REGIONAL STRATEGY FOR THE PREVENTION AND CONTROL OF ZOONOTIC DISEASES IN THE MEMBER STATES IN THE WHO AFRICAN REGION

DRAFT

LIST OF ABBREVIATIONS

BSE/vCJD	Bovine Spongiform Encephalopathy/variant Creutzfeld Jakob Disease
BSL	Biosafety Level
CWGESA	Cysticercosis Working Group for Eastern and Southern Africa
DPC	Disease Prevention and Control
EMRO	Eastern Mediterranean Regional Office
FAO	Food and Agriculture Organization
FITCA	Farming in Tsetse Controlled Areas
HAT	Human African Trypanosomiasis
IDSR	Integrated Disease Surveillance and Response
IEC	Information Education and Communication
IHR	International Health Regulations
KEMRI	Kenya Medical Research Institute
NGO	Non Governmental Organization
NICD	National Institute of Communicable Diseases
OIE	Office International des Epizooties
OVI	Onderstepoort Veterinary Institute
PAHO	Pan American Health Organization
PET	Post Exposure Treatment
PHI	Public Health Impact
PHV	Public Health Veterinarian
SARS	Severe Acute Respiratory Syndrome
SEARG	Southern and Eastern African Rabies Group
VHF	Viral Haemorrhagic Fever
WCA	Wildlife Conservation Area
WCO	Wildlife Conservation Office
WHA	World Health Assembly
WHO	World Health Organization

EXECUTIVE SUMMARY

Zoonotic diseases still impose a heavy public health and economic burden on Member States of WHO/African Region. The more prevalent of these diseases have hampered livestock production and contributed to the increasing levels of poverty and malnutrition in Africa.

A number of Regional and Sub-regional programmes have been initiated to strengthen the control of the top priority diseases. These programmes however need to be better funded, refined and expanded if they are to adequately address the current challenges.

There are numerous problems of surveillance, reporting, laboratory diagnosis and research as well as case management. The role of community participation has not been well defined and fully taken advantage of by Member States in efforts to control these diseases. Consequently many people continue to lose their lives even in situations where prevention could have been possible.

The Strategy emphasizes the need for Member States in collaboration with WHO to build Inter-sectoral partnerships, develop capacity and promote social mobilization of communities in order to strengthen zoonotic diseases prevention and control in the Region. The roles and responsibilities of Member States, WHO and development partners in resource mobilization, Interagency collaboration and implementation of the Strategy have also been defined.

The WHO Regional Office for Africa has realized the urgent need for Member States to give priority to the prevention and control of zoonotic diseases and has consequently prepared the Regional Strategy hereby presented to Member States.

1. INTRODUCTION

Zoonotic diseases are communicable diseases that are naturally transmissible between humans and vertebrate animals, and vice-versa. Transmission of the infective agent can be by direct contact or indirectly through vectors hosts or food.

Zoonotic diseases impose a heavy burden on human health and livestock productivity of Member States in the WHO/African Region. The resources required for control of diseases such as Ebola Haemorhagic fever are enormous and usually beyond the means of some Member States.

Rabies occurs in all Member States, in Uganda, between 1992 and 2002 there were 35,000 people who received rabies post-exposure treatment (PET) at a cost of US D 1.1 million. A total of 420 human anthrax cases were reported between 1998 and 2002 in the Region. Over the last decade Africa reported 72% of all plague cases and 78.5% of all deaths World wide; this situation has worsened such that in 1997 Africa contributed 94.1% of cases and 95.3% of deaths of the global total. Cutaneous leishmaniasis occurs mainly in semi-arid parts of Africa causing disfigurement and disabilities in the affected people. In Africa 5-50% cases of epilepsy are closely linked to porcine neuro-cysticercosis.

Brucellosis, Bovine TB and trypanosomiasis have serious consequences for human health and nutrition and cause heavy economic losses in livestock production. RVF outbreaks have caused serious economic losses as was reported in Kenya and Somalia in 1997-1998 and in Mauritania where a total of 27 human cases and 19 deaths were reported between 1998 and 2003.

The existing heavy burden of zoonotic diseases in the Member States is mainly due to lack of effective control programmes. The public health and economic impact of zoonotic diseases is often overshadowed by other diseases all competing for limited resources; consequently there is limited funding for zoonotic diseases control. Inter-sectoral collaboration between the key sectors; Health and Veterinary is often fragmented with little consensus on the roles and responsibilities of each sector.

A number of strategies have been implemented to reduce the burden of zoonotic diseases in the Region. The IDSR Strategy was launched in 1999 to strengthen communicable diseases surveillance including epidemic prone zoonotic diseases. The Strategy on Human Trypanosomiasis and the Farming in Tsetse Controlled Areas (FITCA) Project are in place to revitalize the control of trypanosomiasis. The Southern and Eastern African Rabies Group (SEARG) is a sub regional initiative focusing on rabies control. In 2002 a Working Group on Porcine Cysticercosis was formed to promote research and control of this disease in Eastern and Southern Africa.

The Regional Strategy is intended to improve the prevention and control of zoonotic diseases in all the Member States. The strategy sets out the requirements for Member States to initiate and consolidate measures that will strengthen their capacities to reduce the public health burden and economic impact imposed on their people and livestock by zoonotic diseases.

2. SITUATION ANALYSIS

A number of zoonotic diseases of public health and economic importance exist in the Region. Rabies occurs in all Member States where dogs are responsible for over 90% of all human cases. Anthrax outbreaks have been reported in humans, domestic animals and wildlife. Between 1998 and 2002, Mali, Nigeria and Zimbabwe reported 14, 5 and 401 human anthrax cases respectively. Epidemics of Rift Valley fever (RVF) occurred in Kenya and Somalia in 1997-1998 following the *El-Nino* rains. In 2003, Mauritania reported 71 cases and 21 deaths from Crimean Congo Haemorrhagic fever (CFR 30%). Ebola Haemorrhagic fever outbreaks have been reported with increasing frequency in the Region. Between 2000 and 2003 a total of 739 cases and 475 deaths (CFR 64.3%) were reported in Congo Republic (246 cases; 198 deaths; CFR 80.1%); Gabon (64 cases; 53 deaths; CFR of 82.8%) and Uganda (429 cases; 224 deaths; CFR of 52.2%). A total of 2,474 cases and 427 deaths from Yellow fever were reported from 1995 to 2003. The prevalence of brucellosis is not well documented in the Region, studies show that, sero-prevalence in humans is between 12-24% and 1-20% in cattle and goats in certain areas in Uganda, and 11-13% in wild game in the KNP in South Africa. A total of 26,155 plague cases and 1,388 deaths (CFR of 5.3%) were reported

between 1990 and 2003 by DR Congo, Madagascar, Malawi, Mozambique, Namibia, Tanzania, Uganda, Zambia and Zimbabwe. Porcine cysticercosis/*Taenia solium* occurs in the Region where Porcine-neuro cysticercosis is one of the leading causes of epilepsy as shown:

Member State	% Prev. of Porcine Cysticercosis.	% Prev. of Human Cyststicercosis.	P-neuro-Cyst as % cause of epilepsy
Burundi	2-39	2.8	11.7-40.8
Cameroon	0.5-24.6	0.8-2.4	43
Madagascar	13	18 (seropositivity)	22.3
Rwanda	20	7	21
South Africa	0.5-25	5.5 (Eastern Cape)	50.9

The PHI of rabies and Ebola HF is due to the very high CFR of about 100% and 50-90% respectively. In Dengue HF there is marked morbidity and long convalescence while RVF may cause blindness and full recovery to previous health status may never be achieved. Anthrax and plague can be used in bio-terrorism; a situation most Member States cannot deal with effectively. Brucellosis, bovine TB, RVF, anthrax and porcine cysticercosis infections lead to condemnation of meat and animal by-products causing loss of both animal proteins and income.

Technology exists for control of some zoonotic diseases for example; vaccines for rabies and Yellow fever, drugs to treat plague and parasitic zoonotic infections are available. Rapid diagnostic tests include ELISA for RVF and Slide Agglutination for brucellosis.

Measures taken to prevent and control zoonotic diseases include; monitoring of sentinel cattle for RVF in some countries e.g. Ethiopia and Kenya. In Uganda the intra-dermal regimen was introduced for human rabies PET. Preventive Yellow fever vaccination is done under IHR. In Kenya, strict enforcement of pig husbandry regulations has led to near elimination of porcine cysticercosis.

The VHF's, rabies, anthrax, plague are notifiable diseases however; there are instances of underreporting at National and International levels. Rabies is underreported to the Regional Office; between 1996 and 2003 only nine countries submitted reports; it is not under the IDSR system except in Uganda and less than

half of Member States respond to the Annual World Survey of Rabies. There is no routine testing for brucellosis therefore the disease is commonly misdiagnosed as “fever of unknown origin” and is consequently underreported. Reports of porcine neuro-cysticercosis are rare since diagnosis by CAT scan is expensive. The capacity to confirm plague is lacking in some Member States and since suspected cases are not included in the official WHO statistics there is underestimation of plague in the Region.

Opportunities exist in the Region for prevention and control of zoonotic diseases. The SEARG which comprises 16 Member States and Sudan (Non-AFRO) was formed in 1992 to strengthen rabies prevention and control. The Regional Strategy on Trypanosomiasis Control is a WHO initiative for the prevention and control of HAT. The Farming in Tsetse Controlled Areas (FITCA) Project in Ethiopia, Kenya, and Uganda addresses land use, tsetse, HAT and animal trypanosomosis control. Weekly reporting of VHF’s, Yellow fever, plague and HAT is done under IDSR Strategy. Reference laboratories with bio-safety level 3 and 4 exist in the Region. WHO in collaboration with FAO and OIE is involved in surveillance and control of food-borne infections. A Regional Cysticercosis Working Group for Eastern and Southern Africa (CWGESA) together with the International Working Group is lobbying for a World Health Assembly (WHA) Resolution on porcine cysticercosis control.

The main challenges include; newly emerging zoonotic diseases (SARS, BSE/vCJD), weak reporting and surveillance system, poor food hygiene, environmental sanitation and vector control. There are no institutionalized inter-sectoral collaboration mechanisms between the key sectors. There is also lack of effective community participation and health education on the major zoonotic diseases in the Region.

In summary, zoonotic diseases impose a big public health and economic burden on Member States. There are weaknesses in surveillance, reporting, inter-sectoral collaboration and community participation. Existing Regional initiatives need to be strengthened to significantly reduce the burden of zoonotic diseases in the WHO African Region.

3. Vision

The vision of the Strategy is to reduce the burden of zoonotic diseases to the extent that they no longer constitute a public health problem for the Member States of the WHO African Region.

4. Objectives

General objectives

To contribute to the reduction of morbidity, mortality, disability and economic loss from zoonotic diseases.

Specific objectives

By 2014

1. To establish an inter-sectoral collaboration frame work for the prevention and control of zoonotic diseases in Member States;
2. To set up an inter-sectoral Early Warning System for detection, confirmation and reporting of priority zoonotic diseases;
3. To develop and implement guidelines of prevention and control of priority zoonotic diseases in 60% of Member States.

By 2017

4. To implement guidelines of prevention and control of priority zoonotic diseases in 90% of Member States

5. Guiding Principles

In order to ensure that the Regional Strategy is responsive to the needs of Member States, it shall be based on the following principles;

5.1 Integration: means that common zoonotic diseases prevention and control activities and programmes shall be coordinated and implemented together. This will avoid duplication of effort and promote better use of resources.

5.2 Flexibility: refers to the ease with which the Strategy can quickly be adapted to the prevention and control of several zoonotic diseases with little need for additional resources. (e.g. new staff, more training, laboratory supplies, funding)

5.3 Ownership: refers to Member States taking full responsibility for the implementation of the Strategy. Member States shall give priority to zoonotic diseases that are of major public health and economic importance in their respective countries.

5.4 Build on existing opportunities: means that the Strategy will identify, take advantage of and strengthen existing Regional and Sub-regional programmes, reference laboratories, promote use of human and material resources available within the Member States, WHO and other partners.

5.5 Multi-sectoral approaches: refers to the ability to promote and achieve collaboration among stakeholders in various sectors of Government, NGO's and other partners in the implementation of the Strategy.

6. **Strategies**

6.1 Building partnerships

Collaboration between all stake holders will be promoted as a key strategy in the implementation of zoonotic diseases prevention and control activities. Partnerships will be developed to promote networking between sectors to facilitate information exchange, sharing of surveillance data and for joint mobilization of resources. Inter-country collaboration will also be extended from one Member State to another to facilitate smooth implementation of the Strategy.

6.2 Capacity building

The technical and managerial capacity for prevention and control of zoonotic diseases will be strengthened through training, recruitment and retention of competent and well motivated staff. Emphasis will be put on strengthening capacity in zoonotic diseases surveillance, laboratory diagnosis, research, case management and where applicable preventive immunization.

6.3 Social mobilization

Communities will be involved in health education; both as recipients of health education messages as well as behavioural change agents within the community. Community leaders will be targeted to ensure that they mobilize their communities to willingly participate in zoonotic diseases prevention and control activities such as mass vaccination, environmental sanitation and vector control.

7. Priority interventions

Building partnerships

National Inter-sectoral Committees

The Ministry of Health of each Member State will be expected to form a National Inter-sectoral Zoonotic Diseases Control Committee.

The committee's membership will be made up of focal persons or representatives from the following sectors:

- Ministry of Health
- Ministry of Agriculture and Veterinary Services
- Wildlife Conservation or Statutory Body responsible for wildlife conservation.
- Central Laboratory /Research Institutions
- Training Institution (University / School of Public Health)
- WHO Country Office – Disease Prevention & Control Officer

Resources Mobilization

It is very important for Member States, WHO and other partners to be able to raise financial and human resources that are necessary for the implementation of the Strategy. Financial resources will be required to support training, laboratory diagnosis, strengthening surveillance and providing other logistics. Governments will be expected to mobilize local resources as well as external funds from development partners to start the implementation of the Strategy. The WHO Regional Office will mobilize resources from within and outside the Region to supplement the efforts of Member States.

The human resources will be provided by governments. WHO will provide technical support to Member States to assist them develop national expertise in zoonotic diseases prevention and control.

Networking

Promote networking and regular sharing of information and data between all the sectors through meetings, bulletins etc. This exchange will lead to a better understanding of the zoonotic diseases situation in the human and animal populations and guide decision makers in setting priorities for resource allocation.

Inter-country cooperation

Given that zoonotic diseases can easily cross national borders there is need for Member States to cooperate with each other and strengthen trans-boundary disease prevention and control systems. Early reporting, sharing of disease data and information on movement of people and animals as well as having joint or synchronised intervention programmes (e.g. vaccinations along the common border) will be the cornerstone of this cooperation.

Capacity building

Training

Strengthen and/or establish programmes to train Public Health Veterinarians (PHV) and have them deployed and assigned responsibilities for zoonotic diseases control in the two key sectors; Health and Agriculture & Veterinary Services. There is need to health and veterinary staff, wildlife workers and communities in various aspects of zoonotic diseases prevention and control.

Laboratory strengthening

The involvement of laboratories in zoonotic diseases research and diagnosis is very important and should be strengthened. There is need to increase funding, provide reagents, diagnostic manuals and equipment and train laboratory personnel to acquire new skills.

Research activities

Interdisciplinary research into the epidemiology, role of reservoirs, socio-cultural issues and risk factors of some of the zoonotic diseases should be intensified. In addition, research in drug resistance and development of a cure or vaccine for those diseases that have none is an urgent matter for all Member States.

Other areas of research will include:

- Setting up sentinel surveillance sites for some of the zoonotic diseases for example, Rift Valley fever
- Conducting surveys to estimate the zoonotic diseases burden in both human and animal populations.
- Carrying out comparative studies to determine the cost-effectiveness of different approaches to zoonotic diseases prevention and control.

Case management

Ensure laboratory confirmatory diagnosis and treatment of cases by providing drugs and proper nursing care, infection control and isolation of patients where this is necessary e.g. in Ebola HF. Introduce regular screening for brucellosis at health units to detect and treat the disease which is often misdiagnosed as “fever of unknown origin”. This is particularly important for AIDS patients on anti retroviral therapy (ARV) who may be having brucellosis co-infection. Untreated brucellosis would compromise the benefits of the ARV therapy.

Prevention

Vaccination is a key aspect of the Strategy and will be promoted in the prevention and control of zoonotic diseases. In rabies control, regular dog and cat vaccination to maintain herd immunity of 70-80 % at all times will be strengthened to effectively interrupt the rabies transmission cycle from these animals to humans. There should also be preventive vaccination of humans and livestock against Yellow Fever and RVF respectively. A programme to regularly vaccinate cattle should be implemented in anthrax endemic foci. Chemoprophylaxis of in contacts and vector control are effective preventive measure in plague outbreaks. In porcine cysticercosis control, routine de-worming should be carried out as a preventive measure especially among children.

Social mobilization

Health promotion

Priority will be given to IEC of health workers, veterinarians. Wildlife conservation workers (Game / Park rangers) and communities to recognize and immediately report suspected cases of VHF's in humans or animals. Wildlife workers and communities living near WCA to be sensitized to look for and report occurrences of strange events like unusual sickness and/or deaths of wild animals. These unusual events could signal an impending outbreak of VHF in the human population.

Community Participation

There will be deliberate involvement of local leaders, women groups, schools, livestock owners, farm workers, butchers and livestock traders in zoonotic diseases prevention and control activities. Appropriate health education fora and messages will be used to educate, inform, communicate and generally mobilize these groups.

8. Roles and responsibilities

Member States

i) Community (Level I)

Community leaders and the population, in liaison with the local health workers and field veterinary extension staff are expected to:

a) Recognize and report the first suspected human or animal cases of zoonotic diseases in their locality to the nearest health facility or veterinary unit respectively.
b) Give support and participate in the control of zoonotic disease outbreaks by mobilizing themselves or their animals for interventions like vaccinations or mass treatment or environmental sanitation and vector control.
c) Promote long term disease prevention and control efforts through health education and veterinary extension programmes in order to effect behavioural change or adaptation of improved animal husbandry practices in the community.

ii) Health facility and Field Veterinary Unit (Level II)

a) Middle level health and veterinary extension workers will apply case definitions and notify their respective district level technical supervisors of any outbreaks or occurrence of any zoonotic diseases under investigation.
b) Carrying out all actions necessary for proper data collection, surveillance monitoring and prompt reporting to the district level for both human and animal cases.
c) There will be exchange of information and notification of disease outbreak between the health unit and veterinary unit. This will enhance coordination and promote joint zoonotic disease investigation, prevention and control activities.
d) Collecting specimens from suspected human or animal cases and sending them to district or central laboratories for confirmatory diagnosis and other tests e.g. drug sensitivity.
e) The health worker at this level will visit households, organize community meetings to give health education. The veterinary extension officer will visit farms to treat or vaccinate sick animals and offer extension services and give advice on improved farming practices. These middle level workers are in close contact with the rural often remote population which is more at risk for most of the zoonotic disease. They are more likely to be the only source of information and should give feed back about these diseases to the communities they serve.

iii) **District (Level III)**

The District Health Office, District Veterinary Office and District Wildlife Conservation Office or its equivalent (e.g. District Vermin Control Office), should work in liaison. At this level there should be:

a) Sharing of data, information and exchange of reports as well as holding of regular joint meetings.
b) Implementing zoonotic diseases prevention and control programmes and initiating outbreak investigations through a coordinated planning process in which all the key stakeholders are involved.
c) Liaison with diagnostic laboratories, forwarding specimens for diagnosis and receiving results. This level should provide feedback to the middle level field health and veterinary units or WC Officers.

d) Regular reporting to the central level on the zoonotic disease situation in humans and animals. The reports could be in form of surveillance data, or progress reports on a specific zoonotic diseases prevention and control programme or project.

iv) **Central (Level IV)**

This level plays a major role in mobilizing and allocating resources for zoonotic diseases prevention and control in the Member States. The Central level will therefore:

a) Strengthen training and deployment of technical personnel such as Public Health Veterinarians and laboratory technologists to alleviate the current gaps.
b) Promote coordination between all the key sectors and in particular the Ministries of Health, Agriculture and Veterinary Services and Wildlife conservation, through a Central / National Multi-sectoral Committee.
c) Provide the overall coordination and ensure rational allocation of human, financial and material resources/logistics as well as mobilize support for zoonotic diseases prevention and control in the country.
d) Utilize data from the districts to analyse the zoonotic disease situation and give feed back to the districts. The central level will also report to Regional and International agencies as follows;
   Ministry of Health reports to the WHO Country Office, then to the Regional Office and up to WHO Headquarters.
   Ministry of Agriculture and Veterinary Services will report to FAO and OIE through the FAO Country Office.

e) Mobilize resources from Government budget and Development Partners and lobby for training and technical support for zoonotic disease prevention and control activities in the country.

World Health Organization
WHO Country Office

a) The WHO Country Office will liaise with the Ministry of Health, WHO Sub-regional Epidemiologic Block, and the Regional Office.
b) The WHO Country Office will initiate Interagency stakeholders collaboration. In particular strengthen liaison with the FAO Country Office in order to harmonize zoonotic disease prevention and control activities that the FAO Office may be supporting through the Ministry of Agriculture and Veterinary Services.
c) Provide technical support to Member States to enable them start implementation of zoonotic disease prevention and control activities.

The WHO Country Office will provide support to facilitate in:

i) Training personnel in surveillance of zoonotic diseases in humans and animals.
ii) Preparing National Plans of Action.
iii) Publication and disse

mination of guidelines for surveillance and control of top priority zoonotic diseases.

WHO Inter-country / Epidemiologic Block

a) To organize regular meetings for the Block Members to exchange data, information on the zoonotic diseases situation in the Block.
b) Mobilize resources for zoonotic disease prevention and control for the Block members.

WHO Regional Office

a) Implementation of the Regional Strategy for the Prevention and Control of Zoonotic Disease will be coordinated by the Disease Prevention and Control cluster (DPC) under the overall supervision of the Regional Director.
b) The Regional Office will advocate for and mobilize resources to support zoonotic diseases prevention and control programmes in all Member States.
c) The Regional Office will initiate and strengthen Inter-country as well as Interagency liaison with other partners and WHO Collaborating Centres.
d) The Regional Office will also promote collaboration with other WHO Regional Offices where strong zoonotic diseases control programmes already exist; for example WHO/EMRO (Mediterranean Zoonotic Disease Control Centre) and

WHO/PAHO (Control of Urban Rabies, Brucellosis and Food borne infections in Latin America).

Other partners

These include International Organizations such as FAO, OIE, UNICEF, World Bank in addition there are bilateral donors as well as local and International NGO's. These will be expected to support implementation of the Strategy by providing financial and/or technical support to Member States.

9. Monitoring and evaluation

The performance of the Strategy will be assessed by monitoring the process, input, output and outcome or impact on the zoonotic disease burden in the Member States. There will be regular review meetings, support supervision and relevant indicators will be developed on which progressive evaluation of the Strategy will be based.

10. Conclusion

The Regional Strategy will be based on building partnerships, strengthening Inter-sectoral collaboration, capacity development, social mobilization and community involvement. Member States will take the lead in resource mobilization, and ensure the successful implementation of the Strategy. WHO and other partners will give financial and technical support to contribute to the success of the Strategy.

The implementation of a viable Regional Strategy is the way forward for the prevention and control of zoonotic diseases in the WHO/African Region. The Regional Office therefore calls on all Member States to adopt the Strategy and work towards its successful implementation in the Region.