OIE consider the possibility of promoting vaccination campaigns against rabies in Africa, which would complement other rabies control measures

d) the OIE International Committee be asked to adopt a training programme for the different subregions of Africa, as soon as possible, covering all aspects of information, recording, processing, utilisation and dissemination.

The OIE has since undertaken a number of concrete actions to assist African Veterinary Services, particularly in the fields of animal disease surveillance and veterinary drug registration.

Workshops on “Animal Disease Reporting Systems” have been held for the French-speaking countries of Africa (Saly Portudal, Senegal, 1987) and for English-speaking countries (Nairobi, Kenya, 1989). Both workshops made a significant contribution to the improvement of animal health data reported by countries in the region. The OIE has continued these efforts, particularly during Regional Conferences, where the rules of accurate animal health reporting are regularly reviewed (e.g. Abidjan, January 1991).
The OIE has also made efforts to improve the conditions under which veterinary drugs are registered in Africa. Two specialised seminars were organised on this theme, one for English-speaking countries (Arusha, Tanzania, January 1989) and another for French-speaking countries (Dakar, Senegal, March 1991). These seminars helped to improve the organisation, control and distribution of veterinary drugs, in particular through the creation of a network of regular OIE correspondants in every African country for all questions regarding veterinary drugs.

Recommendations and Resolutions adopted by the OIE International Committee have already enabled many countries in Africa to improve the surveillance and control of animal diseases. In future years this role may well be extended, as during the Arusha meeting held in 1989, countries in the region considered that the OIE should further extend activities in this field, particularly by organising management and administration training courses for executive staff of Veterinary Services.

CONCLUSION

Given the various constraints on their integration into health services, VPH programmes will remain, for a long time to come, under the direction of the Veterinary Services of the Ministries of Agriculture. Experts in veterinary public health seem to agree that this is the most effective and cost-efficient organisational arrangement for Africa.

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ORGANISATION DE LA SANTÉ PUBLIQUE VÉTÉRINAIRE EN AFRIQUE. - E.D. Belino.

Résumé : En Afrique, la santé publique vétérinaire (SPV) n’est pas un domaine d’activités intégré aux Services de santé publique : au sein de ces Services gouvernementaux, il n’existe pas de structure formelle qui canalise le savoir-faire et la compétence des vétérinaires au profit de la santé publique. Les pouvoirs publics eux-mêmes ne manifestent aucune volonté significative d’intégrer des Services de SPV dans leur politique globale de santé publique. Les activités de SPV consistent principalement dans la lutte contre certaines maladies animales transmissibles à l’homme (zoonoses majeures), l’inspection des viandes et, de
façon moins poussée, les contrôles de qualité du lait, du poisson et de leurs sous-produits. Ces activités sont menées par les Services vétérinaires du ministère de l'agriculture.

En ce qui concerne la formation des vétérinaires, seules 7 des 28 écoles vétérinaires existant en Afrique ont un département consacré spécifiquement à l'enseignement de la SPV, avec des matières telles que l'épidémiologie, l'hygiène alimentaire, les zoonoses, les biostatistiques, la santé publique, l'administration publique, la médecine préventive, etc. Cet enseignement est confié à des professionnels motivés et compétents en SPV, tandis que les enseignants des autres écoles sont surtout préoccupés par des questions de pathologie, de microbiologie ou de clinique. Une spécialisation en SPV est proposée depuis peu dans les écoles vétérinaires du Kenya, du Nigeria et d'Ouganda, et prend rapidement de l'ampleur.

Parmi les facteurs qui limitent le développement de la SPV en Afrique, on peut citer aussi l'instabilité politique, les guerres, les famines et la pauvreté qui épuisent les ressources humaines et matérielles, l'absence de coopération intersectorielle en matière de santé publique et l'absence de détermination de la profession vétérinaire en général, à assumer le rôle majeur qu'elle pourrait jouer au sein de la communauté.

La collaboration internationale en matière de SPV est dominée par l'Organisation des Nations Unies pour l'Alimentation et l'Agriculture (FAO) et de l'Organisation Mondiale de la Santé (OMS). Ces deux organisations, ainsi que l'Office International des Epizooties (OIE) et d'autres groupes internationaux, agissent en faveur du développement de programmes de SPV : ils contribuent à la mise au point de lignes directrices pour l'organisation et la gestion de la SPV, ils coordonnent les programmes de lutte contre les zoonoses majeures et offrent leur soutien financier et technique.

administración, medicina preventiva, etc. En las demás escuelas, los profesores encargados de la SPV se interesan sobre todo en patología, microbiología o medicina clínica. Una formación de postgrado se está desarrollando rápidamente en las escuelas de Nigeria, Kenia y Uganda.

La inestabilidad política, las guerras, el hambre y la pobreza que diezman los recursos materiales y humanos, la falta de cooperación intersectorial en salud pública, así como la poca determinación, por parte del conjunto de la profesión veterinaria, en asentar su importante papel dentro de la comunidad, son factores que contribuyen a la ausencia de organización de la SPV en África.

La Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO) y la Organización Mundial de la Salud (OMS) encabezan la colaboración internacional en materia de SPV; estas dos agencias, con la ayuda de la Oficina Internacional de Epizootias (OIE) y de otros grupos internacionales, promueven el desarrollo de programas de SPV; su acción consiste en establecer directivas para la organización y la gestión de la SPV, en coordinar los programas de control de las zoonosis más graves y en suministrar su apoyo financiero y su peritaje técnico.


REFERENCES


