USAID
FROM THE AMERICAN PEOPLE

AFRICAN UNION
INTERAFRICAN BUREAU
FOR ANIMAL RESOURCES

Standard Methods and Procedures (SMPs) for Containment of Rinderpest (RP) in the Greater Horn of Africa

Standard Methods and Procedures (SMPs) for Containment of Rinderpest (RP) in the Greater Horn of Africa

This information product is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this information product are the sole responsibility of the authors and do not necessarily reflect the views of USAID, the United States Government or AU-IBAR.

The Director
African Union – Inter-African Bureau for Animal Resources (AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
P.O. Box 30786
00100, Nairobi, KENYA
or by e-mail to: ibar.office@au-ibar.org

ISBN: 978-9966-077-26-4

Citation: AU-IBAR, 2015. Standard Methods and Procedures (SMPs) for Control of *Rinderpest (RP)* in the Greater Horn of Africa, Nairobi.

Table of Contents

Foreword

The arid and semi-arid lands of the Horn of Africa (HOA) are home to poor and vulnerable populations, the majority of whom rely on livestock to sustain livelihoods. However, the performance of livestock in the region remains low, given the widespread occurrence of transboundary animal diseases (TADs) that are responsible for production losses, and reduced performance of intra- and inter-regional trade in livestock and livestock products. Because of disease outbreaks, live animal exports have been severely constrained during the past two decades, by bans imposed by importing countries to reduce risks associated with these diseases.

To address the negative impact of TADs on livestock trade, AU-IBAR and ICPALD together with the participating countries in the region, with financial support from the United States Agency for International Development (USAID), have developed a framework to support harmonization and coordination of the control of the diseases, referred to as the Standard Methods and Procedures (SMP) Approach. The SMP approach involves strengthening capacities of member states for surveillance, epidemiology, laboratory diagnostics, disease control programmes, and communications. The fundamental aspect of the approach is the linking of disease prevention and control activities in a country, to a set of regional minimum standards and procedures for TADs prevention and control in line with the World Organization for Animal Health (OIE) standards.

The minimum standards, procedures, methods and goals for a particular disease are contained in an individual SMPs. It deals with subject areas of surveillance, laboratory procedures and disease control, and states minimum standards, procedures and goals that must be met for harmonized regional control of a disease.

This booklet presents the SMPs for Rinderpest (RP), and deals with specific considerations in the post Rinderpest eradication era.

The compilation of the materials in the SMPs for RP, taking into consideration the characteristics of the Greater Horn of Africa, was made possible by technical experts from the region with technical support from AU-IBAR, FAO, OIE and AU-PANVAC. AU-IBAR is indebted to many scientists who reviewed the document and especially to Dr. James Wabacha the coordinator of the SMP-AH project for coordinating the preparation of the SMPs.

The SMPs for RP targets field veterinary personnel, policy makers, laboratory personnel and veterinary students in the region.

Professor Ahmed El-Sawalhy
Director
African Union Inter-African Bureau for Animal Resources (AU-IBAR)

1.0 Introduction

1. 1. Standard Methods and Procedures (SMP)

The Standard Methods and Procedures (SMP) approach is designed to guide and harmonize the work of Departments of Veterinary Services (DVSs) in the Greater Horn of Africa (GHoA) region in their approach to the control of trade-related Transboundary Animal Diseases.

Standard Methods and Procedures are operational protocols to create uniformity in animal disease detection, diagnostic and control procedures throughout the Greater Horn of Africa (GHoA). An individual SMP is a protocol for control of a given disease that outlines the measures that must be undertaken. The SMP deals with subject areas of surveillance, epidemiology, laboratory procedures, and disease control and states minimum standards, procedures, and goals that must be met for a harmonized regional control of a disease. It is supported with details as specified in Standard Operating Procedures (SOPS) for each subject area that are designed to fit the structure and capabilities of a given nation.

An SMP is a functional, action oriented document and is not intended to provide a detailed description of the disease. It is also a live and flexible document and can be changed as new science and new techniques for control are discovered.

This document is the SMP for rinderpest. The last recorded outbreak of rinderpest in the world was in the Greater Horn of Africa in 2001. The objective of this SMP is to ensure continued vigilance for this disease by enhancing and maintaining veterinary expertise in the region for effective surveillance in susceptible livestock and wildlife in the region.

1.2. Rinderpest

Rinderpest is the most destructive livestock disease ever known, and thereby a disease of extreme importance. In immune-naïve populations, rinderpest presents itself as an epidemic with high morbidity and mortality rates up to 100%. Prior to the eradication of the disease, infection was found principally in younger animals with waning maternal immunity. Domestic cattle play an important role in maintenance of RPV while in the wild, African buffalo seems to hold a central role though sylvatic survival of the virus is limited. Present day wild populations are too small to maintain the virus in the absence of infection in domestic species but are an indicator of infection in neighboring cattle. Hosts include Artiodactyles (domestic cattle, sheep, goats, and African buffalo). Transmission is by direct/close contact between infected and susceptible animals.

The Food and Agriculture Organisation of the United Nations (FAO) launched a Global Rinderpest Eradication Programme (GREP) in 1992, calling for eradication of the virus by the year 2010 augmented by OIE rinderpest eradication pathway. Success of this programme may be judged by the fact that rinderpest lineages have now assuredly been eradicated. The world is now certified free from rinderpest, following a formal declaration by (FAO) and the World Organization for Animal Health (OIE) in 2011.

2.0. Definitions

For common understanding of terminology, the following definitions will be used.

2.1. Surveillance and Epidemiology

Surveillance

The systematic ongoing collection, collation, and analysis of information related to animal health and the timely dissemination of information so that action can be taken.

Passive surveillance

A method of surveillance that enables veterinary authorities to collect animal health data and information routinely from disease reporting stakeholders.

Active surveillance

A method of surveillance in which epidemiological information is collected by purposeful and planned interventions.

Syndromic (Clinical) surveillance

A surveillance approach based on observing signs/symptoms which have been agreed upon to represent a particular disease.

Targeted surveillance

A form of active surveillance based on probability of occurrence of disease in a given area and/or species.

Risk-based surveillance

A form of active surveillance that focuses on a certain area or livestock population based on perceived level of threat, risk and/or consequences.

Participatory disease surveillance

A form of active surveillance that uses participatory approaches in search of disease, including knowledge and practices from communities, local livestock producers and others in the livestock value chain.

Epidemiological unit

Group of animals sharing a defined relationship with common likelihood of exposure to a disease.

Risk mapping
A tool used for identification, assessment, communication and mitigation of a disease in a certain geographical area.

Zero reporting
Periodic standard reports noting that surveillance in any form for a given disease has been carried out and no disease occurrence has been encountered. Zero reports are a valuable tool to indicate negative results of constant and ongoing passive and/or active surveillance.

2.2. Planning Documents

Standard Operating Procedure (SOP)
A plan of action for a particular undertaking that stipulates exact details of what must be done to accomplish the task.

Preparedness Plans
Preparedness planning involves capacity building, equipment procurement, personnel responsibility allocation, and training in all the disciplines that support effective disease control, e.g. epidemiology, laboratory, disease management, etc

Rapid Response Plan
Pre-programmed plan for immediate response to a report of an outbreak of a TAD or other emergency disease with the goal of eliminating the index case and preventing an epidemic spread. The Rapid Response Plan includes three components: the Epidemiology Section for disease investigation; the Laboratory Section for confirmation sampling; and the Disease Control Section for immediate disease control interventions as needed.

Contingency Plan
An operational plan designed for immediate control of a disease outbreak, typically composed by the Department of Veterinary Services for use within that country.

2.3. Personnel

Veterinary Officer
Government employed veterinarians and field staff.

Veterinary Personnel
All people associated with veterinary work including public veterinary staff (government at any administrative level) and private veterinarians and their staff members.

3.0. Surveillance and Epidemiology

3.1. Case definition for Rinderpest

RP will be suspected in Cattle, sheep, goats and other susceptible animals if found to be exhibiting clinical signs consistent with 'stomatitis-enteritis syndrome'. Stomatitis-enteritis syndrome in this case is defined as fever with ocular and nasal discharges in combination with: a) clinical signs of erosions in the oral cavity with diarrhoea, dysentery, dehydration or death; or b) necropsy findings of haemorrhages on serosal surfaces haemorrhages and erosions on alimentary mucosal surfaces and lymphadenopathy. Stomatitis-enteritis syndrome could indicate a number of diseases from which rinderpest should be differentiated by appropriate laboratory investigation. The detection of RPV specific antibodies in an animal of a susceptible species with or without clinical signs is considered a suspected case of rinderpest

3.2. Risk factors

The primary risk of rinderpest re-emergence in the GHoA region is the existence of rinderpest virus biological material at several locations. It is imperative that these materials be properly stored in appropriate high-level bio-containment facilities, minimally bio-safety level-3 (BSL-3). African Union member states are required to transfer all biological material to the African Union Pan African Veterinary Vaccine Centre (AU-PANVAC) as per the recommendation of the 8th Conference of Ministers responsible for livestock in Africa that was held in Entebbe (Uganda), May 2010, and that the AU-PANVAC storage facilities should be appropriately monitored by relevant international organizations, i.e. OIE and FAO.

Although extremely unlikely, the secondary risk is the remote possibility of natural reoccurrence within the GHoA or introduction from external sources. It is therefore appropriate for all veterinary personnel in the GHoA to have the possibility of rinderpest in background consideration when any susceptible animal shows signs consistent with mucosal type disease.

The Greater Horn of Africa is the most recent geographic areas from which rinderpest was eradicated. Vast tracks of pastoral lands have very low levels of surveillance. It is therefore considered worthwhile that rinderpest should always be in regional surveillance programs, particularly in those countries that experienced outbreaks in the last decade before the OIE declaration of eradication.

Surveillance aims at maintaining the status of freedom from rinderpest infection in the GHoA. It will employ passive surveillance coupled with laboratory testing.

3.3. Passive surveillance including zero reporting

a. The national veterinary authorities will engage with livestock producers, traders, transporters and other stakeholders to report any disease resembling rinderpest (see case definition below) to the nearest public or private animal health facility;
b. Surveillance may involve wildlife, buffalo, and warthogs in particular and domestic cattle. Sera collected during routine surveillance for other diseases may be used to monitor for rinderpest. Screening of sera will be performed by OIE authorized laboratories. Zero reporting results will be sent by the country CVO, to the OIE, FAO, and AU-IBAR;
c. Any positive test will be considered as an extreme emergency and immediately reported by the laboratory to CVO for further action as deemed appropriate.

3.4. Procedures to be followed in the event of the suspicion of Rinderpest

Any direct or indirect detection of RPV in an animal or animal product shall be notified immediately. Upon detection of a suspected case, the national contingency plan adopted by every country for the OIE pathway to declaration of freedom should be implemented immediately. If the presence of rinderpest cannot be ruled out, samples should be collected in accordance with Chapter 2. 1.15. of the Terrestrial Manual and dispatched to one of the appointed OIE- FAO Reference Laboratories for Rinderpest for confirmation and, if applicable, for molecular characterization of the virus to facilitate identification of its source. A full epidemiological investigation should be conducted simultaneously to provide supporting information and to assist in identifying the possible source and spread of the virus

4.0. Rinderpest Outbreak containment

If rinderpest is ever detected it will be a full-scale emergency response by national authorities through the CVOs and other agencies in collaboration with International Organizations. The role of the SMP program regarding rinderpest is consistent surveillance and coordination of Departments of Veterinary Services, and in case of an outbreak, cooperation with international organisations, OIE, AU-IBAR and FAO in the control efforts.

National and regional contingency plan in line with the global contingency plan developed by OIE and FAO should be in place and should be implemented.

In case there is RP outbreak, the stamping out policy is the key tool to contain the disease.

4.1. Recommendation

There exist Contingency Plans in all GHoA countries that countries developed for the pathway to RP eradication. This should be referred to and national veterinary services should continuously appraise their personnel on the same.

African Union – Inter-African Bureau for Animal Resources
(AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
PO Box 30786
00100 Nairobi
Kenya
Tel: +254 (20) 3674 000
Fax: +254 (20) 3674 341 / 3674 342
Email: ibar.office@au-ibar.org
Website: www.au-ibar.org