



**ZIMBABWE**

# **PESTES Des PETITS RUMINANTS (PPR) STRATEGY**



April 2019



# **PESTE DES PETITS RUMINANTS** **(PPR) STRATEGY**



## FOREWORD

The importance of small ruminants within rural livelihoods and particularly their importance to food and nutritional security and incomes is well acknowledged. Given their numbers and the existing export demand, small ruminants have a strong potential to transform the status of especially the small holder farming sector which holds over 90% of the sheep and goat population. Small ruminant production, especially in the drier areas where crops fail more often, is therefore poised to be a strong livestock growth area under the medium term Zimbabwe Agenda for Sustainable Socio-economic Transformation's food and nutrition pillar. This would facilitate Zimbabwe's Comprehensive African Agriculture Development Program process and thereby her input into the African Union's Agenda 2063 under the Livestock Development Strategy to which commitment has already been pledged.

Facilitating development of the small ruminant sector potentially has a number of positive spinoffs. First, it would result in the enhancement of income streams for a larger proportion of rural households, particularly among the over 40% of those who do not own cattle, among whom are women, already associated with small ruminant care and production. It is also a suitable venture for the youth, a majority of whom are currently unemployed. Further, deliberate investment into this sub-sector could have positive spinoffs from import substitution of mutton and lamb, exports of fresh meat and the growth of the skin and hair industries possibly under community and household environments. Increases of availability of small ruminant meat could have dietary advantages to the local human population, in addition to closing the gap left by beef shortages or its pricing structure that makes it unaffordable.

Improvements in veterinary services delivery in order to reduce production losses due to inter-current and epizootic diseases is therefore an advantageous in ensuring sustainable product supplies to meet both local and external demand. This requires strong commitments on sustained support by Government into this segment of our primary industries, which up to now has received only minimal attention. The Government is looking at investing at least 40% of between US\$5.5 and US\$10 million required from 2018 up to 2030 in contributing to this noble global cause, the lesser

amount being applicable if sufficient evidence is generated that the country is indeed free of the virus. Further efforts will be made to mobilise the balance from the local private sector and interested development partners.

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## LIST OF ACRONYMS

AHMC	Animal Health and Management Centre
AMA	Agriculture Marketing Authority
AU-IBAR	African Union - Inter-African Bureau for Animal Resources
CAADP	Comprehensive African Agriculture Development Program
CCPP	Contagious Caprine Pleuro-Pneumonia
CODEX	FAO/WHO international food standard
CVL	Central Veterinary Laboratory
DIVA	Differentiation of Infected from Vaccinated Animals
DVS	Department of Veterinary Services
DP	Development Partners
DSA	Daily Subsistence Allowance
DVS	Division of Veterinary Services
ELISA	Enzyme Linked Immunosorbent Assay
FAO	Food and Agriculture Organisation of the United Nations Organisation
FMD	Foot and Mouth Disease
GCES	Global Control and Eradication Strategy
GoZ	Government of Zimbabwe
IAEA	International Atomic Energy Agency
ILO	International Labour Organisation
ILRI	International Livestock Research Institute
ISO	International Organisation for Standardisation
LFSP	Livelihoods and Food Security Program
LIDESA	Livestock Development Strategy for Africa
LIMS	Livestock information Management System
LIT	Livestock Identification and Traceability
LMAC	Livestock and Meat Advisory Council
M & E	Monitoring and Evaluation
MLARR	Ministry of Lands, Agriculture and Rural Resettlement
NGO	Non-governmental Organisation
OIE	World Organisation for Animal Health
PCR	Polymerase Chain Reaction

PES	Pneumonia Enteritis stomatitis syndrome
PMAT	PPR Monitoring and Assessment Tool
PPP	Public Private Partnerships
PPR	Peste des Petites Ruminants
PPRC	PPR national committee
PVS	Performance of Veterinary Services
QA	Quality Assurance
SADC	Southern African Development Community
SOP	Standard Operating Procedures
SPS	Sanitary and phytosanitary
SRD	Small Ruminant Diseases
VPH	Veterinary Public Health
VS	Veterinary Services

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**Strategy Team Leader and Coordinator**  
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## EXECUTIVE SUMMARY

Zimbabwe has a sizeable population of small ruminants, over 90% of which is in the hands of small-holder producers, providing essential nutrition and incomes to mainly resource-poor farmers. The small ruminant subsector of the livestock industry however remains a case for development towards tapping an opportunity to increase meat and skins supplies for the domestic and export markets.

Small ruminant animal health is a factor, calling for attention in terms of production and productivity geared at reducing production losses. A number of diseases including endo- and ecto-parasites, infectious diseases due to bacteria, viruses, fungi and protozoa, are endemic and require attention through preventive good animal husbandry, health and hygiene. Among endemic diseases are also those of higher impact such as blue tongue, Rift Valley fever, Sheep and Goat Pox, Orf, Cowdriosis, Trypanosomoses and Anthrax. Other exotic diseases such as Contagious Caprine Arthritis and Encephalitis, Brucellosis and Pulmonary Adenocarcinoma of sheep have occurred in the past and were eradicated.

Delivery of animal health services to small ruminants has however been left largely to the private sector whose reach in the small-holder sector is low. Threatened by a new high impact disease, Peste des Petits Ruminants (PPR), Veterinary Services need to be ready with a strategy to prevent incursion from infected countries, which could derail the livestock development plan already in place. This requires clear planning and organisation for an effective, coordinated national animal health service delivery and monitoring for the small ruminant sub-sector with inbuilt surveillance, prevention and emergency preparedness for PPR and active stakeholder participation for sustainability. Tackling existing and new animal health problems requires a strong veterinary service, able to respond to endemic and emergency type health events. Preparation of the small ruminant health environment to deal with a potential new and major epizootic threat thus becomes an opportunity to strengthen veterinary services. The progressive pathway for prevention, control and eradication of PPR is therefore affording an opportunity to bring health delivery to small ruminants in general. This results in the leveraging of economic value of this subsector to the country's benefit.

This strategy therefore presents a roadmap with a short-term action plan towards Zimbabwe's contribution to the eradication of PPR from the SADC regional, and in turn, in Africa and the world by 2030. In the process, as the strategy will work for the general improvement of health of the national small ruminant resource, it is therefore an important program in addressing poverty, human nutrition and livelihood support as well as improving trade competitiveness.

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## CHAPTER 1: INTRODUCTION

**P**este des petits ruminants (PPR) or the “pest of small ruminants” is a highly contagious, non-zoonotic disease primarily of domesticated sheep and goats. Cattle and pigs sero-convert upon infection, but do not show any symptoms. Camels, buffaloes and other wild ruminant species can be infected and show clinical signs, but do not play a significant epidemiological role in transmission, but are significant as sentinels. Only sheep and goats have a significant epidemiological role.

The disease is caused by a virus of the Morbillivirus genus, in the family Paramyxoviridae. It is characterised by fever, respiratory symptoms, congestion and necrosis of mucous membranes, diarrhoea, abortions and immunosuppression. Recovered animals do not develop a carrier status. The clinical signs of PPR are not very specific. Laboratory confirmation is therefore advisable to rule out diseases such as CCPP, Orf and pasteurellosis. The disease has a mortality rate of between 10% and 100%, especially in the young, depending on host status.

First described in 1942 in Ivory Coast, the virus has spread widely in the last 20 years in Asia, the Middle East and most parts of Africa except for the most southerly parts of the continent, including Zimbabwe. In recent years, evidence has shown its potential to advance southward into northern Zambia and northern Mozambique. Given the informal mechanisms of transfer of small ruminants, the existence of susceptible wildlife hosts of the virus and the porosity of some parts of the national borders, possibility of spread into Zimbabwe exists.

The affected parts of the world are estimated to hold about 80% of the global population of small ruminants, mostly owned by nearly 300 million families, depending on them for livelihood, incomes and nutrition. PPR exerts high economic impact resulting from production losses and the attendant costs of disease control. Due to its epidemiological character, PPR is amenable to eradication, hence the joint FAO/OIE Global strategy for the Control and Eradication of PPR to which the Pan African strategy for the Control and Eradication of PPR is aligned.

At the time of preparation of this document Zimbabwe had not recorded the presence of PPR in her history. However, due to the importance of small ruminants to the livelihoods of over 70% of rural Zimbabwean families, and their importance to incomes, nutritional well-being as well as their potential place in the livestock economy, a strong need exists for keeping the risk of the disease at bay. Mitigating the threat of PPR incursion will therefore be an important investment in safeguarding the national development interests. In these contexts, it is necessary for all countries irrespective of their PPR status to prepare a strategy for the eradication of PPR.

Zimbabwe has therefore prepared a contingency plan in readiness in the event of a crisis of the sudden arrival of the disease. However, beyond managing crises, a general roadmap is required to provide guidance into creating a future where PPR no longer presents a risk of occurrence.

This strategy document was prepared by a task team of the Veterinary Services Department staff, working with a Consultant. Two stakeholder sensitization meetings were held involving representatives of farmers, sheep and goat industry associations and academia. Parks and Wildlife, private veterinarians, input service providers, processors, regulatory and extension services providers. The zero draft was reviewed by a team of national veterinary experts, with guidance from an AU-IBAR expert. The final draft was validated by national stakeholders of the sheep and goat industry.



## CHAPTER 2: THE RATIONALE FOR PPR ERADICATION

### 2.1 The context

#### 2.1.1 Basic information on the country

Zimbabwe is a landlocked country in Southern Africa with an area of about 390,580 square kilometres and a human population of about 12 973 808 million. Zimbabwe shares borders with Zambia to the north across the Zambezi River, Mozambique to the east demarcated by the Eastern Highlands, Botswana to the west and South Africa to the south across the Limpopo River (Fig 1).

Located in the tropics, it extends from latitudes 15° 37' S to 22° 24' S and from longitudes 25° 14' E to 33° 04' E and comprises mostly savannah grassland, miombo woodlands in the higher altitude areas, Mopani woodland and acacia scrub bush vegetation in lower altitude areas. Most areas are well suited to the raising of range livestock.

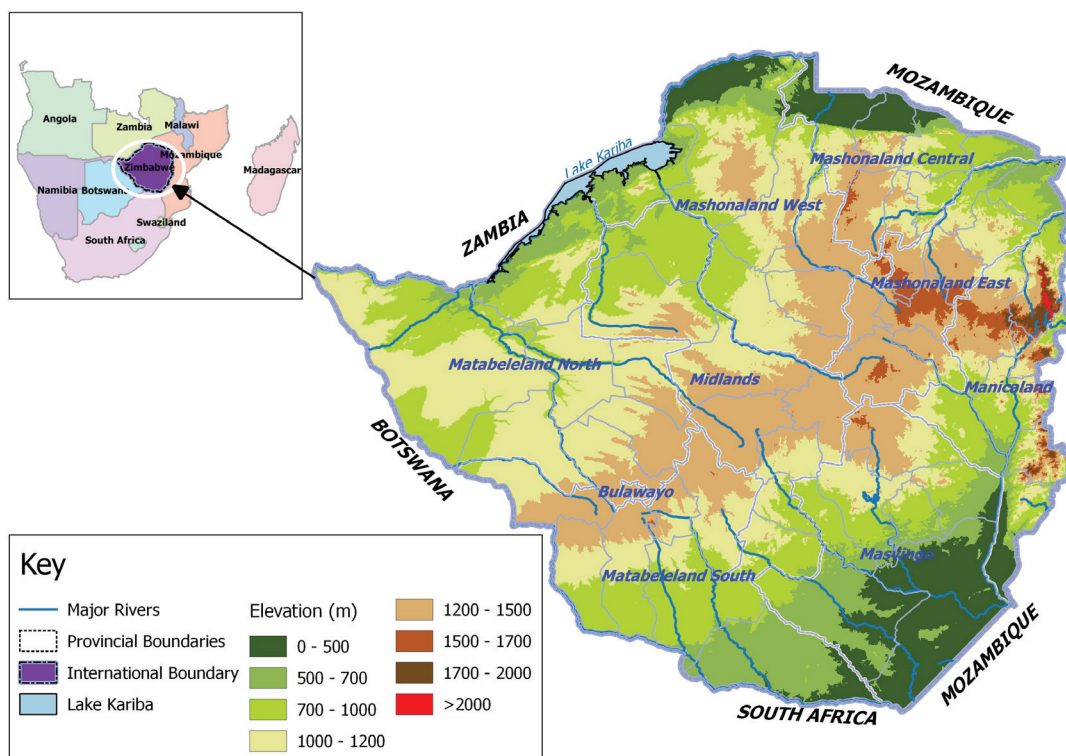
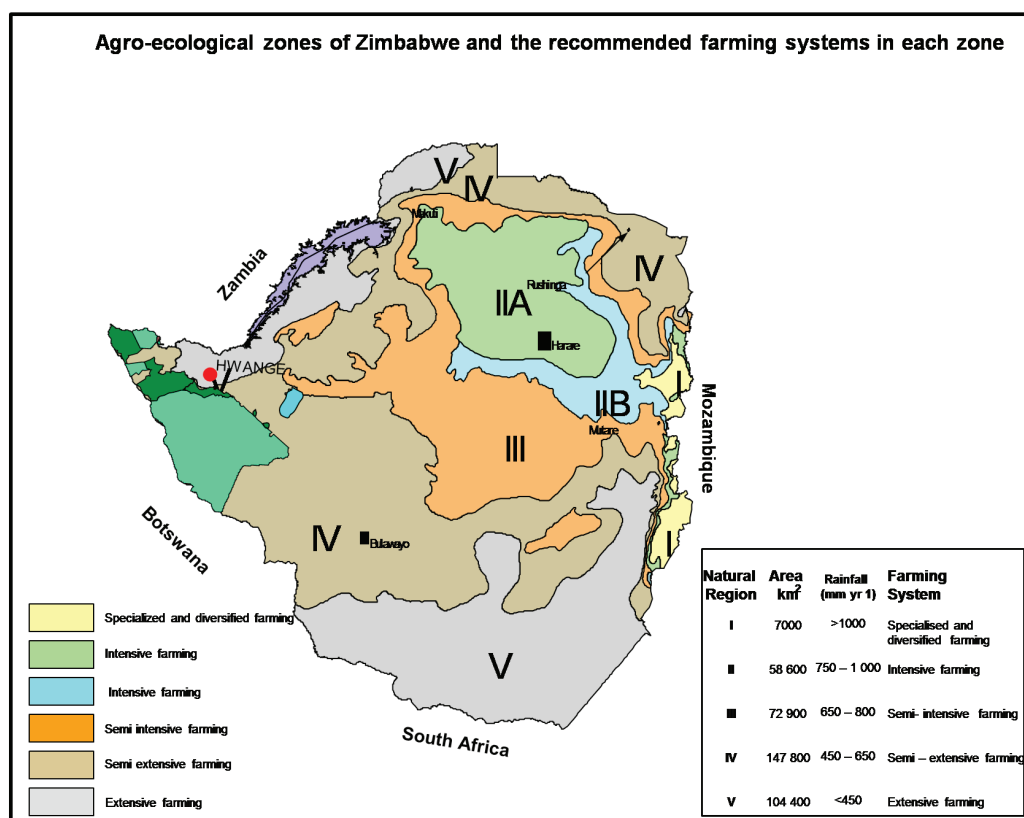


Figure 1: Map of Zimbabwe showing geographical locations and physical features



**Figure 2:** Map of Zimbabwe showing the agro-ecological land classification

Administratively, the country is divided into 10 provinces, 2 of which are metropolitan. For veterinary service delivery purposes, eight non-metropolitan provinces are recognized, with 64 districts incorporating Harare and Bulawayo metropolitan areas. Seven of the eight provinces have international borders.

### 2.1.2 Small ruminant production systems

The small ruminant production system can be categorised into three main groups namely subsistence, semi-commercial and small scale commercial.

Ninety seven percent of the total national small ruminant population is in the small-holder communal sector, 96% of which is managed at subsistence level, where on average each farmer owns 5 animals. Production efficiency is typically low with depressed kidding and high mortality. About 3% are in semi-commercial production with an average of 10-20 animals per farmer. The remaining 1% are under small-

scale commercial sector, with higher flock levels of above 30 animals each, on average. Commercial production is characterised by better breeding, husbandry and investment levels. Women's participation in small ruminant production is significant.

Indigenous small ruminants are ideal for red meat production, and are adapted to many environments, feeding behaviours and better suited to semi-arid conditions where they are important in resilience building. Small ruminant production is deeply embedded in traditional culture where consumption of their meat is high. Production calls for low level of skills and low start-up finances, attracting good prices informally. Their short gestation, high fecundity and all-year breeding renders them suitable for quick recovery following a drought. Small ruminants respond particularly well to husbandry interventions providing leaner, healthier meat, high in iron and vitamin B12. Demand for small ruminants is high and cannot be met yet.

Current policy and program efforts are addressing the largely non-commercial production systems, high mortality rates, poor husbandry management, poor access to animal health and extension services, markets and marketing information, scarcity of desired meat products, poor image of goats and goat meat, susceptibility to predation and low dressing proportion at slaughter.

Promotion of small ruminants is with a view to tapping onto perceived opportunities in inclusive economic development, export markets, the higher nutritional benefits of especially goat milk and meat, the on-going consumer campaign to promote consumption, as well as the decline of the commercial cattle herd, beef shortage and rising beef prices. The desire is to improve production efficiency, quality of product and marketing prospects through facilitating value chain interventions with an added advantage that value chain players will become more responsive to the requirements to comply with sanitary safety measures in the event of an incursion by a high impact disease like PPR.

### **2.1.3 Populations and distribution of PPR susceptible species, by year and species**

Small ruminants, especially goats, are mainly produced at subsistence level mainly in the drier semi-arid Natural Regions III, IV and V (Figure 2), in the lower lying areas along

international boundaries. These regions are prone to droughts and experience low, erratic rainfall with lengthy mid-season dry spells.

Indigenous breeds of sheep and goats are better adapted to these environments in terms of nutrition and health. However, they are still susceptible to PPR.

**Table 1: Sheep & Goat Census 2014-2016**

Province	2014		2015		2016	
	Goats	Sheep	Goats	Sheep	Goats	Sheep
Manicaland	553294	74625	560215	75697	564112	74933
Mashonaland central	305343	63114	304920	63853	304009	64271
Mashonaland east	175929	28212	178784	29428	180413	30525
Mashonaland west	113323	16013	115419	16659	117369	18007
Masvingo	620171	96870	623818	94047	621010	93654
Matabeleland north	292904	27044	294007	28511	298701	29316
Matabeleland south	512002	105749	513063	106238	515893	108221
Midlands	396260	22220	399851	22118	400164	24614

Source: Division of Veterinary Services, Department of Livestock & Veterinary Services

**Table 2: Sheep and goat slaughter figures (heads) 2014-2016**

Year	Sheep	Goats	Total small ruminants
2014	5168	10715	15883
2015	5784	14572	20356
2016	6184	14886	21070
2017	5991	16356	22347

Source: Division of Veterinary Services, Department of Livestock & Veterinary Services

PPR-susceptible plains game species among which are small wild ruminants such as impala, are common throughout the farming areas of the country, but tend to be concentrated in wildlife and wilderness conservation areas.

### 2.1.4 Risk factors along small ruminant supply chains

The virus is shed in all secretions and excretions including semen, and urine at the onset of the fever, 3- 22 days post-infection, and in the faeces at the onset of diarrhoea. Infection is primarily acquired via the respiratory system as the virus is shed in expired air through short-range aerosol spread during sneezing and coughing. At night, under cool conditions, infection can be spread via aerosols over a distance of about 10 meters. Fomites such as bedding, feed and watering troughs are a possible source of infectious

viral material in an infected herd/flock. However, as the virus survives poorly outside the host such that unless under moist conditions in shady environments, indirect transmission by fomites is rather unlikely.

The PPR virus has a high “within-herd” transmission rate. It therefore tends to spread at points where susceptible animals mix at close range with infected animals such as at pasture, in corals, at animal shows, diptanks, quarantine stations, pounds and markets. Between herd transmission can be significantly slowed by biosecurity measures, including movement control, vaccination and heat treatment of products.

The PPR virus may be present in milk of infected animals. Feeding such milk to kids or lambs may therefore spread the infection. Fresh meat and tissues from an infected animal, or having been contaminated, are unlikely to spread the disease. Insects are not known to spread PPR.

Infection is spread to new areas by the movement of infected animals. Traditionally, small ruminants are passed on as gifts, settlement of bride-wealth in marriage-related transactions, fines levied by individuals, families or community courts. They are also used widely in barter trade. Small ruminants tend to be marketed informally in communities.

Farmers sell to aggregators, transporters, and middle-men, or directly to abattoirs, retailers, processors, or butcheries. Middlemen purchase directly from sellers and aggregate for transfer distant markets.

Illegal movements can also be fuelled by a quest for better prices in other locations, especially in urban areas. Illegal movements are often intercepted on buses, cars, carts and bicycles.

While farmer stock registers include details of all livestock, including small ruminants, information about them is often not volunteered. In many areas where no small stock dipping, handling and marketing facilities are available for use, outreach services for small ruminant health remains weak. It may therefore not always be easy to conduct

trace forward and tracebacks on all small ruminant movements to facilitate disease outbreak investigations for effective prevention and control.

On shared national borders, communities often have social ties where animals can be informally exchanged or shared. The risk of introduction of PPR is therefore real.

Given that the country shares four major trans-frontier conservation areas in which susceptible ruminant wildlife species exist, these can contract, and harbor the PPR virus, serving as sentinels as they are unlikely to pass it on to domesticated small ruminants.

The most likely route of introduction of the virus into Zimbabwe is through importation of live infected sheep or goats. Formal importation of small ruminants and risk materials from endemic countries or zones is not permitted, in order to limit the risk of introduction. Small ruminants can easily be transported on boats across rivers, driven on hoof on land, by bicycle or other transport vehicles.

Unmanned border entry points along porous borders and poor coordination among port health and customs officials can lead to uncontrolled entry of high risk animals. Small ruminants therefore can potentially be transferred illegally from across the borders. Illegal imports therefore present a risk.

The absence of a standardized national small ruminant identification and traceability system often makes it difficult to detect these introductions.

## **2.2** *Current status and impacts of PPR*

### **2.2.1** *Current PPR-GCES Stage*

The first PPR self-assessment and monitoring exercise done 2016, indicates that while no clinical disease has ever been detected, there is insufficient evidence to prove absence of virus circulation. Activities are on-going to generate sufficient epidemiological evidence, a general understanding risk factors, adequacy of the legal framework, veterinary capacity and stakeholder awareness on PPR.

Zimbabwe is therefore in stage I of the PPR progressive pathway.

### **2.2.2 PPR situation in the country and in neighboring countries/region**

At the time of preparation of this strategy, PPR was a disease which had never been reported, suspected nor recorded in Zimbabwe.

In the Southern Africa region however, the five neighbouring countries are of different PPR status. South Africa and Botswana have official OIE-recognised country freedom status. Zambia has recorded antibodies against PPR in parts of the country, implying either the undetected presence of disease or the entry of vaccinated animals from other countries, particularly, the Democratic Republic of the Congo and Tanzania, which have recorded outbreaks in recent years. Namibia has an official OIE-recognised zonal freedom status south of its FMD cordon fence. Zimbabwe shares a border with Namibia's Zambezi province, which has no recognized PPR status.

Mozambique like Zimbabwe is in Stage I, but shares a border with Tanzania, where the disease is endemic.

### **2.2.3 Expected Impact of PPR**

Judging from impacts recorded where it has occurred, PPR is likely to lead to massive losses through animal deaths and productivity losses, particularly in goats, which are owned by many rural households. Smallholder communities would become more impoverished and vulnerable to malnutrition. In particular, women and youth would lose a potential easy income source. An epizootic could also threaten socio-cultural practices involving exchange and pass-on of small ruminants could also be threatened thereby affecting traditional socio-cultural bonds and adaptive capacity. The impact will be felt most in the small-ruminant dependant areas, which are mainly in the drier regions of the country. Sudden occurrence of PPR would result in diversion of scarce resources further weakening control of other diseases at both the farmer and the Veterinary Services level.

While stamping out would be the best option to dealing with an incursion, there are challenges with farmer compensation mechanisms.

Control measures involving quarantine and movement control would result in the disruption of commercial activities and prices of small ruminants in affected areas. This could fuel speculative behavior resulting in illegal movements, leading to further spread of the virus to new areas and hence the disease.

An uncontrolled outbreak of PPR would cause serious asset value and financial losses in the goat and sheep industries. Zimbabwe would lose its export market access opportunity for live sheep and goats and their products.

## 2.3 *Current capacity and activities to control PPR*

### 2.3.1 *Laboratory diagnostic system*

The CVL is supported by three Provincial Veterinary laboratories located in Mutare, Masvingo, Bulawayo, potentially capable of undertaking PPR testing. The regional laboratories currently have ELISA equipment but lack trained personnel and reagents to carry out the tests. The CVL has capacity to carry out serological tests and Polymerase Chain Reaction at BL-2.

An ID-vet (Montpellier, France) Competition ELISA kit test detects the presence of antibodies against PPR in serum or plasma with a sensitivity of 94.5% and specificity 99.4%. This test cannot however distinguish antibodies due to infection from those arising from vaccination. Although a penside test is available, it has not been accessed and introduced as yet to expedite early detection and support movement decisions.

The laboratory is currently staffed by one Virology laboratory veterinarian and one laboratory Molecular Biology veterinarian. The staffing and skills position is summarized in the table below:



**Table 3:** Laboratory human resource capacity for PPR diagnosis

Section	Staff compliment	Staff Trained	Training Venue/date
Virology/ serology	6 technologists	2 Technologists were trained in ELISA and PCR	<ul style="list-style-type: none"> <li>Botswana National Laboratory -June 2017</li> <li>Panvac Laboratory-Ethiopia -November 2016</li> </ul>
	1 veterinarian	1 Veterinarian Elisa and PCR	<ul style="list-style-type: none"> <li>Central Veterinary Laboratory –Tanzania 2013</li> </ul>
		4 Technologists Trained in ELISA	Trained in-house at CVL
Molecular biology	3 Technologist	3 Technologists	Trained In-house at CVL
	1 Veterinarian	1 Veterinarian has PCR and ELISA Training	Trained In-house at CVL

### Funding modalities

The laboratory receives Government of Zimbabwe fiscal funding. A revolving fund generating revenue from animal diseases and pest testing services provided to value chain players, provides a supplementary line of financing. Development and funding partners that include FAO, IAEA and AU-IBAR, provide project support directly and indirectly to the CVL.

**Table 4:** Diagnostic tests for other priority Small Ruminant diseases

Disease	Tests at CVL
Brucellosis	Rose Bengal Test Compliment Fixation Test PCR
FMD	Solid Phase ELISA Liquid Phase ELISA
Pasteurellosis	Bacterial culture and microscopy
Helminths	Floatation tests Sedimentation tests Microscopy
Rift Valley Fever	Competitive ELISA, histopathology
Tick-borne diseases	Microscopic examination ELISA PCR

## **Quality assurance in the Laboratory**

The CVL operates under the ISO 17025 quality management system with specific accredited tests in Virology, Serology, Bacteriology, Protozoology, Helminthology and Molecular Biology, ensuring laboratory test reliability. The operations of the laboratory are guided by Quality Management Policy and Procedures manuals. The laboratory has its systems audited by an independent Veterinary Laboratories Advisory Committee, responsible to the Director of Veterinary Services.

The laboratory equipment used undergoes calibration annually through the metrology services of the Scientific and Industrial Research and Development Centre, supported by monthly in-house checks.

The CVL coordinates a national network of veterinary diagnostic laboratories inclusive of private sector labs and those in training institutions. The DVS exercises a legal mandate to coordinate and register private veterinary testing laboratories. Only the CVL is currently undertaking PPR diagnosis. Room exists to mandate other labs in the network. Activities of the network would include interlaboratory proficiency testing as well as sharing of expertise.

CVL can outsource reference testing for PPR from regional and international laboratories especially in connection with antigen confirmation using viral culture, serotyping and genotyping. The Botswana national Veterinary Laboratory and the Africa Unions' PANVAC in Ethiopia are available to accept referral test samples for PPR.

The main gaps are in technical skills and unavailability of specialised tests to detect and characterise the PPR antigen. Laboratory reagents and kits have to be imported and this calls for specific budgetary allocation and access to foreign currency, which are presently constraining.

The laboratory system presently lacks capability to cover the full range of priority diseases of small ruminants.

### **2.3.2 Surveillance system**

The current system comprises of general passive and active surveillance for listed animal diseases and pests.

General surveillance comprises outbreak investigations in response to reports by farmers, private veterinarians, academic and research entities, animal welfare groups, abattoir operators and follow up on rumours, routine clinical inspections, inspections at sales, ports of entry, fairs and exhibitions. This provides a basis for early detection to enable rapid response to PPR incursion.

The DVS organizes formal statistically structured epidemiological investigation of small ruminant populations in targeted high PPR risk areas or supply chain points, through specifically designed population surveys. These aim to determine the level and geographical distribution patterns of a disease and its importance. Three such surveys have been conducted to screen for PPR in 2015, 2016 and 2017, in identified high risk areas in the north and north east areas bordering Zambia and Mozambique.

The veterinary surveillance system relies on the DVS structure which is decentralised down to sub-district level to about 500 animal health and management centres (AHMC) country-wide, carrying out animal disease investigatory and advisory services. In addition, slaughterhouses and border points of entry also serve as surveillance points for important animal diseases including PPR. These are supported at farmer level by community Livestock Development Committees, which facilitate interface with farmers at community level through a network of diptanks as epidemiological units in the small holder and communal sector. The livestock development committees are the source from which community based animal health workers are drawn. Community based animal health workers are important as a link with small stock including small ruminants at village level, which may not participate in the cattle dipping processes. They are therefore important in syndromic surveillance and information dissemination. There is still need to develop a comprehensive PPR surveillance strategy.

The surveillance system is funded from the fiscus and agricultural revolving funds. From time to time additional resources may be availed through development partner

funded projects. Resources for the field collection of samples, and their transportation to laboratories for testing are still low due to logistical and funding constraints.

Most veterinary staff are not yet aware of PPR. There is therefore need to continue training field and other veterinary personnel in disease recognition, sample collection and preservation, laboratory diagnosis and interpretation.

Stakeholder awareness has remained weak and most are not informed about PPR. Surveillance networks therefore still have to be formed.

A few veterinary staff have been exposed to the general principles of formal risk analysis, which are being applied to decision making on imports of live animals and animal products as well as in contingency planning. This is an area where further capacity building is required.

Data collected on livestock production and animal disease surveillance from the field, laboratories and slaughterhouses as well as from networks are captured onto formatted data capture forms at source. Data are consolidated electronically into data bases to pass upwards in the system to the Veterinary Authority's surveillance unit, where they are analysed and used in reports for dissemination, and stored for reference. Emergency reporting is relayed through cellphone, text or voice messaging for quick decision making and response.

All field officers at the farmer/livestock interphase are required to provide weekly returns including zero reports for identified priority diseases including PPR.

### **2.3.3 Control and prevention**

The main means of prevention are import risk analysis, and pre-importation measures applied at source, border control, public awareness and animal movement control, which are already in place as a measure to prevent the entry, spread and establishment of epizootic-prone animal and zoonotic diseases. The system of surveillance serves as an early warning system for rapid response to incursions. Collaboration with veterinary services of neighbouring countries is enlisted through the existing joint transboundary

animal diseases committees in each of the relevant provinces. Biosecurity measures are recommended for quarantine animals.

Should incursions occur, in conjunction with quarantine and movement control, a contingency plan will provide guidance into measures that will be adopted to prevent spread and elimination of the agent under different scenarios .

Small ruminant production is widespread in the country. Marketing is largely informal, and therefore difficult to regulate. The largest population (>95%), of small ruminants is in the communal small holder system, where mobility and transfers can be very rampant. Without a formal standardized animal identification and traceability system, it is currently difficult to enforce movement controls for small ruminants.

Small ruminants are not yet a major focus for disease surveillance and control and therefore ill-health is likely to go unnoticed. There has not been an official health program delivery for small ruminants. Most small ruminant preventive herd/flock health programs are in the private domain. Public sector stock inspection, sampling and treatment suffer from weak logistical support and the absence of aggregating and handling infrastructure. Regular group inspection is possible only in a few places where veterinary infrastructure such as diptanks, or salepens have been established.

Veterinary staff competences are not strong, requiring programming for specific training and refresher courses on PPR, to assist with differential diagnosis and early detection and therefore control.

Epidemiological knowledge and awareness on PPR transmission are generally insufficient. PPR can therefore potentially occur in an area and take rather long to be detected officially because presently, small ruminants are accorded a low economic value and can easily be re-established.

A range of other diseases often afflict small ruminants causing morbidity and mortalities and, because of insufficient knowledge about their prevention and control or poor access to advice and availability of remedies, lead to general despondency.

### 2.3.4 Legal framework

The country has a comprehensive set of legislation for the purposes of controlling specific animal diseases, but also to meet the increasingly demanding requirements of importing countries for trade in animal products.

The principal law for animal disease control in Zimbabwe is the Animal Health Act [Chapter 19:01] and its supporting regulations. Other legislation which complement the Animal Health Act include the Fencing Act [Chapter 20:06], Stock Theft Act [Chapter 9:18] and Stock Trespass Act [Chapter 19:14].

A review of the Animal Health Act and other supporting legislation by the OIE during its Veterinary Legislation Identification Mission of October 2015 (OIE, 2015) recommended that in order for Zimbabwe to continue meeting the requirements of importing countries, and in order to demonstrate compliance with OIE standards on which trade sanitary measures are premised, there was a need to modify the primary legislation. This would give a legal basis for meeting the necessary regulatory requirements in secondary legislation, covering amongst others, aspects of animal disease surveillance, animal disease information management, veterinary diagnostic laboratory services and a comprehensive animal identification, movement control and traceability system.

The Animal Health Act (Chapter 19:01) was found to have a number of important shortcomings in terms of its coverage. There were no provisions for ensuring that suspected outbreaks of notifiable disease are investigated. Many of the provisions of this Act were considered outdated and not aligned to the standards provided in the Terrestrial Animal Health Code. Terminology in the Act also needed to be updated to be consistent with international guidelines.

The Animal Health Act has a number of amendments and the regulations thereof that are contained in numerous statutory instruments. This makes it difficult for stakeholders and staff to keep track of legal requirements. Therefore, there is need to consolidate the legislation into singular documents to facilitate easier referencing.

The OIE legislation identification mission in 2015 found overlaps in the mandates of the Ministry of Lands, Agriculture and Rural Resettlement (MLARR) and the Ministry of Health and Child Care which results in losses of surveillance information about key animal diseases. The OIE therefore recommended that the two ministries engage in high level formal discussions in order to resolve the issues regarding overlaps or gaps in their respective roles and responsibilities for ante- and post-mortem inspection at abattoirs. Other areas needing to be addressed is the animal welfare, which cater for situations such as stampouts and aspects of veterinary inspections at abattoirs.

A livestock sector policy hub established for the purpose of keeping policy and regulatory issues under constant review aims to improve the regulatory environment's fitness for purpose.

Although PPR has since 2016 been a listed disease, no specific regulations exist to provide guidance for specific situations, which might arise. Following the OIE Veterinary legislation identification Mission of 2015, upgrading of the legal framework specific its review and to address prevention and control of PPR are now necessary.

### **2.3.5 Stakeholder involvement**

Stakeholders in the control and eradication of PPR include farmers, producer associations, auctioneers, traders, transporters, processors, stock feed manufacturers, conservationists, parks and wildlife experts, wildlife hunters, researchers, veterinarians, livestock extensionists, civil society organisations, training institutions and development partners.

At the producer end, stakeholders are responsible for breeding, importation, sales, transportation. They have an opportunity to observe, report, comply with import requirements and biosecurity measures, which is useful for disease prevention and control. Traders and transporters are responsible for observing animal movement regulations, quarantine restrictions and implementation of necessary sanitary measures, reporting of suspects.

Processors are required to ascertain that each consignment received for processing

is accompanied by valid documentation such as movement permits and veterinary release certificates the latter issued by public health officers. They should also comply with pre and post-slaughter inspection requirements for ensuring the sanitary safety of animals at slaughter for disease and public health control.

Academic and research institutions have a responsibility to report incidental findings and add to the store of knowledge about PPR and other diseases of small ruminants.

Stakeholders are organized into groups as associations and when approached have expressed interest in becoming influential in developing the small-ruminant sub-sector. However, currently existing platforms exclude smallholder producers as the more vulnerable strata among them, who collectively hold over 99% of the national small ruminant animal resource and therefore exposed to many risks. Current stakeholder capacity to understand and negotiate markets is low. There is no effective surveillance network in existence involving stakeholders in the small ruminant sub-sector.

#### **2.4 Other small ruminant priority diseases: status and prospects for control**

The health of small ruminants is under constant pressure from intercurrent diseases and pests which need an effective preventive management program at farmer level, with support of animal health extension services. A number of them are important differentials for PPR, therefore need to be fully investigated to ensure correct diagnosis and management measures. Some of the common diseases include the following for which preventive and control management regimes exist:



**Table 5:** Other small ruminant priority diseases: status and prospects for control

Other important small ruminant diseases	Control prospects	Corresponding control program in place
Cowdriosis	Good to fair	Herd health program; immunization with whole blood vaccine; acaricidal tick control; antimicrobial prophylactic treatment
Anaplasmosis	Good	Herd health program; Immunisation with Anaplasma centrale in whole blood; antimicrobial prophylaxis; acaricidal tick control
Brucellosis	Good	Herd health program; Vaccination; Test and slaughter
Rift Valley Fever	Very good	Annual vaccination, herd/flock health
Helminthiasis	Very good	Herd health and quarterly anthelmintic treatment
Orf	Self limiting	Vaccine potentially available but not ordinarily available
Dermatophilosis	Fair	Herd health; movement restrictions; antimicrobial treatment; destruction of cases with poor prognosis
Ectoparasites	Very good	Weekly acaricidal dipping
Blue tongue	Very good	Annual vaccination
Pulpy kidney	Very good	Annual vaccination
Trypanosomosis	Good	Insecticidal pest control; Antimicrobial prophylaxis

Zimbabwe has never detected PPR. Strong relationships will need to be developed with the private sector, which has expressed desire to grow an export-led small ruminant sub-sector. Such an interest requires a stronger public veterinary oversight, evidence generation and a certification system guaranteeing the sanitary status of the country, the measures in place for official prevention and control recommended to farmers for a range of small ruminant health challenges.

The public program will also need to provide a general preventive animal health care system looking at all other health threats to efficient production systems of small ruminants. This approach will therefore enable closer attention to both production and health and in the process enable early detection of a high impact disease like PPR.

The current animal health program had been steeped to cattle as the commercially most viable production system for both beef and dairy products. Diversion to small ruminants will naturally call for new developments in personnel skills and competencies, infrastructure and a transformation of services to small ruminant farmers. This calls for attention to the quality of veterinary services beginning with the advice given in the Performance of Veterinary services gap analysis, further giving due attention to specific areas relevant to small ruminants.

## CHAPTER 3: ORGANISATION OF VETERINARY SERVICES

The Department of Veterinary Services (DVS) of Zimbabwe under the MLARR is mandated to provide services for the prevention of entry, establishment and spread of animal and zoonotic diseases of national economic and public health importance. The national veterinary service is comprised of the Veterinary Authority (DVS) as the Veterinary Competent Authority, private veterinary practitioners, veterinarians in academia and those in industry and research institutions.

An important role of the veterinary services is to be responsible for the notification of the occurrence of listed diseases and pests, in order to facilitate rapid response to them. This calls for close cooperation between the Veterinary Authority (VA) and veterinarians in other sectors as well as with other stakeholders. As PPR is a newly listed disease in the country, there is a pressing need to build awareness, skills in detection, confirmation and control involving the all arms of veterinarians.

The Veterinary Authority is structured in 4 levels starting with the head office at national level, followed by the provincial, district and sub-district levels. At the national level, the head office is comprised of branches in Research and Diagnostics, Epidemiology and Disease Control and Veterinary Public Health. There are also specialist units including one for wildlife. These branches and units are important in the capture and analysis of data relevant to detection, prevention, control of PPR and other priority diseases of small ruminants to enable risk assessment and for the evaluation of control measures. They also provide backup services to field staff in disease recognition, sample collection and analysis as well as knowledge generation.

Each province has an epidemiologist, but only three out of 8 provincial stations have a laboratory. Sub-national veterinary public health stations are based on the national distribution of registered abattoirs and designated ports of entry.

District and sub-district stations serve as operational units for animal disease surveillance, prevention, control and farmer interactions.

Animal Management and Health Centres, are well distributed throughout the country. AMHC s are staffed by veterinary para-professionals, mainly Veterinary Extension Workers who operate in close liaison with animal husbandry extension workers. AMHC s provide advisory services, perform vaccinations, primary disease investigations and recording, and supervise the work done at the diptanks. AMHCs represent a key part of the surveillance network as they are the ones in closest contact with the animals and farmers. With about 800 AMHC, each would supervise in average 5 diptanks, overseeing an estimated average 400 households.

Diptanks are the lowest rung of the veterinary services network and epidemiological unit in the smallholder sector. It is also the first point for data capture for most livestock including small ruminants as well as being an important point for information dissemination.

Linkages with other components of veterinary services occur through obligatory reporting requirements, collaborative activities on board and committee representations, joint project implementation and networks.

The ability to remain competitive in convincing trade partners is heavily dependent on the strength of veterinary services in providing sanitary safety measures in the context of animal diseases. The OIE provides tools for the evaluation of a country's veterinary services and indicate the level of key competencies needing improvements, and the investments required for the sustainable provision of quality veterinary services.

The following table presents the various OIE PVS missions conducted in past years and a summary of comments indicating activities to be conducted in the next 5 years.

**Table 6:** OIE PVS Missions conducted

	Date conducted	Level of confidentiality	Comments
OIE PVS 2009	2009	Partial	<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>Follow up additional posts approved by treasury and fill them</li> <li>Program in-service training in various critical competencies</li> <li>Identify government and private resources for physical infrastructure and recurrent expenditures the PPR eradication</li> </ul> <p><b>Technical capacity and capability</b></p> <ul style="list-style-type: none"> <li>Develop capacity for field (VPH Paraprofessionals) detection and penside testing</li> <li>Develop capacity for risk analysis, lab diagnosis of PPR and other SRDs and decentralize</li> <li>formalise laboratory networks</li> </ul> <p><b>Interaction with stakeholders</b></p> <ul style="list-style-type: none"> <li>Increase awareness and coordination</li> <li>Involve in Epidemiological networks</li> </ul> <p><b>Access to markets</b></p> <ul style="list-style-type: none"> <li>Provide sanitary support services for access to markets</li> </ul>
OIE PVS Follow up evaluation	N/A	N/A	Anticipated for September, 2018
PVS Gap analysis	2014	Partial	<ul style="list-style-type: none"> <li>Emergency funding for disease control</li> <li>Improve budget advocacy</li> <li>Attend to staffing of the establishment</li> <li>Emergency preparedness &amp; response &amp; SOPs and Control plans</li> <li>Improve outreach and extension in high risk areas</li> <li>Reinforce at farm and national</li> <li>Establish epidemiological status for PPR</li> <li>Support market access</li> <li>Program PPR status recognition</li> <li>Expand VPH cover to all designated border points and all slaughter facilities</li> </ul>

	Date conducted	Level of confidentiality	Comments
			<ul style="list-style-type: none"> <li>• Strengthen passive and undertake active surveillance</li> <li>• review and evaluate PPR control plans</li> <li>• Extend lab capacity for endemic, unknown and PPR</li> <li>• Improve lab networks</li> <li>• Decentralise PPR &amp; SRDs lab tests and accredit other labs</li> <li>• Extend Lab QA to private labs</li> <li>• Enhance risk analysis capacity for PPR</li> <li>• Formalise collaboration with stakeholders</li> </ul>
Veterinary Legislation identification Mission	2015	Partial	<ul style="list-style-type: none"> <li>• Modernising legislation and covering gaps in animal welfare, surveillance and sharing of responsibilities, LITs to include SRDs</li> <li>• Adapt animal identification</li> </ul>

## CHAPTER 4: PPR STRATEGIC ERADICATION FRAMEWORK

### 4.1 Guiding Principles

#### 4.1.1 Risk based approach

A rational basis for generating epidemiological evidence for presence or absence and distribution of PPR is a necessary step to provide a basis for the design of a fit-for-purpose control or prevention program. The overall aim is to systematically reduce the risk and ultimately to prevent incursions from higher risk areas including neighbouring countries in which PPR has ingressed. Risk mapping to determine areas, farming systems, movement practices, population densities including of wild small ruminants is a desirable result as a first step.

An effective prevention and control program underpinned by an effective emergency preparedness and response plan will be important in moving towards an OIE endorsed country or zonal freedom status. These will be maintained through, border and import control and support through evidence from on-going active and strong stakeholder participatory passive surveillance. Managing PPR risks effectively should enable the country to become trade compliant while contributing to regional, continental and global eradication of PPR.

Structured epidemiological surveys based on the results of risk mapping will be carried out in the susceptible domesticated and wild small ruminant populations across the country. The surveys need to be carried out regularly, focussing on identified risk areas and management practices. These are supplemented by regular clinical inspections on the basis of “zero” reporting when no cases are seen.

Surveys can be based on testing of sera from high-risk animal groups to provide evidence of incursions for rapid response to eradicate the disease at source, before it can spread to the rest of the country. All serological doubtfuls and differentials of other prioritized small ruminant diseases will be followed up by investigations to confirm or rule out virus incursion.

In the event that limited outbreaks occur, containment zones will be declared as high-risk areas to protect the rest of the country, in line with the contingency plan

Annual or biannual random population surveys will be carried out in the rest of the country to check the population status of susceptible small ruminants in the hinterland for presence or absence of the disease and its distribution. Formal random sampling of sera premovement, at quarantine and at points of slaughter selected country wide on an on-going basis will supplement the data required. However, given the possible highly dynamic nature of small ruminant movements, a system of herd and flock based identification and traceability will need to be formalised for small ruminants, in order to better regulate risky movements.

#### **4.1.2 Cross-border approach**

Within the SADC regional PPR strategy, joint cross border collaboration is envisaged to support the national PPR roadmap involving the following:

- collaboration on formal and informal trans-boundary movement controls,
- formulation of harmonized veterinary protocols, and programs in small ruminant health and production extension, public awareness about PPR threats, encouraging adoption of common on-farm biosecurity measures against PPR and other small ruminant diseases and pests
- sharing of the outcomes of surveillance and collaboration on awareness building, stakeholder reporting and
- coordinated transboundary surveys for PPR antigen or serological reactors as well as the occurrence, prevention and control actions for other small ruminant diseases and pests including wild small ruminant species.

This will reinforce existing collaboration which has remained strong on other animal disease program such as poultry in the context of Newcastle disease and Avian Influenza; cattle in the context of FMD and pigs in the context of African swine fever.

#### **4.1.3 Control of other priority national small ruminant diseases**

The eradication of PPR will be pursued in the context of effective control of other priority diseases of small ruminants. The strategy will include motivation of stock



owners to be partners in the prevention and control of PPR. This implies a requirement to support them to leverage the true asset value of small ruminants first by removing or limiting the health constraints presented by a number of infectious diseases and pests and creating a more positive image of small ruminant production. Among these are:

- ecto- and endo-parasite (ticks, lice, mites) damage and their indirect effects including
- vector-transmitted diseases such as Anaplasmosis and Cowdriosis
- coccidiosis
- Dermatophilosis
- viral infectious diseases such as Orf, Sheep and Goat pox, Rift Valley Fever, Bluetongue and FMD
- Bacterial diseases among them Brucellosis, Clostridiases, Anthrax and pasteurellosis
- Trypanosomoses

These diseases limit production efficiency and are important in the background health of domesticated small ruminants leading to significant morbidity and mortality losses if not checked. Some of them are also key differentials to PPR and therefore always need to be conclusively diagnosed when suspected. The current call to commercialise and increase export-led red meat production, can only become a reality with the establishment of a strong veterinary sanitary support services complementing farmer efforts on good animal health and husbandry practices. The establishment of an official public good animal disease control program for small ruminants including a dedicated extension program to enhance the participation of owners and keepers, will help to promote a positive attitude on small ruminant animal health, on which a PPR program can ride. The extension program will aim at promoting good animal health and husbandry for small ruminants to stimulate farmers towards playing their private sector role in national animal health program through syndromic surveillance and reporting.

The current ecto-parasite dipping program will need to be expanded in many areas through infrastructure and recurrent resource provision. The ectoparasite control program limits direct and indirect pest damage, so that other management inputs can be more effective. The opportunities it provides for contact with animals will

naturally lead to a better general veterinary clinical surveillance and herd/flock health monitoring program as well as the diffusion of advisory information. DVS needs to facilitate accessibility of vaccines and drugs important for the prevention and control of other small ruminant diseases through its network of stations. Farmers will be assisted to keep better records in support of traceability and certification processes.

As better animals are produced, with higher prospects of survival, value chains are revitalised, which could incentivize sustained growth in production and export marketing of small ruminant products. Elimination of the major sanitary risks will further facilitates supply chains of small ruminants whose demand locally and for export, has yet to be met.

### **Training and public awareness**

The attention paid to health management will be boosted through review of curricula and training institutions aiming to raise the profile of herd and flock husbandry and health management for sheep and goats as well as food control management. In tandem, extension materials for farmers and other value chain players will be designed and reviewed in order to enhance awareness on good practices, which will make it increasingly possible to detect PPR early, in the event it occurs.

### **Services**

As many small-holder areas with small ruminants are remote, it will be necessary to improve access to frontline diagnostic services, veterinary remedies, vaccines and palliatives. A supportive policy framework will need to be deliberate about encouraging and facilitating the private sector to establish services in the more remote rural areas directly or through a 'merit good' facility through the public sector. This will reduce the difficulty farmers in such areas have to endure in remedying health situations that crop up from time to time, and assist their efforts in implementing good animal health, husbandry and hygiene as part of their management responsibility.

The official veterinary program for small ruminants needs to be designed premised on PPR surveillance, prevention and control.

This strategy will also need to improve coordination of many other efforts by civil society and development partners through a shared vision, including marketing support.

### **Public infrastructure**

Infrastructure such as handling pens, dipping facilities, races and marketing pens facilitate clinical inspections, quarantine holding facilities, laboratory sampling and testing, mass vaccinations and treatments and therefore facilitate surveillance

#### **4.1.4 Self-sustaining Mechanisms for Animal Health Services**

The official veterinary program will need to be more deliberately focused on small ruminants. This will need to happen through supporting small stock production with animal health and welfare programs premised on principles of an ethical organization, sound legal provisions and a strong technical base irrespective of prevailing political, economic and social situation in the country. Gaps detected in the Performance of Veterinary Services will require to be consistently addressed with reference to the OIE standards, in order to assure the sustainable improvement of health services to the small ruminant sector in support of production, productivity and market access.

A multi-stakeholder small ruminant advisory group, which has been formed will be structured to work with the Department of Veterinary Services and serve to link with small ruminant value chain players. Through this mechanism, formal interaction will occur to keep communication and dissemination of information alive for the benefit of PPR surveillance and related sanitary management.

As the general health of small ruminants improves, facilitation of marketing will serve as an incentive to sustain animal health services. It is therefore foreseen that more vibrant market-led production systems will develop. Strong supply chains are likely to develop more self-sustaining mechanisms, becoming less dependent on public sector support.

#### **4.1.5 Adaptive Management**

This strategy will be a living guide to programme activities aimed at developing the red meat sector. It will base its monitoring plan on the indicator guidance from the FAO/

OIE PPR GCES monitoring tool in order to main relevant to the global strategy. It will be regularly reviewed on the basis of lessons from its own implementation as well as from on-going reviews of relevant programs and research to inform capacity development and approaches to improving diseases of small ruminants. In addition, it will also be informed by progress made on the OIE PVS pathway on the enhancement in veterinary services. Lessons determined by the PPR advisory committee, from the monitoring, review and evaluation processes will inform adjustments for the improvement of the strategy itself, its relevance and effectiveness in addressing the intended goals and impacts.

#### **4.1.6 Partnerships**

Success of this strategy will depend on liaisons among local, regional and international institutions, individuals, funding and development partners involved in research, extension and disaster management. Locally, these include DR&SS, Academia, Agritex, ILRI, Parks and Wildlife Authority, Civil Protection Department, farmer organisations (LMAC, farmer unions, marketing agencies (ZIMTrade, AMA, MLARR-Economics and Markets). They also include development partners (FAO, ILO, UNDP, EU Delegation (ZAGP); donor consortia DFID-UK; USAID, WHH (PALLADIUM, ENSURE, AMALIMA, LFSP) and standard setting agencies (OIE, CODEX), relevant to small ruminants. This will help to leverage expertise, financial and material resources to address the objectives of the strategy.

Formulation of this strategy is developed from the early interests of the SADC regional strategy and is closely linked to the AU-IBAR's Pan African PPR strategy, which has been aligned to the Global PPR eradication strategy formulated by the FAO jointly with the OIE. The purpose of these strategies is common and is generally to leverage the value of small ruminants by removing health constraints while keeping a focus on the programed eradication of PPR by 2030.

As livestock production is a private business, the strategy aims to carry value chain players along for full relevance and sustainability in the form of public-private-partnership arrangements. It is important that value chain stakeholders develop interest and ownership of the strategy in order to implement risk-based approaches, which can

sufficiently complement official control and extension programs. This strategy should result in the transformation of the small ruminant red meat and skins sector which has not really received attention in the past and yet holds a lot of potential in meeting food and nutritional needs, incomes, livelihoods and the national economy. It can therefore be a key development under CAADP with natural relationships to the LIDESA as more and more countries on the continent join in the effort.

## **4.2 Results framework**

### **4.2.1 Overall Objective**

The overall goal of this strategy is for Zimbabwe to contribute to the global eradication effort of PPR. This is with an aim to contribute to food and nutritional security, poverty alleviation, enhance livelihoods and resilience of livestock-dependent communities and foster national economic growth”

### **4.2.2 Specific objectives**

- To define Zimbabwe’s country PPR status
- To control other priority diseases of small ruminants
- To strengthen veterinary services

### 4.2.3 Expected outputs and activities

**Table 7: PPR Strategy Expected Outputs &Activities**

<b>GOAL: PPR Eradication</b>		
<b>OBJECTIVE</b>	<b>OUTPUTS</b>	<b>ACTIVITIES</b>
To define country status of PPR	Country PPR status described from the country	<ul style="list-style-type: none"> <li>• Develop capacity for detection, prevention and control</li> <li>• Develop understanding of the national PPR epidemiological situation</li> <li>• To lay the foundation for the implementation of approaches for PPR status definition</li> </ul>
To control other SRDs	Other priority small ruminant diseases controlled	<ul style="list-style-type: none"> <li>• Raise awareness</li> <li>• Implement control programs</li> <li>• Improve passive surveillance</li> <li>• Improve technical ability and capability in differentiating and confirming PPR</li> <li>• Improve preventive small ruminant health care</li> </ul>
Strengthen Vet services	Veterinary Services strengthened	<ul style="list-style-type: none"> <li>• Improve active, passive and syndromic surveillance</li> <li>• Enhance diagnostic services</li> <li>• Enhance veterinary technical authority and governance</li> <li>• Review veterinary legislation</li> <li>• Establish stakeholder platforms</li> <li>• Strengthen biosecurity, border controls and emergency preparedness</li> </ul>

### 4.2.4 Coordination, management and partnerships

For a key listed high impact disease like PPR, its integration into the agenda of the Animal Health Emergency Committee will be one way to foster coordination. At designated national ports of entry, close collaboration already exists among agencies responsible for human health, crop agriculture and veterinary services.

This strategy in addition stipulates the need for a National PPR committee and a multi-stakeholder PPR surveillance network to enhance detection and inclusive reporting, biosecurity management and control.

Among the Government Ministries relationships already exist with the Ministry of Environment, Water and Climate, which parents the Parks and Wildlife Authority, The Ministry of Gender and Youth Development, Foreign Affairs and International Trade as

well as Industry, Commerce and Enterprise Development. These existing relationships will be exploited further to entrench the interests of improved control of PPR in the context of surveillance, Socio-economic and economic impact assessment and trade standards. Collectively, the advantage presented by improving preparedness and prevention of PPR incursion as well improved small ruminant health generally, should receive better hearing for funding support by Treasury.

The roadmap coordinator will be responsible collecting monitoring data on the basis of objectives and results outlined in the results matrix. The PPR coordinating committee will on the basis of the monitoring data recommend the necessary adjustments to ensure objectives are on track with the goals and are ultimately achieved. This will foster coherence among the different program components and in helping to harmonise performance appraisals. Monitoring and Evaluation (M&E) data will be collected according to the plan and reported on every 6 months for outputs and once a year for outcome indicators. Report of M&E will generate information to be shared with key stakeholders in assessing project progress and adjusting them for continuous improvement. Donors, OIE sub-regional and regional offices will be closely consulted for periodic reviews in order to adjust work plans to respond to needs and circumstance. Impact will be assessed using questionnaires relying on the M&E system set out in the strategy.

Data on progress on the implementation of the strategy will be gathered by livestock field extension staff, who will report through district and Provincial staff for consolidation at the head quarters in Harare.

## CHAPTER 5: MONITORING AND EVALUATION

The strategy implementation will be monitored and evaluated using the OIE PVS evaluation tool for compliance with the OIE standard, and the PPR Monitoring and Assessment tool (PMAT), applied in parallel. Thirty-three of the 47 Critical Competencies of the OIE PVS tool are linked to the prevention and control of PPR and country level and are highly relevant to the attainment of outcomes of a specific PPR stage. For the OIE PVS tool, attainment of a score of '3' for most Critical competencies early on in each stage, is considered ideal in general, to ensure that the right technical, collaborative or policy environment can facilitate actions towards PPR control and eradication.

Implementation of activities and their impacts are measurable, as each set of activities implemented in each stage relate to the 5 main elements namely: PPR Diagnostic System, PPR Surveillance, PPR Prevention and Control systems, Legal Framework for Prevention and Control of PPR and Stakeholders' Involvement on PPR at each stage. Activities at each stage are appropriate to mitigate the risk in accordance with the evidence provided in the preceding stage or to new evidence provided by continuous monitoring of the epidemiological situation and progress achieved. Implementation of all activities should result in the progressive reduction of incidence or risk of PPR. Regular monitoring should also ensure that efforts are resulting in expected outputs

The proposed PPR coordinating Committee will have the responsibility of monitoring the effectiveness of activities by reviewing regular half-yearly reports on outputs. A technical point person in the DLVS will have the responsibility of compiling the reports for discussion by this committee. Depending on progress made with the PMAT self-assessment, the committee will make recommendations for graduation from one stage to the next. These recommendations will be used in seeking external validation of the observations made.

The monitoring and evaluation of progress towards country contribution to the eradication of PPR will be premised on assessment for progressive attainment of outcomes described in four stages namely: epidemiological assessment, control,



eradication and post-eradication. This will be in line with the progressive PPR monitoring and Assessment tool (PMAT), where the Stages correspond to a combination of decreasing levels of epidemiological risk, and increasing levels of prevention and control. In each stage, objectives are set for each of five technical aspects of :

1. diagnostics,
2. surveillance,
3. prevention and control,
4. legal framework and
5. stakeholder involvement.

These objectives are then assessed as relevant activities are undertaken, and outcomes attained. Activities in a given Stage are appropriate to mitigate the PPR risk. Activities and their impacts are measurable in each Stage. The implementation of all stated activities for all technical aspects should lead to the achievement of progressive decrease in the incidence of PPR to a point at where the disease can be eliminated from the domestic animal populations, and where relevant, wildlife.

The success of PMAT is therefore strongly premised on the strength of the national veterinary services. Therefore, Veterinary Service (VS) capacity must be reinforced as the country moves along the PPR Stages implying progressive institutionalisation of PPR prevention and control, in accordance with the evidence provided in the preceding Stage. Progress in this aspect will be assessed through 33 of the 47 OIE PVS Critical Competencies for effective performance and good governance of a national VS, which are of particular relevance to the control and eradication of PPR in accordance with the focus of the progressive PPR control stage.

**Table 8:** The Zimbabwe PPR Strategy Monitoring And Evaluation Matrix Stage I

Technical component	Outcomes	Expected outputs	Indicators
Diagnostics	1. National PPR laboratory diagnostic capacity is partially or fully established with international outsourcing	<ul style="list-style-type: none"> <li>Laboratory screening tests in place</li> <li>Laboratory Vets and Technologists Trained</li> <li>Laboratory antigen confirmatory tests established or outsourced</li> <li>SILAB integrated into DVS reporting system</li> <li>Laboratory diagnostic networks established</li> </ul>	<ul style="list-style-type: none"> <li>Diagnostic capability in place</li> <li>Competent laboratory personnel</li> <li>Capability to characterize antigen tests</li> <li>Laboratory info system</li> <li>Operational lab network</li> <li>Operational reagents procurement system</li> </ul>
Surveillance	<p>2. A PPR surveillance system is progressively established with specific field sero-surveys and syndromic participatory disease approaches</p> <p>3. Ability of the field veterinarian to include PPR among considerations improved</p>	<ul style="list-style-type: none"> <li>Field veterinary staff trained in sampling, sample storage and submission; value chain risk based control approaches</li> <li>Risk analysis working group for PPR formed</li> <li>Risk hotspots and transmission pathways mapped</li> <li>Surveillance strategies (virological, serological, clinical) with reporting developed &amp; integrated</li> <li>Epidemiological surveys designed and conducted</li> <li>PPR included in passive surveillance differentials</li> <li>Event follow up reports documented</li> <li>Participatory &amp; syndromic surveillance integrated in health extension training</li> </ul>	<ul style="list-style-type: none"> <li>Field staff participating in surveillance</li> <li>Operational working group</li> <li>Documented risk map</li> <li>SOPs for virological, serological and clinical surveys in reporting system</li> <li>Epidemiological study designs</li> <li>PPR is a field diagnostic differential</li> <li>Follow up reports</li> <li>% stakeholders in surveillance networks</li> </ul>
Prevention and control	4. Ground for the implementation of prevention and control activities established	<ul style="list-style-type: none"> <li>National PPR Committee formed and work program defined</li> </ul>	<ul style="list-style-type: none"> <li>National task force and meetings reports</li> <li>The response plan</li> </ul>

Technical component	Outcomes	Expected outputs	Indicators
		<ul style="list-style-type: none"> <li>Outbreak response plan formulated</li> </ul>	
Legal framework	5. Animal health legal framework reviewed with a focus on PPR	<ul style="list-style-type: none"> <li>Propose listing of PPR as a notifiable disease</li> <li>PPRC establishes relations with the livestock Policy Hub and legislation working group for issues on PPR</li> <li>Identify and propose legislation reforms for auctioning</li> </ul>	<ul style="list-style-type: none"> <li>PPR is a nationally listed disease</li> <li>PPR is part of the PPRC agenda</li> <li>Regulatory amendments</li> </ul>
Stakeholder involvement	6. Stakeholder ownership and drive for PPR control and eradication objectives (notably in terms of transparency)	<ul style="list-style-type: none"> <li>Improved recognition and shared vision on PPR</li> <li>Awareness materials on domestic and wild small ruminants developed</li> </ul>	<ul style="list-style-type: none"> <li>Number of stakeholders trained</li> <li>Awareness materials and programs on PPR in place</li> </ul>

**Table 9:** The Zimbabwe PPR Strategy Monitoring And Evaluation Matrix For Stage II

Technical component	Outcomes	Expected outputs	Indicators
Diagnostics	1. Veterinary laboratory capability enhanced	<ul style="list-style-type: none"> <li>Lab staff trained in field antigen characterisation</li> <li>CVL equipped for biomolecular testing</li> <li>CVL participates in regional and continental proficiency testing networks for PPR</li> <li>Field veterinary personnel capacitated on PPR penside test</li> </ul>	<ul style="list-style-type: none"> <li>% trained competent staff</li> <li>Lab equipment</li> <li>Functional tests</li> <li>Proficiency testing results</li> <li>Personnel trained</li> </ul>
Surveillance	2. Surveillance strengthened incorporating an emergency response mechanism	<ul style="list-style-type: none"> <li>Abattoir &amp; port health staff capacitated on PPR differentials, recognition, sampling, storage, submission, reporting</li> </ul>	<ul style="list-style-type: none"> <li>% trained staff</li> <li>Liaison events</li> <li>Liaison committee</li> <li>Sample collection opportunities facilitated</li> <li>% hunters aware of PPR</li> </ul>

Technical component	Outcomes	Expected outputs	Indicators
		<ul style="list-style-type: none"> <li>• Coordination and liaison with Parks &amp; Wildlife and other wildlife agencies established</li> <li>• PPR awareness campaign for hunters</li> <li>• Liaison with the SADC regional Epidemiology and Informatics networks established</li> </ul>	<ul style="list-style-type: none"> <li>• Regional EIS events</li> <li>• Attended</li> </ul>
Prevention and control	3. PPR risk mitigated	<ul style="list-style-type: none"> <li>• PPRC risk defined</li> <li>• Biosecurity enhanced</li> <li>• Border inspection strengthened</li> </ul>	<ul style="list-style-type: none"> <li>• PPR risk maps</li> <li>• Biosecurity guidelines</li> <li>• Border inspection returns</li> <li>• Personnel trained</li> </ul>
Legal framework	4. To further improve the legal framework to support prevention and risk mitigation at population level, including the risk of PPR introduction from abroad, and possibly accommodate a compensation mechanism	<ul style="list-style-type: none"> <li>• The social, economic and financial impacts of control measures analysed</li> <li>• Legislation to support control measures in the field reviewed</li> <li>• Propose regulatory amendments to enhance efficiency of PPR control and prevention</li> </ul>	<ul style="list-style-type: none"> <li>• Impact/benefits of control measures assessed</li> <li>• Effective disease control measures</li> <li>• Empowered veterinary service</li> </ul>
Stakeholder involvement	5. To fully involve stakeholders in establishing procedures for accessing compensation funds in the event of PPR outbreaks	<ul style="list-style-type: none"> <li>• Develop communication materials on importance, recognition, reporting, implications, control and eradication of PPR</li> <li>• Publicise and disseminate to all those involved in PPR prevention and control</li> </ul>	<ul style="list-style-type: none"> <li>• Empowered stakeholders</li> <li>• Stakeholder driven small ruminant disease control</li> </ul>

Technical component	Outcomes	Expected outputs	Indicators
		<ul style="list-style-type: none"> <li>Organise stakeholder contact programs (farmers, abattoirs, NGOs, Hunters, Safari operators) to improve cooperation in surveillance for early detection, prevention and control</li> <li>Conduct feasibility for small ruminant identification system</li> </ul>	

**Table 10:** The Zimbabwe PPR Strategy Monitoring And Evaluation Matrix Stage III

Technical component	Outcomes	Expected outputs	Indicators
Laboratory diagnostics	1. Quality assurance in PPR diagnostics strengthened	<ul style="list-style-type: none"> <li>CVL PPR lab tests accredited</li> </ul>	<ul style="list-style-type: none"> <li>Accredited tests</li> </ul>
Surveillance	2. Surveillance system enhanced to address early warning for emergency preparedness	<ul style="list-style-type: none"> <li>Procedures established for trans boundary/ international health event capturing</li> <li>Targeted risk-based surveillance conducted to minimize misinterpretation</li> <li>Sero-surveillance in wildlife and other species intensified</li> </ul>	<ul style="list-style-type: none"> <li>SOPs and guidelines</li> <li>Disease prevalence</li> <li>Presence/absence of infection in wild hosts</li> </ul>
Prevention and control	3. Vigilance and more aggressive control with stamp outs aimed at eradication (Zero tolerance)	<ul style="list-style-type: none"> <li>Identification system implemented</li> <li>PPR eradication plan developed</li> <li>Official PPR control program developed</li> <li>Studies on how to improve live animal biosecurity on-farm and markets and their impacts on stakeholders conducted</li> </ul>	<ul style="list-style-type: none"> <li>Small ruminant identification system operation</li> <li>Plan</li> <li>Official control submitted for OIE endorsement</li> <li>Reports</li> </ul>

Technical component	Outcomes	Expected outputs	Indicators
Legal	4. The legal framework covers issues of compensation for small ruminant culled for disease control purposes as well as improved biosecurity on-farm and at markets	<ul style="list-style-type: none"> <li>Regulations for disease-control stampouts, welfare, identification</li> <li>Legal amendments covering compensation, biosecurity, animal identification proposed</li> </ul>	<ul style="list-style-type: none"> <li>Regulations</li> <li>On-farm biosecurity guidelines Regulatory reviews and amendments</li> </ul>
Stakeholders	5. Stakeholders actively participate in surveillance networks, compensation & biosecurity arrangements, and animal identification	<ul style="list-style-type: none"> <li>Procedures to address group-specific issues with impact on their enterprises developed</li> <li>Communication platforms</li> </ul>	<ul style="list-style-type: none"> <li>Governance procedures in place</li> <li>Stakeholder issues attended</li> <li>Media events</li> </ul>

## CHAPTER 6: BUDGET

Component	National PPR Budget: Zimbabwe									
	SPECIFIC ITEM DESCRIPTION		UNIT	QUANTITY	UNIT COST	BUDGET (USD)			TOTAL	
						STAGE 1	STAGE 2	STAGE 3		
Epidemiology & Surveillance			province	8	35,000.00	112,000.00	84,000.00	56,000.00	28,000.00	280,000.00
	Sampling kits	province	8	20,000.00	64,000.00	48,000.00	32,000.00	16,000.00	160,000.00	
	Transport & DSA	each	50	400.00	8,000.00	-	-	-	8,000.00	
	Pen side test kits	days	10	400.00	4,000.00	-	4,000.00	-	8,000.00	
Vaccinations (other SRDs)	Risk mapping consultancy & capacity building				-	-	-	-	-	
	Vaccines				-	-	-	-	-	
Laboratory	vaccination Equipment				-	-	-	-	-	
	Diagnostic Kits	labs	4	42,500.00	68,000.00	51,000.00	34,000.00	17,000.00	170,000.00	
	Equipment	labs	4	102,000.00	163,200.00	122,400.00	81,600.00	40,800.00	408,000.00	
	Sample Processing and Shipment	labs	4	13,000.00	20,800.00	15,600.00	10,400.00	5,200.00	52,000.00	
	PT/ Accreditation / lab LIMS	Labs	4	15,000.00	24,000.00	18,000.00	12,000.00	6,000.00	60,000.00	
	Lab Reagents for PPR antigen test & other priority SRDs	labs	4	22,000.00	88,000.00	88,000.00	88,000.00	88,000.00	352,000.00	
	Research -PPR and SRDs	Number	2	60,000	120,000	60,000	60,000	60,000	240,000	
	Coordination Committee	meetings	8	5,000.00	10,000.00	10,000.00	10,000.00	10,000.00	40,000.00	
	Stakeholder Sensitizations	districts	64	2,000.00	128,000.00	128,000.00	128,000.00	128,000.00	512,000.00	
	Lab and Epi PPR networks meetings	number	8	3,000.00	24,000.00	24,000.00	24,000.00	24,000.00	96,000.00	
Training / studies	Regional meetings	number	4	3,000.00	12,000.00	12,000.00	12,000.00	12,000.00	48,000.00	
	Media events	Number	12	3,000.00	36,000.00	36,000.00	36,000.00	36,000.00	144,000.00	
	Bilateral meetings	number	16	3,000.00	48,000.00	48,000.00	48,000.00	48,000.00	192,000.00	
	Lab staff training sessions	number	4	5,000.00	20,000.00	20,000.00	20,000.00	20,000.00	80,000.00	
	Field staff training	number	8	5,000.00	40,000.00	-	-	40,000.00	80,000.00	
	Farmers / Stakeholder training	number	64	3,000.00	192,000.00	-	-	192,000.00	384,000.00	
	Border post infrastructure	number	8	9,000.00	72,000.00	-	-	-	72,000.00	
	Quarantine stations	number	8	12,000.00	96,000.00	-	-	-	96,000.00	
	Vehicles	number	2	30,000.00	60,000.00	-	-	-	60,000.00	
	Workshops	number	2	5,000.00	10,000.00	-	-	-	10,000.00	
Others / coordination	simulation exercise	number	1	20,000.00	20,000.00	-	-	-	20,000.00	
	Address gaps identified in the OIE dossier, Preparation and Research and field vehicles	Staffing, infrastructure, field technical requirements, vehicles	75%	1,200,000.00	900,000.00	900,000.00	900,000.00	900,000.00	2,700,000.00	
	Dossier Preparation	Number	2	10,000.00				20,000	20,000.00	
	Research and field vehicles	Number	2	45,000.00				90,000	90,000.00	
	Maintenance and utilities	Vehicles,infrastructure,equipment,water,electricity,12	Number	12	56,000.00	672,000	672,000	672,000	2,688,000.00	
Sub total (in USD)									9,070,000.00	
Contingency (10%)									907,000.00	
Total (in USD)									9,977,000.00	

## CHAPTER 7: RESOURCE MOBILISATION

### 7.1 *Elements for Government funding*

The Government is expected to fund overheads to the strategy implementation in the form of civil service staff salaries and allowances, infrastructure maintenance for stock inspection, dipping and back office administrative support services. It will also cover power and water supplies, telephony and internet communication as well as general labour costs at veterinary centres. These costs are estimated to amount to US\$3.3 million, which will be about 30% of the total budget for the strategy.

### 7.2 *Elements for Private sector or private/public partnership funding*

The provision of herd health services to the small ruminant sector including collection of surveillance data will be organized on a shared basis as a Veterinary Services role in which the private veterinary services or non-state actors will be expected to participate on a 'network' basis. All cases suspected to be of notifiable diseases should be reported to the Director of Veterinary Services for follow up. The private veterinary laboratories are already expected to submit laboratory diagnostic data in which notifiable diseases such as PPR is a differential, under Statutory Instrument 89 of 2017.

The private sector will also be expected to play their part in the procurement and supply of consumables and equipment as well as in providing quality control services to the program

### 7.3 *Elements requiring Donor or Technical partner support*

Technical expertise in the training of staff, stakeholders and for special once-off tasks such as consultancies is anticipated from donors, development and technical partners. They will also be expected to provide technology resources in the form of books, publications and other knowledge sources from research for technology sharing and transfer.



## 7.4 : List of on-going projects in support of small ruminant diseases in the country covering relevant aspects

**Table 11:** List of on-going projects in support of small ruminant diseases in the country covering relevant aspects

Project name	Type of support relevant to small ruminants
Multi-donor Zimbabwe Resilience Building Fund (ZRBF)	A long-term development initiative with an overall objective of contributing to increased capacity of communities to protect development gains in the face of recurrent shocks and stresses enabling them to contribute to the economic development of Zimbabwe.
FAO Livestock and livelihoods Project	A US\$ 9.2 million, 4-year programme which aims to enhance livestock husbandry and productivity in two districts of Matebeleland North namely: Nkayi and Lupane. Coordinated by the UN FAO and implemented by LEAD and Help from Germany. Has rehabilitate and constructed infrastructure such as boreholes, diptanks, sale pens and feedlots; supplied breeding bulls and bucks for genetic improvement and veterinary kits. Also trained project farmers to make a living out of livestock.
Livelihoods and food security programme (LFSP)	Aims to improve food security and nutrition of smallholder farmers and rural communities for over 349 000 farmer households in 8 districts in Zimbabwe by 2018. The UK-AID funded programme is enhancing the capacity of farmers to gain access to rural finance and markets and address malnutrition through the adoption of nutrition-sensitive agricultural practices and improve their resilience to a changing climate. By enhancing extension and advisory services, improving access to financial services and facilitating market linkages, the LFSP is empowering rural people, especially smallholder women farmers, with organizational skills and agricultural knowledge to participate in local and external markets and to enhance their savings. This includes building their capacity to meet the requirements of local and international buyers.
EU-funded Zimbabwe Agricultural Growth Project	Geared towards inclusive, green growth in the livestock sector by facilitating value chain development in which the public and private sectors are involved.
USAID AMALIMA/ENSURE project	A livestock and livelihoods program for dry areas with a small holder focus. It addresses chronic food insecurity and malnutrition in rural areas. Operating in Matebeleland North (Bulilima, Tsholotsho), Matebeleland South (Mangwe, Gwanda), Masvingo (Chivi, Bikita, Zaka) and Manicaland South (Buhera, Chipinge)

## *7.5: Action to mobilise resources for strategy implementation and integration into national budgets and action plans*

The first initiative is to engage the Ministry of Finance and economic Planning on the importance of the small ruminants sector and build on the on-going effort to grow the livestock sector for food and nutrition security as well as forex-earning exports. This will require to be actively pursued by the Ministry of Lands, Agriculture and Rural Resettlement as it takes ownership and drive of this strategy and its relevance to poverty alleviation, employment and industrialization. Sensitisation of the Ministers will enable their discussions at both Cabinet and Parliament for favourable budgets for sustainable implementation of the strategy. In turn, awareness built among parliamentarians will enable them to become conscious of the importance of safeguarding the small ruminant livestock resource within constituencies from health risks.

The current thrust to encourage the development of funding streams through partnerships with the private sector needful of expanding their business and social responsibility support will be exploited.

## ANNEXURES

### Annex I: PPR Strategy Logical framework

National Strategy description		Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
Goal	To contribute to the eradication of PPR on the African continent and globally	Trade volumes, poverty levels	AU-IBAR records SADC records	
Purpose	To prevent PPR incursion into Zimbabwe	PPR prevalence and incidence in Zimbabwe	Surveillance reports	Effective regional collaboration Absence of regional conflicts and social instability
Objectives	1 To determine Zimbabwe PPR status 2.To control other priority SRDs in Zimbabwe 3.To strengthened Zimbabwe's Veterinary Services	1. Prevalence and incidence of PPR. 2. Prevalence and incidence other SRDs 2. PVS critical competencies scores	Surveillance reports	Conducive political environment  Absence of internal conflicts and social instability  Natural disasters (Droughts, Floods)
Outputs	1.Zimbabwe PPR status determined 2.Priority SRDs in Zimbabwe controlled 3.Zimbabwe's Veterinary Services strengthened	1. Prevalence and incidence of PPR. 2. Prevalence and incidence other SRDs 2. PVS critical competencies scores	Surveillance reports	Conducive political environment
Activities	1.Strengthening laboratory diagnostic capacity for PPR and other SRDs 2. Carry out PPR surveillance in Zimbabwe	1. Range of functional PPR tests 2. Number of staff skilled in PPR laboratory diagnosis 3. Number of laboratories with PPR diagnostic capabilities	1. Laboratory reports 2.Training reports and certificates 3. Laboratory and epidemiology network reports	

National Strategy description		Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
	3. Strengthening capacity and capability for disease control and prevention 4. Strengthening stakeholder participation 5. Aligning legislation for effective control of PPR and other SRDs 6. Disease prevention and control technical plans and SOPs 7. Number of field staff trained 8. Number of stakeholder meetings contacted 9. Number of stakeholders trained in syndromic surveillance 10. Number of pieces of legislation reviewed 11. Functional PPR prevention and coordination committee	5. Functional PPR laboratory and epidemiology network	4. Surveillance reports 5. DVS and PPR committee reports 6. Minutes of stakeholder meetings 7. Stakeholder training reports 8. Registry records 9. Reports and Minutes of Coordination committee	Cooperation of stakeholders and policy support

## Annex 2: PPR 5-year National Action Plan

### PPR ACTION PLAN FOR THE FIRST 5 YEARS

#### 1. Introduction

Zimbabwe has never confirmed occurrence of PPR, a disease it has listed as notifiable since 2016. That being the case, there is on-going passive surveillance, including a regular convenience clinical inspection of susceptible species and formal import controls. Not much is known about the disease in the country and the present effort is to generate epidemiological knowledge on the disease and monitor to see whether it exists or not and decide what needs to be put in place to determine the type and level of contribution to the global eradication strategy.

The strategy will therefore begin by generating an understanding of the epidemiological situation of PPR with an aim to define the risks of its introduction and spread towards their mitigation. The starting hypothesis is that the virus is not enzootic. Should this case be verified, preparations of a dossier on the status of the country will begin, for submission to the OIE in 2020. Should this not be the case, control and prevention measures will begin towards eradication of the disease within 5 years.

#### 2. Objectives and approach

**Goal:** To enhance the contribution of the small ruminants sub-sector to national food and nutrition security, livelihoods of the rural small holder households and the national agricultural economy

**Purpose:** To attain OIE country freedom status for PPR

#### Specific objectives:

1. To determine Zimbabwe's PPR status
2. To strengthen Zimbabwe's Veterinary Services
3. To improve control of other priority diseases of small ruminants

### 3. *Action plan*

Lay out of activities to achieve objectives of the first 5 years will follow the FAO/OIE PPR Global and eradication programme, which categorises expected outputs into four main components and 13 subcomponents.

#### 3.1 ***Components and activities***

The first five years will tackle elements in all 4 main components by formulating activities to be undertaken for each of the 13 subcomponents. These activities will be mainstreamed into the annual plans of the National Veterinary Authority to facilitate funding through the fiscus. It is anticipated that additional support will come from the private sector and funding partners.

#### *Component 1: enabling environment*

To achieve effective PPR prevention, control and eradication, awareness and engagement on disease control and eradication among farmers as animal owners, synergistic collaboration of veterinary professionals and stakeholders is necessary. Secondly a logical and structured framework defined in a strategic plan and a technical assessment plan, addressing adaptation of the legal provisions and strengthening of Veterinary services, encompassing the public and private sectors are necessary. These will indicate objectives and activities to be undertaken in the first 5 years and the costs involved towards meeting global eradication by 2030. These need to be supported by political will and resource support to enable services and responses to emerging situations. Facilitation of marketing and market access will further stimulate interest in ensuring that a PPR-risk free environment is maintained by all value chain players.

#### **Sub-Component 1.1: National PPR strategy and Technical Plans**

In line with the global eradication plan targeting 2030, a strategic plan has been formulated with this plan being the first step to be undertaken over the first 5 years. The national strategy is developed as an advocacy tool, which will be applied together with a National Assessment Plan. National control and eradication plans will be developed as necessary following the results of stage I investigations on the epidemiological situation.

## **Sub-Component 1.2: Stakeholder awareness and engagement**

Value chain stakeholders being relevant and important to the detection, reporting and control of PPR require to be integrated into the surveillance, prevention and control towards eradication of this disease. Outreach to many stakeholder groups is negatively affected by remoteness under extensive production systems. Stakeholder diversity covering input suppliers, producers, marketing agents, transporters, processors, retailers and government policy and regulatory services providers, development partners regional and international organisations requires a clear analysis including of their varied needs. Such an analysis would result in multi-media communication strategies and materials, awareness campaigns and organized involvement of animal health professionals in the dissemination of appropriate information and the more fruitful engagement of producers and other value chain players, including the creation of active partnerships.

## **Sub-Component 1.3: Legal framework**

A competent legal framework authorizes and guarantees the activities which must be carried out by the veterinary services, as well as providing an enabling environment for stakeholder involvement. Currently, following an OIE legislation identification mission of 2015, a legislation review agreement has been committed to and it is anticipated that in the last quarter of 2018, the review exercise will encompass issues on PPR. Focus on this review will result in a timetable for the enhancement of PPR legislation, the development of an effective chain of command by the veterinary authority to successfully implement measures to investigate, prevent and control PPR anywhere in the country including at ports of entry. Some specific areas are compensation for stamp-outs, enforcement of animal identification and traceability and animal welfare measures.

This will involve deskwork, the training of veterinary authority and legal officers on the legal framework, as well as familiarization of law enforcement agents on the regulatory provisions.

## Sub-Component 1.4 Strengthening of Veterinary Services

Capacity needs identified in the various OIE PVS missions will be addressed to improve veterinary services by ensuring technical and resource capacities are in place. This will cover veterinary personnel in both the private and public sectors inclusive of veterinary paraprofessionals. Presently, a PVS follow up mission has been pledged for September 2018, which is expected to have a PPR component.

Other outputs in this subcomponent will include the identification of priorities for capacity building activities, resource allocations on the basis of PVS evaluations and investment levels and improvement of Veterinary Services generally. The strategy will therefore strengthen focus on PVS-identified competency development.

### Component 2: support to the diagnostic and surveillance systems

This component works to undertake and support efforts for a better understanding of the presence or absence of PPR in the country, its distribution and impact in farming systems. It involves an assessment of the epidemiological situation and the establishment of a sound surveillance system carried out in a participatory fashion, while samples are analysed by competent staff in credible veterinary diagnostic laboratories. This requires permanent dialogue, trust and institutionalised collaboration between epidemiologists and laboratory diagnosticians for success of PPR prevention and eradication.

#### Sub-Component 2.1: Epidemiological assessment

This will describe the natural history of the virus in the country, explaining sources, reservoirs, transmission patterns and hosts, in order to optimize resource use for effective and efficient prevention, control, and eradication. Such assessments will be repeated annually to inform the quality of national assessments. This subcomponent is premised on a functional surveillance system, incorporating active and passive disease epidemiological surveys, outbreak investigations, syndromic, participatory and sentinel surveillance as well as surveys on wildlife, providing sensitive and realistic information on PPR distribution.



Many veterinary services personnel will need training in surveillance skills and qualitative risk analysis and risk mapping, in order to produce assessments in this dynamic environment. Without these, they will need to work with an expert.

Some important outputs will include more accurate information on the domestic and wildlife host populations, their movement patterns and linkages; intelligence on the distribution and maintenance of the virus within and between small ruminant populations; social and economic drivers of PPR maintenance and eradication opportunities

Draft plans will be drawn for livestock and wildlife surveillance and targeted elimination against set performance targets to measure progress; analysis and maps of production systems, contact patterns and socio-economic drivers; an analysis and map of PPRV risk and possible virus flows and a strategic framework contributing to the context for national epidemiological assessments.

The PPR status and progress towards eradication will be updated annually, by a national team of assessors applying the PMAT, using evidence from literature, reports, databases and surveillance output. With guidance from the OIE Sub-regional Representation for Southern Africa and the FAO PPR Secretariat a national PMAT assessment plan based on data gaps and hypotheses will be formulated. Analysis of epidemiological systems, risks, and value chains will lead to the identification of hotspots and transmission pathways.

## **Sub-Component 2.2: Strengthening surveillance systems and laboratory capacities**

Provides essential information from on-going assessments for strategy setting and collection of virus isolates for molecular epidemiology. Surveillance will have the primary aim to identify patterns of transmission and therefore inform the strategy as well as measure progress, providing evidence for validating eradication. Epidemiological skills are the foundation of surveillance requiring competencies in disease recognition, epidemiology, pathology, disease searching and disease investigation all leading to

diagnostic confirmation and disease tracing in order to focus activity on PPR virus elimination and control of other SRDs.

The CVL has competency in antibody ELISA, but will need to refer samples to external labs for virus typing. There is potential to establish immune-capture ELISA and PCR techniques for viral RNA testing. It will also be useful to equip field staff with pen-side test kits for rapid results in hotspots, at border points of entry and for differentials involving pneumonia, enteritis and stomatitis (PES), in small ruminants.

The main outputs of this subcomponent include

- A national training program in epidemiology, surveillance, laboratory diagnostics, outbreak investigation, syndromic and participatory surveillance.
- Targeted training of trainers
- Staff able to implement the eradication program for PPR
- Implementation of a coordinated monitoring and surveillance system with active and passive components
- An active syndromic surveillance system based on PES syndrome, utilizing participatory methods and testing results
- An outbreak investigation system capable of investigating and sampling all reported suspect PPR and PES
- Strengthened weekly disease reporting systems for PPR and PES
- Information system in surveillance
- Accessible confirmatory diagnostic services including by out-sourcing
- Documented information on virus flows
- Virus transmission characteristics and elimination understood

The main activities will include outbreak investigations, participatory surveillance including syndromic surveillance, epidemiological and risk assessments, PMAT assessments and biosecurity. This will also involve the preparation of a surveillance plan involving the above

### **Sub-Component 2.3: National Epidemiology and Laboratory networks**

Zimbabwe participates in the SADC Regional Veterinary Laboratory and Epidemiology networks as part of the Livestock Technical Committee. She is in the process of domesticating the same arrangement at national level for greater coordination in concerted actions for disease detection, prevention and control in the country.

Veterinary diagnostic services, will be facilitated by the existing coordination of private and public veterinary testing laboratories by the Veterinary Authority, under Animal Health Regulation SI 89 of 2017. The CVL already participates in a twinning arrangement on with an Italian Laboratory on Brucellosis diagnosis and has in the past served as a WHO collaborating centre for Rabies diagnosis.

This strategy stimulates the establishment of these 2 networks, both led by the Veterinary Authority. These networks will be expected to coordinate proficiency testing, information and expertise sharing, collaboration as well as coordination on surveillance and epidemiological studies on PPR, through meetings and training events.

### **Component 3 : Measures supporting PPR eradication**

These include a combination of improved biosecurity, animal identification, movement control, quarantine, import control, stamping out and vaccination, if called for

#### **Sub-Component 3.1: Vaccination and other PPR prevention and control measures**

Never having recorded PPR, and anticipating absence of the disease and infection, Zimbabwe hopes to emphasise biosecurity along its borders, internally on farms and other events involving animal aggregation. This implies working with communities, law enforcement, customs, abattoir operators and port health officials and disseminating awareness materials and holding meetings with them on standard operating procedures for response to suspect events. An electronic livestock identification and traceability system has immense utility value and is therefore considered important.

A Contingency Plan aiming to prevent incursion and be ready to control any outbreak at source with “zero” tolerance, excluding the use of vaccine is appended. These measures imply total stamp-outs should there be an incursion and for any virus positive reactors. This will require modification of the Animal Health legislation to include compensation for disease-related culling for PPR.

### **Sub-Component 3.2: Demonstrating PPR status**

PPR has never been recorded in Zimbabwe. In addition, no vaccine has ever been used in the country. The disease has been on the Animal Health Legislation list of notifiable diseases since 2016, during which period no case has been confirmed. It is hoped that Zimbabwe can therefore be considered for historical freedom without applying a pathogen-specific surveillance program.

An awareness program will be designed to encourage reporting of all suspect cases including those of PES, which call for investigation. Random epidemiological surveys to detect infection with the PPR virus will also be conducted.

### **Sub-Component 3.3: Control of other small ruminant diseases in support of PPR eradication**

A range of other inter-current diseases of small ruminants occur in the country which will continue to undermine the overall objective of improving productivity and sanitary safety of small ruminants. The strategy will be rendered more beneficial if these disease risks are minimized. Secondly, some of them may need to be more thoroughly investigated to rule out PPR on a systematic basis. It will be important to ensure that all value chain players interact with Veterinary Services to participate in the complete investigation of causes of mortality and morbidity. Capacitation of stakeholders in the integration of participatory and syndromic surveillance will therefore be key resulting in better understanding of the prevalence, seasonality and other factors as well as the impact that they have on production and productivity of small ruminants

## Component 4 : Coordination management and partnerships

### **Sub-Component 4.1: National level**

The strategy will be managed through the Department of Veterinary Services, which will facilitate the operation of a Ministry appointed National Animal Diseases Emergency Committee (NADEC). NADEC will oversee the work of a PPR committee comprised of Departmental experts and stakeholder representatives. The purpose of this committee will be to serve as a forum for sharing of information, planning and reporting on progress made on the implementation of the national PPR strategy as well as challenges and how they are addressed. The PPR committee will be replicated in lower rungs at Provincial and District levels for more complete outreach.

A national PPR coordinator will be appointed to oversee the national programme implementation.

### **Sub-Component 4.2: Regional Partners and programs**

Due to the transboundary nature of PPR, the strategy is will be harmonised with the SADC strategy for PPR. This will be important in contributing and benefitting from regional plans for eradication as well as programs of common interest with respect to surveillance, risk analysis, capacity building, border controls and trade.

The PPR program coordinator, Head of Epidemiology and Disease Control, Head of the Laboratory Diagnostic Services and other critical members of technical teams as necessary, will participate in regional meetings. At District and Provincial level, the bilateral arrangements existing with neighbouring countries will be encouraged to accommodate PPR eradication programs in their agendas.

### **Sub-Component 4.3 Pan African and global partners and programs**

Implementation of this strategy is expected to benefit from coordinating mechanisms of the Africa Union's Inter-African Bureau for Animal Resources, which through the Regional Economic Commissions supports countries to implement the OIE/FAO

Global PPR eradication Program through the PPR Progressive Control pathway, as well as sustained improvements in Veterinary Services suggested in the PVS evaluations and follow ups.

Other interested parties include funding agencies such as the European Union, the World Bank, the African Development Bank and a host of other bilateral development partners with potential to extend both technical and financial resource support.

### 3.2. *Sustainability*

The action plan will benefit from strong national political will emanating from the current ZIMASSET medium term strategy on fostering food and nutritional security, poverty alleviation, resilience building, women's and youth empowerment. It is also in the context of the UN's Sustainable Development Goals 1,2,3,5, and 8 on No Poverty, Zero Hunger, Good Health and Well-being, Gender Equality and Decent work and Economic Growth, respectively. It will also benefit from involvement with international development organisations, especially the UN FAO and the standard setting body for animal health, the OIE. The two organisations have adopted the resolutions for the PPR GCES and are jointly running a secretariat based in Rome, Italy, to coordinate implementation of the global strategy. The Africa Union through the IBAR has already taken a position to co-ordinate that all African countries adopt the move for member countries and regional economic blocs to join forces by developing national strategies for the progressive control, towards eradication of PPR.

The action plan is an opportunity for innovating novel DIVA and multivalent vaccines, rapid precision diagnostic tests and specific assays, laboratory reagents, technology transfer, molecular epidemiology, bioinformatics, good laboratory practices, animal identification and traceability and socio-economic impact. Collaboration between the private and public sectors will benefit the global eradication campaign and research networks.

The plan will also benefit from the availability of tools for follow up on the progress in global eradication.

The plan will influence the development of close relationships with farmers and other industry stakeholders with natural interests in ensuring the success of small ruminant production, marketing, processing and trade, including exports and imports for sustainability.

### 3.3 *Risks and assumptions*

#### **Assumptions:**

- National complementary funds including from the private sector are availed
- Continued commitment of the international community through the FAO/OIE joint PPR secretariat
- Regional coordination through the SADC and effective regional roadmaps

#### **Risks:**

- Political instability, conflicts and security
- Lack of transparency by value chain players regarding the PPR situation
- Weak political support for PPR surveillance, prevention and control
- Weak or non-existent policy position for PPR eradication
- Weak budgetary support for the animal health program
- Weak farmer support and stakeholder resistance
- Limited legal framework for PPR eradication
- Natural disasters
- Weak Veterinary capacity and competence for PPR detection, control and response
- Unsuitable veterinary infrastructure and labs
- Difficult access to vaccines when needed
- Poor logistical support for surveillance and prevention
- Dilution of focus by focusing on other SRDs
- Some SRDs are not considered important
- Porous borders

## 4. Funding, monitoring, evaluation and communication

### 4.1 Funding

ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY	Component 1: Enabling environment promotion					TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
I.1.1 Develop technical assessment capacity	Workshops, material and venues, consultant	Meetings	5,000	2	10,000		5,000		5,000	20,000	20% GoZ, 80% DPs,
I.1.2 Develop National Strategic Plan	Workshops, material and venues	Meetings	5,000	2	10,000		5,000		5000	20,000	20% GoZ, 80% DPs,
I.1.3 Develop national assessment plan	Workshops, material and venues	Meetings	5,000	2	10,000		5,000		5000	20,000	20% GoZ, 80% DPs,
I.1.4 Develop National PPR control Plan	Workshops, material and venues	Meetings	5,000	2	10,000		5,000		5000	20,000	20% GoZ, 80% DPs,
I.1.5 Develop National PPR eradication Plan	EADC DVS Workshops, material and venues	Meetings	5,000	2	10,000		5,000		5000	20,000	20% GoZ, 80% DPs,
I.1.6 Develop National PPR contingency Plan	EADC DVS Workshops, material and venues	Number	20,000	1		20,000				20,000	10% GoZ, 40% DPs, 50% PPP
I.1.7 Carry out simulation exercise for contingency plan	Sundries, logistics, per-dems, promotional material,	Province	8,125	8	65,000	45,000	35000	35000	35000	215,000	10% GoZ, 40% DPs, 50% PPP
I.1.8 Undertake advocacy about plans	Workshops, material and venues, promotional material	Province	8,125	8	65,000	45,000	35000	35000		180,000	10% GoZ, 40% DPs, 50% PPP
I.2.1 Carry out awareness and sensitization workshops	Materials, logistics	Set/Province	4,000	8	32,000	12,000	12,000			56,000	
I.2.2 Develop communication and awareness materials	Materials, logistics	Workshops	5,000	8	40,000			20,000	20,000	80,000	
I.2.3 Carry stakeholder training workshops (disease recognition prevention and reporting)	Materials, logistics	Partnerships	4,000	2	8,000	8,000	8,000	8,000	8,000	40,000	



ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY						TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
I.1.4 Promote active partnerships between Vet services, NGOs and Civil society partners	Logistics for networking	Number	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	40% GoZ, 40%DPs, 20%PPP
I.1.5 Conduct media events	Media fees, articles, TV & Radio time	Number	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	40% GoZ, 40%DPs, 20%PPP
I.3.1 Train DVS personnel and stakeholders on legislation review	Workshops, material and venues, promotional material	Sessions	4,000	4	16,000					16,000	50% GoZ, 50%DPs,
I.3.2 Review legislation for relevance to PPR and other SRDs in line with OIE Legislative mission findings	Consultant's fee, drafting fee, stakeholder consultation logistics and venues and reproduction	Number	4,000	4	16,000		16,000			32,000	40% DPs, 40% GoZ, 20%PPP
I.3.3 Enforce reviewed legislation	Logistics	Number	500	1	500	500	500	500	500	2,500	70%GoZ, 20%DPs, 10%PPP
	Livestock identification system for small ruminants logistics	Number	500	1	500	500	500	500	500	2,500	100%GoZ
I.4.1 Address gaps identified in the PVS gap analysis mission	Staffing, Infrastructure, field technical requirements, vehicles, station consumables, staff training, laboratory requirements, standards	%	400,000	75%	300,000	300,000	300,000	300,000	300,000	1,500,000	50%GoZ, 50%DPs
<b>Subtotal</b>										<b>2,324,000</b>	

ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY						TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
Component 2- Support to the diagnostic and surveillance systems											
2.1.1 Carry out risk mapping	Time, workshop, Field consultations	Workshops	5,000	2	10,000					10,000	50%GoZ, 50%DPs
	Consultancy	Per day	400	10	4,000					4,000	100%DPs
2.1.2 Produce risk based surveillance plan	Time	Sessions	500	1	500		500			1,000	20%GoZ, 80%DPs
2.1.3 Conduct targeted surveys	Time, sampling sundries, logistics, laboratory testing sundries,	Survey	45,000	1	45,000	45,000		10,000	10,000	155,000	20%GoZ, 60%DPs
	Research and extension field vehicles	Vehicle	45,000	2	90,000					90,000	100%DPs
2.1.4 Train field personnel on participatory surveillance	Logistics ,perdiems	Province	3,500	8	28,000	14,000	14,000	14000		84,000	80% DPs, 20% GoZ
2.1.5 Carry out participatory surveillance	Logistics,	Province	3,500	8	28,000	28,000		8,000	8,000	100,000	20% GoZ, 80% DPs,
2.1.6 Carry out PPR surveys in wild small ruminants	Time, wildlife sampling sundries, logistics, laboratory testing sundries	Province	5,000	8	40,000	40,000		12,000	8,000	140,000	20% GoZ, 80% DPs,
2.1.7 Carry out syndromic surveillance	Logistics,	Province	1,000	8	8,000	8,000	8,000	8,000		40,000	80% GoZ, 20% DPs,
2.1.8 Analyse passive surveillance data to determine prevalence of other SRDs	Time				0						100%GoZ
2.1.9 Analyse surveillance data	Time	Meetings	500	1	500	500	500	500		2,500	100%GoZ
2.1.10 Carry out annual PMAT exercise	Time	Meetings	500	1	500	500	500	500		2,000	80% GoZ, 20% DPs,
2.2.1 Expand scope of PPR and other SRDs tests	Diagnostic sundries, field & lab staff training, Histopathology equipment	Lab	8,000	4	32,000	32,000	32,000	15,000		79,000	20% GoZ, 80% DPs,

ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY						TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
2.2.2 Train laboratory staff in PPR diagnosis	Time, Training materials, venue	Workshops	6,000	1	6,000	6,000	6,000	6,000	6,000	30,000	20% GoZ, 80% DPs,
	Regional trainings	Workshops	3,000	2	6,000	6,000	6,000	6,000	6,000	30,000	20% GoZ, 80% DPs,
2.2.3 Train field and abattoir staff in PPR syndromic surveillance, sampling, packaging and submission	Training materials, venue, logistics to abattoir, filed and lab	Workshops	6,000	1	6,000	6,000	6,000	6,000	6,000	30,000	20% GoZ, 80% DPs,
2.2.4 Decentralize PPR diagnostic tests to provincial labs	Lab equipment and PPR sampling sundries, biosecurity sundries	Lab	12,000	3	36,000	12,000	8,000		8,000	52,000	20% GoZ, 80 DPs,
2.2.5 Prepare for Accreditation of PPR diagnostic tests	Quality control, Proficiency test sundries,	Lab	10,000	1		10,000	10,000	8,000		28,000	20% GoZ, 80% DPs,
2.2.6 Carry out follow up investigations for all PPR differentials which include pneumonia, enteritis and stomatitis	Time, logistics into the field, pathology, sampling, serology, PCR requirements	Province	5,000	8	40,000	40,000	40,000	40,000	40,000	200,000	20% GoZ, 80% DPs,
2.2.7 Determine distribution of PPR strains and molecular epidemiological studies in both domestic and wild small ruminant strains	Time, logistics into the field, pathology, sampling, serology, PCR requirements	Per Study	10,000	1	10,000	10,000	10,000	8,000	8,000	46,000	20% GoZ, 80% DPs,
2.3.1 Establish PPR laboratory and epidemiology network	stationeries, cordials, fuel, bus fares, meals, internet data fees	Meetings	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	20% GoZ, 80% DPs,
2.3.2 Prepare and operationalize lab and Epidemiological network programs	stationeries, cordials, fuel, busfares, meals, internet data fees	Meetings+ D40K40	3,000	4	12,000	12,000	12,000	12,000	12,000	48,000	20% GoZ, 80% DPs,
	Regional meetings, airfares, accommodation, allowances	Meetings	3,000	2	6,000					6,000	20% GoZ, 80% DPs,
<b>Subtotal</b>										<b>1,237,500</b>	

ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY	Component 3 - Measures toward PPR eradication					TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
3.1.1 Prepare biosecurity guidelines for border posts, quarantine station and compartments	Time, logistics, consultation meetings	Workshops	5,000	2	10,000	10,000	5,000	5,000	5,000	35,000	20% GoZ, 80% DPs,
3.1.2 Train personnel(border, field, abattoir, parks & wildlife) ,farmers, abattoirs, hunter on biosecurity	Time, Training materials, venue	Workshops	12,000	2	24,000	24,000	6,000	6,000	6,000	66,000	20% GoZ, 80% DPs,
3.1.3 Establish biosecurity infrastructure at border posts and quarantine station	Physical plans, construction materials, utilities, tenders, management plans	Province	21,000	8	168,000					168,000	20% GoZ, 80% DPs,
3.1.4 Prepare guidelines and SOPs for stamping out	Time,logistics,perdiems	Workshops	5,000	2	10,000	5,000		5,000		20,000	20% GoZ, 80% DPs,
3.2. 1 Prepare OIE dossier for PPR freedom status	Time, consultation meetings	Workshops		2		20,000	20,000			40,000	20% GoZ, 80% DPs,
3.3.1 Analyse passive surveillance data to determine prevalence of other SRDs	Desk studies		0							0	
3.2.2 Provide technical support to potential regional and international market visits	Visits, airfares, accommodation, allowances	Meetings	3,000	2	6,000	6,000	6,000	6,000	6,000	30,000	10% GoZ,80% DPs, 10% PPPs
3.3.2 Facilitate availability of vaccines, drugs and remedies for other prioritised SRDs	Seed Budget lin, forex, for merit good supplies on cost recovery, book keeping service, distribution logistics, cold chain maintenance	Province	16,000	8	128,000					128,000	20% GoZ, 20% DPs, 60% PPP
3.3.3 Avail infrastructure for dipping, handling and salepens	Physical plans, construction materials, utilities, tenders, management plans										20% GoZ, 80% DPs,

ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY						TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
3.3.4 Improve advisory and extension services for other small ruminant diseases.	Farmer training and awareness materials, advisory TIPs	Province	8	21,000	168,000	24,000	24,000	24,000	24,000	264,000	20% GoZ, 80% DP's,
3.3.5 Increase frequency of inspection in small stock	Logistics (Vehicles and sundries), Awareness materials, sampling sundries	Province	8	3,000	24,000	24,000	24,000	24,000	24,000	120,000	20% GoZ, 80% DP's,
3.3.6 Design, validate and implement appropriate control plans for prioritised SRDs	Office sundries, consultative meeting requirements ,venues and sundries, logistics		per session	10,000						10,000	
<b>Subtotal</b>										<b>881,000</b>	
<b>Component 4- Coordination, Management and partnerships</b>											
4.1.1 Establish and functionalise national and provincial PPR committee	Telephony, materials, cordials, lunches, venue costs	Meetings	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	20% GoZ, 80% DP's,
4.1.2 Establish and functionalise national and provincial rapid response teams	Preparedness kits, Penside test kits, Telephony, Communication material	Meetings	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	20% GoZ, 80% DP's,
4.2.1. Establish formal bilateral linkages with neighbouring countries	Airfares, travel costs	Meetings	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	20% GoZ, 80% DP's,
4.2.2 Participate in regional programs	Airfares, travel costs	Meetings	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	20% GoZ, 80% DP's,
4.3.1 Participate in Pan African and Global programs	Airfares, travel costs	Meetings	3,000	4	12,000	12,000	12,000	12,000	12,000	60,000	20% GoZ, 80% DP's,
<b>Subtotal</b>										<b>300,000</b>	

ACTIVITY	SPECIFIC ITEM DESCRIPTION	UNITY	UNIT COST	QTY						TOTAL	SOURCE OF FINANCING
					Y1	Y2	Y3	Y4	Y5		
Other costs											
Salaries, DVS personnel	Salaries	month									100%GoZ
Vehicle maintenance	Repairs, servicing	month	5,000	12						60,000	100%GoZ
Infrastructure maintenance		month	5,000	12						120,000	100%GoZ
Utilities	Water,electricity,others	month	4,000	12						96,000	100%GoZ
										276,000	
<b>Action plan Subtotal</b>										5,018,500	
<b>Contingency (10%)</b>										501,850	100% GoZ
<b>Total(USD)</b>										5,520,350	

#### 4.1.1: Zimbabwe 5 year PPR National Action Plan. Budget by component and year (US\$)

COMPONENT	SUBCOMPONENT	BUDGET (THOUSANDS) US \$ 1000				
		Y1	Y2	Y3	Y4	Y5
1. Veterinary capacities and enabling environment	1.1 PPR strategy and technical plans	125	65	65	35	60
	1.2 Stakeholder awareness & engagement	157	77	67	75	40
	1.3 Legal framework	33	1	17	1	1
	1.4 Strengthening of Veterinary Services	300	300	300	300	300
2. Diagnostic support and surveillance systems	2.1 Epidemiological assessment	255	136	137	68	49
	2.2 Strengthening surveillance systems	136	122	118	89	74
	2.3 Epidemiology and Lab networks	30	30	30	30	30
3. Measures supporting PPR eradication	3.1 PPR prevention and Control measures	172	39	11	11	11
	3.2 Demonstration of freedom status		26	26	6	6
	3.3 Control of other small ruminant diseases in support of PPR	320	48	48	48	48
4. Coordination and management	4.1 National level	24	24	24	24	24
	4.2 Regional and global level	12	12	12	12	12
		12	12	12	12	12
	4.3 Pan African and global partners and programs	12	12	12	12	12
<b>TOTAL</b>		<b>1588</b>	<b>904</b>	<b>879</b>	<b>723</b>	<b>679</b>

#### 4.1.2 :Zimbabwe 5 year PPR National Action Plan. Budget by source, component (US\$)

COMPONENT	SUB-COMPONENT	Government	Private sector	DP	Total by subcomponent
Veterinary capacities and enabling environment	PPR strategy and technical plans	47500	117500	190000	355000
	Stakeholder awareness & engagement	71600	178000	166400	416000
	Legal framework	24800	6400	21800	53000
	Strengthening of Veterinary Services	750000	0	750000	1500000
Diagnostic support and surveillance systems	Epidemiological assessment	137500		491000	628500
	Strengthening surveillance systems	99000	0	396000	495000
	Epidemiology and Lab networks	22800	0	91200	114000
Measures supporting PPR eradication	PPR prevention and Control measures	57800	0	231200	289000
	Demonstration of freedom status	11000	3000	56000	70000
	Control of other small ruminant diseases in support of PPR	112400	76800	332800	522000
Coordination and management	National level	24000	0	96000	120000
	Regional and global level	36000	0	144000	180000
Contingency Budget, Maintenance & utilities		777850			777850
<b>Total by source</b>		<b>2172250</b>	<b>381700</b>	<b>2966400</b>	<b>5520350</b>

## 4.2 Monitoring and evaluation

The roadmap coordinator will be responsible for collecting monitoring data on the basis of objectives and results outlined in the results matrix. The PPR coordinating committee will on the basis of the monitoring data recommend the necessary adjustments to ensure objectives are on track with the goals and are ultimately achieved. This will foster coherence among the different program components and in helping to harmonise performance appraisals. M&E data will be collected according to the plan and reported together every 6 months for outputs and once a year for outcome indicators. Report of M&E will generate information to be shared with key stakeholders in assessing project progress and adjusting for continuous improvement. Donors, OIE sub-regional and regional offices will be closely consulted for periodic reviews in order to adjust work plans to respond to needs and circumstance. Impact



will be assessed using questionnaires administered to beneficiaries. It will also rely on the M&E system set out in the strategy, assessing impact indicators

### 4.3 *Communication and advocacy*

The Department of Veterinary Services as the Veterinary Authority has an inherent responsibility for communication and advocacy in the discharge of its mandate on Animal Health and Welfare. Risk communication about listed diseases and other disruptive animal health situations is an on-going exercise through an internal focal point for communication. PPR, the strategy and awareness about this Action Plan will naturally be handled through this mechanism and through regular extension, advisory and training services in Veterinary services by a desk Officer and line provincial and District structures which run farmer interphase activities throughout the country.

The Department also observes transparency obligations on reporting about listed diseases and other animal health events of economic, public health and trade importance. Such reports are regularly shared with the OIE, the UNFAO, SADC and the Au-IBAR.

The Directorate of Veterinary services also has up-line responsibilities in resource planning and budgeting which involve communicating and advocating for continuous improvements of services and program support including from investors, technical and development partners.

Various media including print, electronic and social media are available for use in communication. Participation at various national, regional and international fora are also important as communication channels vertically and horizontally.

### Appendix 3: Logical Framework For The Action Plan

National strategy description		Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
Purpose	To attain country OIE freedom status for PPR	Per capita supply of animal-source foods Incomes from small ruminant production systems	DVS surveillance reports	Cooperation from small ruminant farmers and other stakeholders in the value chain.
Outcome	National ability to detect, prevent, control and eradicate PPR as well as limit the impact of other SRDs on small ruminant production and productivity	Status of PPR defined prevalence/ incidence and spread of other SRDs	DVS surveillance reports	Cooperation from small ruminant farmers and other stakeholders in the value chain.
Specific objectives	1. To determine Zimbabwe's PPR status 2. To control other priority SRDs in Zimbabwe 3. To strengthen Zimbabwe's Veterinary Services	1. Prevalence and incidence of PPR. 2. Prevalence and incidence other SRDs 3. PVS critical competencies scores	DVS surveillance reports	Cooperation from small ruminant farmers and other stakeholders in the value chain.
<b>Output 1.1 : PPR eradication national plans developed, validated and implemented</b>				
Develop Strategy and National plans: Develop technical assessment capacity PPR Strategic Plan Develop National assessment plan PPR control Plan PPR eradication Plan PPR contingency Plan Undertake advocacy about plans		Number of personnel competent in technical assessment  No of plans developed, validated and implemented  PPR Simulation exercise done		Availability of competent staff with writing skills  Cooperation from small ruminant farmers and other stakeholders in the value chain.

National strategy description	Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
<b>Output 1.2: Stakeholders sensitised on PPR detection and reporting</b>			
Carry out awareness and sensitization workshops	Number and types of stakeholder groups sensitized	Sensitization workshop reports	Cooperation from small ruminant farmers and other stakeholders in the value chain.
Develop communication and awareness materials	Pamphlets, posters, information leaflets distributed	Distribution records	Expertise on communication awareness available
Carry stakeholder training workshops (disease recognition prevention and reporting)	Number of training workshops on disease recognition prevention and reporting	Training workshop reports	Cooperation from stakeholders in the value chain.
Promote active partnerships between Vet services, NGOs and Civil society partners	Number of partnerships established	Partnership agreements and MOUs	Partners willing to put PPR in their priorities
Conduct media events	Number of media event	TV & radio programs, newspaper articles	Aforadble media rates
<b>Output 1.3: PPR mainstreamed in veterinary legislation</b>			
Train public service personnel and stakeholders on legislation review	Number of personnel and stakeholders trained	Training reports	Expertise on legislation review
Review legislation for relevancy to PPR and other SRDs in line OIE Legislative mission findings	Pieces of legislation reviewed or amended	Government Gazzet records	Availability of legal experts
Enforce reviewed legislation	Legislation enforcement returns (Prosecutions, cautions statements, advisory notes)	DVS monthly reports	Corperation from other law enforcement agencies

National strategy description	Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
<b>Output 1.4: PVS gaps addressed</b>			
Address gaps identified in the PVS gap analysis mission	% of PVS gaps competencies scored level 3 and above	PVS follow up report	
<b>Output 2.1: National PPR Risk map and risk based surveillance plan produced</b>			
Carry out risk mapping	PPR Risk map	DVS records	Availability of skilled personnel
Produce risk based surveillance plan	PPR Risk based surveillance plan	DVS surveillance records	
Conduct targeted surveys	Targetted surveys reports	DVS surveillance records	Cooperation from stakeholders in the value chain.
Train field personnel on participatory surveillance	Number of personnel trained	DVS Training reports	Availability of skilled personnel
Carry out participatory surveillance	Participatory surveillance reports	DVS surveillance records	Cooperation from stakeholders in the value chain.
Carry out PPR surveys in wild small ruminants	Risk analysis reports	DVS surveillance records	Cooperation from stakeholders in the value chain.
Carry out syndromic surveillance	Number of disease reports	DVS surveillance records	Cooperation from stakeholders in the value chain.
Analyse passive surveillance data to determine prevalence of other SRDs	SRDs passive surveillance analysis reports	Analysed disease outbreak reports	Shift to epidemiological assessment
Analyse active surveillance data	PPR active surveillance analysis reports	DVS data analysis reports	Availability of skilled personnel
Carry out PMAT annual exercise	PMAT reports	PMAT report	
<b>Output 2.2.1: PPR diagnostic efficiency and accuracy enhanced</b>			
Expand scope of PPR and other SRDs tests	Number of confirmatory tests in place	Laboratory diagnostic reports	Availability of skilled personnel
Train laboratory staff in PPR diagnosis	Number of staff with laboratory testing competencies	Training reports	

National strategy description	Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
Train field and abattoir staff in PPR syndromic surveillance, sampling, packaging and submission	Number of field and VPH staff with PPR diagnostic competencies	Training reports	
Decentralise PPR diagnostic tests to provincial labs	Number of vet labs with with PPR diagnostic competencies	Lab monthly reports	
Prepare for Accreditation of PPR diagnostic tests	Number of PPR lab tests accredited	Accreditation records	
Carry out follow up investigations for all PPR differentials which include pneumonia, enteritis and stomatitis	% of reported pneumonia / enteritis / stomatitis cases followed up	Disease investigation reports	
<b>Output 2.2.2: Surveillance sensitivity Improved</b>			
Establish PPR laboratory and epidemiology network	Functional PPR networks, laboratory surveillance	Records of network agreement	Willing partners
Prepare and operationalise lab and Epidemiological network programs	Network meeting records	Willing partners	
Determine PPR status in wild small ruminant population through structured active surveys	Structured sero-survey reports	Research results	Availability of skilled personnel
Determine distribution of PPR strains and molecular epidemiological studies in both domestic and wild small ruminant strains	PPR strain distribution reports	Research results	Availability of skilled personnel
Build human capacity in PPR epidemiology and research	Number of personnel engaged in MSc programs in PPR diagnostics and research	Training records / certificates	Availability of candidates for training

National strategy description	Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
<b>Output 3.1: PPR introduction and spread risk mitigated</b>			
Prepare biosecurity guidelines for border posts, quarantine station and compartments	Biosecurity guidelines & SOPs developed	Documents (guidelines & SOPs)	
Train personnel(border, field, abattoir, parks & wildlife) ,farmers, abattoirs, hunter on biosecurity	Number of personnel and stakeholders trained	Training reports	Availability of skilled personnel and cooperation of stakeholders
Establish quarantine station	Number of small ruminant quarantine stations	Quarantine infrastructure	
Establish biosecurity infrastructure at border posts and quarantine stations.	Number of border posts with biosecurity facilities	Border posts infrastructure	
Prepare guidelines and SOPs for stamping out	Stamping out guidelines & SOPs developed	Documents (guidelines & SOPs)	
<b>Output 3.2: Trade in small ruminants and related products facilitated</b>			
Prepare OIE dossier for PPR freedom status	OIE PPR freedom status dossier developed	Documents (dossier)	
Provide technical support to regional and international market visits	% market survey visits provided with veterinary technical support	Back to office Mission reports	
Analyse passive surveillance data to determine prevalence of other SRDs	Prevalence rate updates for other SRDs	Analysed disease outbreak reports	Shift to epidemiological assessment
<b>Output 3.3.1: Health of small ruminants improved</b>			
Facilitate availability of vaccines, drugs and remedies for other prioritised SRDs	DVS field station stocked with appropriate drugs and vaccines	Drug / vaccine stocks returns	Availability of drugs and vaccines
Avail infrastructure for dipping, handling and salepens	Number of infrastructure established	Asset records	

National strategy description	Objectively verifiable indicators of achievement	Source and means of verification	Assumptions
<b>Output 3.3.2: Productivity of small ruminants increased</b>			
Improve advisory and extension services for other small ruminant diseases	% Morbidity and natural cause mortality of small ruminants	Disease outbreaks database	
<b>Output 3.3.3: Improved health outreach services</b>			
Increase frequency of inspection in small stock	Routine inspection of small ruminants conducted	Inspection returns	Cooperation from stakeholders in the value chain.
Design, validate and implement appropriate control plans for prioritised SRDs	Number and type of SRD control plans implemented	Registry records	Cooperation from stakeholders in the value chain.
<b>Output 4.1: Consistency in achieving strategy goal</b>			
Establish and functionalise national and provincial PPR committee	Functional national and provincial PPR committees	Committee minutes	
Establish and functionalise national and provincial rapid response teams	Functional national and provincial rapid response teams	RRT appointment records and stocks of essential equipment	
<b>Output 4.2 :Sustainability of gains on strategy achieved</b>			
Establish formal bilateral linkages with neighbouring countries	Number of bilateral meetings on PPR	Meeting minutes	Willing and cooperating neighbours
Participate in regional programs	%PPR regional events participated in	Regional events records	Regional bodies call for meetings
<b>Output 4.3: Consistency in focus on global control program</b>			
Participate in Pan African and Global programs	% African and global events participated in	AU OIE & FAO events records	Pan African and Global bodies call for meetings

## Appendix 4: Workplan For The Action Plan

OUTPUTS / ACTIVITIES	Y 1	Y 2	Y 3	Y 4	Y 5
	1	2	3	4	5
<b>Component 1: Enabling environment promotion</b>					
<b>Subcomponent 1.1: PPR strategy and technical plans</b>					
1.1.1 Develop technical assessment capacity					
1.1.2 Develop National Strategic Plan					
1.1.3 Develop national assessment plan					
1.1.4 Develop National PPR control Plan					
1.1.5 Develop National PPR eradication Plan					
1.1.6 Develop National PPR contingency Plan					
1.1.7 Conduct simulation exercise					
1.1.8 Undertake advocacy about plans					
<b>Subcomponent 1.2 Stakeholder awareness and engagement</b>					
1.2.1 Carry out awareness and sensitization workshops					
1.2.2 Develop communication and awareness materials					
1.2.3 Carry out stakeholder training workshops (disease recognition prevention and reporting)					
1.2.4 Promote active partnerships between Vet services, NGOs and Civil society partners					
1.2.5 Conduct media events					
<b>Subcomponent 1.3 Legal framework</b>					
1.3.1 Train public service personnel and stakeholders on legislation review					
1.3.2 Review legislation for relevance to PPR and other TADs in line with OIE legislative mission findings					
1.3.3 Enforce reviewed legislation					
<b>Subcomponent 1.4: Strengthening Veterinary Services</b>					
1.4.1 Address gaps identified in the PVS gap analysis mission					
<b>Component 2: Support diagnostic and surveillance systems</b>					
<b>Subcomponent 2.1 Epidemiological assessment</b>					
2.1.1 Carry out risk mapping					
2.1.2 Produce risk based surveillance plan					
2.2.3 Conduct targeted surveys					
2.1.4 Train field personnel on participatory surveillance					
2.1.5 Carry out participatory surveillance					
2.1.6 Carry out PPR surveys in wild small ruminants					



OUTPUTS / ACTIVITIES	Y 1	Y 2	Y 3	Y 4	Y 5
	1	2	3	4	5
2.1.7 Carry out syndromic surveillance					
2.1.8 Analyse passive surveillance data to determine prevalence of other SRDs					
2.1.9 Analyse surveillance data					
2.1.10 Carry out annual PMAT exercise					
<b>Subcomponent 2.2 Strengthening surveillance systems and laboratory capacities</b>					
2.2.1 Expand scope of PPR and other SRDs tests					
2.2.2 Train laboratory staff in PPR diagnosis					
Regional trainings					
2.2.3 Train field and abattoir staff in PPR syndromic surveillance, sampling, packaging and submission					
2.2.4 Decentralise PPR diagnostic tests to provincial labs					
2.2.5 Prepare for Accreditation of PPR diagnostic tests					
2.2.6 Carry out follow up investigations for all PPR differentials which include pneumonia, enteritis and stomatitis					
2.2.7 Determine distribution of PPR strains and molecular epidemiological studies in both domestic and wild small ruminant strains					
<b>Subcomponent 2.3 Epidemiology and lab networks</b>					
2.3.1 Establish PPR laboratory and epidemiology network					
2.3.2 Prepare and operationalise lab and Epidemiological network programs					
<b>Component 3 Measures toward PPR eradication</b>					
<b>Subcomponent 3.1: PPR preventive and control measures</b>					
3.1.1 Prepare biosecurity guidelines for border posts, quarantine station and compartments					
3.1.2 Train personnel(border, field, abattoir, parks & wildlife), farmers, abattoirs, hunter on biosecurity					
3.1.3 Establish biosecurity infrastructure at border posts and quarantine station					
3.1.4 Prepare guidelines and SOPs for stamping out					
<b>Subcomponent 3.2 Demonstration of PPR Freedom</b>					
3.2.1 Prepare OIE dossier for PPR freedom status					
3.2.2 Provide technical support to potential regional and international market visits					

OUTPUTS / ACTIVITIES	Y 1	Y 2	Y 3	Y 4	Y 5
	1	2	3	4	5
<b>Subcomponent 3.3: Control of other small ruminant diseases in support of PPR eradication</b>					
3.3.1 Analyse passive surveillance data to determine prevalence of other SRDs					
3.3.2 Facilitate availability of vaccines, drugs and remedies for other prioritised SRDs					
3.3.3 Avail infrastructure for dipping, handling and salepens					
3.3.4 Improve advisory and extension services for other small ruminant diseases.					
3.3.5 Increase frequency of inspection in small stock					
3.3.6 Design, validate and implement appropriate control plans for prioritised SRDs					
<b>Component 4 Coordination, Management, partnerships</b>					
<b>Subcomponent 4.1: National level</b>					
4.1.1 Establish and functionalise national and provincial PPR committee					
4.1.2 Establish and functionalise national and provincial rapid response teams					
Subcomponent 4.2 With Regional partners and programmes					
4.2.1 Establish formal bilateral linkages with neighbouring countries					
4.2.2 Participate in regional programs					
Subcomponent 4.3 With Pan-African and Global partners and programmes					
4.3.1 Participate in Pan African and Global programs					

## Appendix 5: Results Matrix

Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source
					Y1	Y2	Y3	Y4	Y5	
Component 1:ENABLING ENVIRONMENT										
Subcomponent 1.1: PPR strategy and technical plans										
Develop technical assessment capacity	Trained staff	Staff able to carry out technical assessments	Number	0	5					Training records
Develop National Strategic Plan	PPR eradication national plans developed, validated and implemented	Documents produced		0	5					Registry records
Develop national assessment plan		PPR Simulation exercise done		0	0	2				Simulation reports
Develop National PPR control Plan		Plans implementation monthly reports		0	0	12	12	12	12	Registry records
Develop National PPR eradication Plan										
Develop National PPR contingency Plan										
Undertake advocacy about plans	Sensitised policy makers and funding agencies	Advocacy meetings		0	10					Registry records
Subcomponent 1.2:Stakeholder awareness and engagement										
Carry out awareness and sensitization workshops	Stakeholders sensitised on PPR detection and reporting	Stakeholder training workshops held	Number	0	8	8				
Develop communication and awareness materials		Provincial sets of awareness materials	Number	0	8	8	8	8	8	
Carry stakeholder training workshops (disease recognition prevention and reporting)		Training workshops held	Number	0	8	8				
		Number of partnerships signed and implemented	Number	0	2	2	2	2	2	

Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source
					Y1	Y2	Y3	Y4	Y5	
Promote active partnerships between Vet services, NGOs and Civil society partners										
Conduct media events		PPR Media events	Number	0	4	4	4	4	4	
Subcomponent 1.3:Legal framework										
Train public service personnel and stakeholders on legislation review	PPR main-streamed in veterinary legislation	Number of personnel and stakeholders trained	Number	0	2000	8000	8000	8000	8000	Training reports
Review legislation for relevancy to PPR and others in line with OIE Legislative mission findings		Pieces of legislation reviewed / amended	Number	0	1		1			Government Gazette records
Enforce reviewed legislation		Legislation enforcement returns (Prosecutions, cautions statements, advisory notes)	Number	0	12	12	12	12	12	DVS monthly reports
Subcomponent 1.4:Strengthening Veterinary Services										
Address gaps identified in the PVS gap analysis mission	PVS gaps addressed	% of PVS competencies scored level 3 and above	%	20%	30%	40%	50%	60%	75%	PVS follow up report
Component 2:SUPPORT TO THE DIAGNOSTIC AND SURVEILLANCE SYSTEM										
Subcomponent 2.1:Epidemiological assessment										
Carry out risk mapping	National PPR Risk map and risk based surveillance plan produced	PPR Risk map	Number	0	1					
Produce risk based surveillance plan		PPR Risk based surveillance plan	Number	0	1					
Conduct targeted surveys		Targeted survey reports	Number	0	1					

Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source
					Y1	Y2	Y3	Y4	Y5	
Train field personnel on participatory surveillance		Number of personnel trained	Number	0	160	160	160	160	160	
Carry out participatory surveillance		Participatory surveillance reports	Number	0	12	12	12	12	12	
Carry out PPR surveys in wild small ruminants		Risk analysis reports	Number	0	1					
Carry out syndromic surveillance		Syndromic surveillance reports	Number	0	12	12	12	12	12	
Analyse passive surveillance data to determine prevalence of other SRDs		SRDs passive surveillance analysis reports	Number	0	12	12	12	12	12	
Analyse active surveillance data		PPRactive surveillance analysis reports	Number	0	12	12	12	12	12	
Carry out annual PMAT exercise		PMAT reports	Number	0	1	1	1	1	1	
Subcomponent 2.2:Strengthening of surveillance systems and laboratory capacities										
Expand scope of PPR and other SRDs tests	PPR diagnostic efficiency and accuracy enhanced	Number of confirmatory tests in place	Number	0	0	1	2	2	2	
Train laboratory staff in PPR diagnosis		Number of staff with laboratory testing competencies	Number	0	2	3	3	3	3	
Train field and abattoir staff in PPR syndromic surveillance, sampling, packaging and submission		Number of field and VPH staff with PPR diagnostic competencies	Number	0	64	128	192	256	320	
Decentralise PPR diagnostic tests to provincial labs		Number of vet labs with PPR diagnostic competencies	Number	0	1	2	3	3	3	

Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source
					Y1	Y2	Y3	Y4	Y5	
Prepare for Accreditation of PPR diagnostic tests		Number of PPR lab tests accredited	Number	0	1	1	1	1	1	
Carry out follow up investigations for all PPR deferentials which include pneumonia, enteritis and stomatitis		% of reported pneumonia / enteritis / stomatitis cases followed up	%	0	10	40	60	80	90	
Subcomponent 2.3:Epidemiology and lab networks										
Establish PPR laboratory and epidemiology network	Surveillance sensitivity Improved	Functional PPR networks, laboratory surveillance	Number	0	2	2	2	2	2	Records of network agreement
Prepare and operationalise lab and Epidemiological network programs		Network reports	Number	0	12	12	12	12	12	Network meeting records
Determine PPR status in wild small ruminant population through structured active surveys		Structured sero-survey reports	0	1	1	1	1	1	1	Research results
Determine distribution of PPR strains and molecular epidemiological studies in both domestic and wild small ruminant strains		PPR strain distribution reports	0	1	1	1	1	1	1	Research results
Build human capacity in PPR epidemiology and research		Number of personnel engaged in MSc programs in PPR diagnostics and research	0	1	1	1	1	1	1	Training records / certificates

Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source
					Y1	Y2	Y3	Y4	Y5	
Component 3:MEASURES TOWARDS PPR ERADICATION										
Subcomponent 3.1:PPR preventive and control measures										
Prepare biosecurity guidelines for border posts, quarantine station and compartments	PPR introduction and spread risk mitigated	Biosecurity guidelines & SOPs developed	Number	0	1	1	1	1	1	Documents (guidelines & SOPs)
Train personnel (border, field, abattoir, parks &wildlife), farmers, abattoirs, hunter on biosecurity		Number of personnel and stakeholders trained	Number	0	60	60	60	60	60	Training reports
Establish quarantine station		Number of small ruminant quarantine stations established	Number	0	1	2	2	2	1	Quarantine infrastructure
Establish biosecurity infrastructure at border posts and quarantine station		Number of border posts with biosecurity facilities	Number	0	1	2	2	2	1	Border posts infrastructure
Prepare guidelines and SOPs for stamping out		Stamping out guidelines & SOPs developed	Number	0	1	0	0	0	0	Documents (guidelines & SOPs)
Subcomponent 3.2:Demonstration of PPR Freedom										
Prepare OIE dossier for PPR freedom status	Trade in small ruminants and related products facilitated	OIE PPR freedom status dossier developed	Number	0	0	0	1	0	0	Documents (dossier)
Provide technical support to reginal and international market visits		% market survey visits provided with veterinary technical support	Number	0	80%	100%	100%	100%	100%	Back to office Mission reports
Analyse passive surveillance data to determine prevalence of other SRDs		Prevalence rate updates for other SRDs	Number	0	12	12	12	12	12	Analysed disease outbreak reports

Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source	
					Y1	Y2	Y3	Y4	Y5		
Subcomponent 3.3:Control of other small ruminant diseases in support of PPR eradication											
Facilitate availability of vaccines, drugs and remedies for other prioritised SRDs	Health of small ruminants improved	DVS field station stocked with appropriate drugs and vaccines	Number	0	100	300	500	500	500	Drug / vaccine stocks returns	
Avail infrastructure for dipping, handling and salepens		Small Ruminant Infrastructure established / renovated	Number	0	80	100	100	100	100	Asset records	
Improve advisory and extension services for other small ruminant diseases.	Productivity of small ruminants increased	% Morbidity and natural cause mortality of small ruminants	Number	20%	18%	15%	10%	8%	5%	Disease out-breaks database	
Increase frequency of inspection in small stock	Improved health outreach services	Routine inspection of small ruminants conducted per year	Number	0	1	2	3	4	4	Inspection returns	
Design, validate and implement appropriate control plans for prioritised SRDs		Number and type of SRD control plans implemented	Number	0	1	1	2	3	3	Registry records	
Component 4:COORDINATION MANAGEMENT AND PARTNERSHIPS											
Subcomponent 4.1:National level											
Establish and functionalise national and provincial PPR committee	Consistency in achieving strategy goal	Functional national and provincial PPR committees	Num-ber	0	9	9	9	9	9	Com-mittee min-utes	
Establish and functionalise national and provincial rapid response teams		Functional national and provincial rapid response teams	Number	0	9	9	9	9	9	RRT appoint-ment records and stocks of essential equip-ment	



Activity	Output	Indicator	Unit of measure	Baseline	Target					Data source
					Y1	Y2	Y3	Y4	Y5	
Subcomponent 4.2:With Regional partners and programmes										
Establish formal bilateral linkages with neighbouring countries	Sustainability of gains on strategy achieved	Bilateral meetings on PPR	Number	0	2	4	4	4	4	Meeting minutes
Participate in regional programs		% PPR Regional events participated in	%	100%	100%	100%	100%	100%	100%	Regional events records
Subcomponent 4.3:With Regional partners and programmes										
Participate in Pan African and Global programs	Consistency in focus on global control program	% African and global events participated in	%	100%	100%	100%	100%	100%	100%	AU OIE & FAO events records

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