

RINDERPEST CONTINGENCY PLAN FOR INDIA: POST ERADICATION ERA



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Acronyms

AHC	Animal Husbandry Commissioner
AQCS	Animal Quarantine Certification Services
DADF	Department of Animal Husbandry, Dairying and Fisheries
DAH	Director, Animal Husbandry Department of State Government
DVO	District Veterinary Officer
ELISA	Enzyme linked immune sorbent assay
ETDMC	ELISA Testing and Data Management Centre
FAO	Food and Agriculture Organization
FIR	First Information Report
FVO	Field Veterinary Officer
GTV	Goat Tissue Virus Vaccine
ICAR	Indian Council of Agricultural Research
IVRI	Indian Veterinary Research Institute
NADRS	National Animal Disease Reporting System
NIHSAD	National Institute of High Security Animal Diseases
NIVEDI	National Institute of Veterinary Epidemiology and Disease Informatics
NPRE	National Project on Rinderpest Eradication
NPRSM	National Project on Rinderpest Surveillance and Monitoring
NRET	National Rinderpest Expert Team
OIE	World Organization for Animal Health (Office of International des Epizooties)
PCICDA-2009	Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009
PD-ADMAS	Project Directorate of Animal Disease Monitoring & Surveillance
SOP	Standard Operating Procedure
SRET	State Rinderpest Expert Team
TAD	Transboundary Animal Disease
TCRP	Tissue Culture Rinderpest Vaccine
UT	Union Territories

Introduction

Historically, the importance of Rinderpest in India can be gauged by the fact that the very establishment of the Veterinary Services and related research in the country is linked with this disease. The Indian Veterinary Research Institute was established on 9th December 1889 with the objective to control cattle plague and the Civil Veterinary Department came into being in 1891 on the recommendations of the Indian Cattle Plague Commission, 1868.

In India, a national Rinderpest Eradication Programme was launched in the last year of the First Five Year Plan i.e., 1951-56, wherein cattle and buffaloes above 6 months of age were mass vaccinated using Goat Tissue Virus Vaccine (GTV- Edwards Strain), throughout the country except for the 3 Southern States of Karnataka, Tamil Nadu & Kerala, as they were free from Rinderpest then. However, in 1965-1966, mass vaccination started in these states as well. After multiple rounds of mass vaccination, follow up vaccination of left over and newborn was undertaken. The mass vaccination drive continued for a decade, where 73% of cattle and buffaloes were vaccinated using Tissue Culture Rinderpest (TCRP) vaccine. Although mass vaccination controlled Rinderpest in vast areas of the country, the disease lurked around inter-state borders, where vigilance units and check posts were established for developing immune zones and for vaccinating bovines on livestock-movement routes. Further, during 1990 the National Project on Rinderpest Eradication (NPRE) was launched with assistance from European Union (EU). By 1990-1995 (Annual Plans and VIII Five Year Plan) the incidence was reduced to 1-2 seizures per million bovine population and was finally wiped out from India with the last case appearing in North Arcot district of Tamil Nadu in October 1995.

The National Project on Rinderpest Eradication (NPRE), aimed at eradicating Rinderpest followed the OIE Pathway in three successive stages i.e., (i) provisional freedom from Rinderpest disease (ii) freedom from Rinderpest disease, and (iii) freedom from Rinderpest infection. On 1st March 1998 India declared provisional freedom from Rinderpest disease.

The ELISA Testing and Data Management Center (ETDMC) at the Project Directorate of Animal Disease Monitoring & Surveillance (ICAR-PD-ADMAS) at Bangalore of Indian Council of Agricultural Research (ICAR) designed the modality for stratified random sampling for meeting the national sero-surveillance objective. For testing serum samples, 32 Rinderpest ELISA laboratories were specially set up in all states with funding from NPRE. Government of India funded the entire cost of the programme with execution by the state governments under technical supervision of the NPRE. Progress was monitored on a monthly basis by the NPRE.

ICAR-IVRI developed a series of biologicals to control Rinderpest in the past. The important ones being Anti-Rinderpest serum, Goat Tissue Vaccine (GTV), technology for large scale application of Tissue Culture Rinderpest Vaccine (TCRP), mAb based Competitive-ELISA kit, all of which contributed towards Rinderpest eradication from the country.

After fulfilling specific requirements for the various steps to be taken to declare a country free from Rinderpest, as stipulated under Article 3 of Appendix 3.8.2 (OIE Terrestrial Animal Health Code, 2003), India declared provisional freedom from Rinderpest disease on 1st March 1998 and attained Freedom From Rinderpest Disease on 31st October 2003. This was followed by an effective sero-surveillance program throughout the country for a period of three years. The sero-surveillance also covered other susceptible domestic stock and the domestic stock around the wildlife habitations. The negative results of the sero-surveillance ruled out the possibility of Rinderpest infection in susceptible wild animals. At the conclusion of three years of sero-surveillance on 31st October 2006, India was declared “Free from Rinderpest Infection” by OIE on 1st November 2006.

Initially, the Rinderpest vaccine (TCRP) stock was maintained at 5 (five) different State veterinary vaccine institutes with 5 (five) lakh doses each. Thereafter, it was decided to keep 5 (five) lakh doses at the centralized vaccine station Animal Quarantine Certification Services (AQCS), Kapashera New Delhi duly drawing 1 (one) lakh doses from each institute. Thus, the central laboratory at Kapashera maintained 5 (five) lakh doses and the 5 (five) regional laboratories maintained 4 (four) lakh doses each. As of now, all the Rinderpest related materials are repositied at the ICAR-National Institute of High Security Animal Diseases (ICAR-NIHSAD), Bhopal.

Currently Government of India provides assistance to all the States/Union Territories (UTs) to meet the administrative costs, to undertake ongoing activities of strengthening veterinary services, and surveillance of various animal diseases including Rinderpest under the National Project on Rinderpest Surveillance & Monitoring (NPRSM).

Chapter 1: Risk Management and Risk Communication

The risks due to re-emergence or due to accidental or intentional release would be assessed by first identifying the cause and then describing it. The likelihood of those risks occurring would then be estimated. The potential consequences of the risks, if they occur, would also be evaluated and used to modify risk assessment. The risk assessment would indicate how and where available resources would be directed to contingency planning so as to counter Rinderpest and other identified high-risk diseases.

1.1 Development of risk management strategies

This is the process of identifying, documenting and implementing measures to reduce the risks of Rinderpest and other high priority TADs and minimize their potential consequences. Risk management strategies may include quarantine (border and import quarantine) programmes, disease surveillance, capacity building, disease contingency planning and other preparedness activities. The aim would be to adopt procedures that would reduce the level of risk to a minimum, what is deemed to be an acceptable level.

1.2 Implement of risk communication programmes

This is the process of exchange of information on risk between risk analysts and stakeholders. Stakeholders would include potential parties affected by the consequences of the risks. To ensure ownership of decisions, risk analysts and policy-makers should consult with stakeholders throughout the process of risk analysis so that the risk management strategies address stakeholder concerns and the decisions are well understood and supported.

The risk analysis of Rinderpest re-emergence will be carried out by ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (ICAR-NIVEDI), regional disease diagnostic laboratories and ICAR-National Institute of High Security Animal Diseases (NIHSAD), Bhopal. This activity would be closely supervised by Department of Animal Husbandry and Dairying (DAHD) along with Indian Council of Agricultural Research (ICAR) under the legal provisions of Prevention and Control of Infectious and Contagious Diseases in Animals Act 2009 (PCICDA 2009).

Chapter 2: Risk assessment vis-à-vis legal provisions

The Food and Agriculture Organization (FAO) made a formal declaration in **June 2011** regarding the global eradication of Rinderpest following completion of decades-long worldwide campaign to eradicate this disease.

2.1 Risk Assessment of Rinderpest invasion

The comprehensive, evidence-based process of the OIE pathway followed for declaration of freedom from Rinderpest infection rules out the persistence of Rinderpest in nature in the post eradication era. In India, all the Rinderpest virus containing materials (RVCM) in various laboratories were destroyed under the supervision of an expert committee to avoid accidental escape of the virus. Therefore, the potential risk of Rinderpest invasion from these sources is negligible. Government of India has decided to store certain RVCM and diagnostic reagents in the bio-containment facility of ICAR-NIHSAD. The stock of RVCM stored at that facility is periodically declared to OIE.

ICAR- NIHSAD, Bhopal is a premier institute for research on exotic and emerging pathogens of animals with state-of-the-art BSL-3+ bio-containment facility. Further, the institute is located in a seismologically least active zone of the country.

The RVCM is stored in the bio-containment laboratory under multi-level lock and key under the joint control of the Director and the Bio-safety Officer of the institute. Hence, the perceived risk of accidental or intentional release from this holding facility is almost negligible. Thus, all the necessary arrangements are in place for preparedness and response in case of an unlikely event of Rinderpest re-emergence. Preparedness for the post-Rinderpest-eradication phase includes the availability of tests for rapid and specific detection of virus, active pathogen surveillance and strategic vaccine reserves.

2.2 Notification of suspected Rinderpest

Government of India would notify Rinderpest incursion/outbreak under the provisions of 'The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009' (PCICDA 2009) (refer Appendix) based on the following:

- i. The First Information Report (FIR) received from the State Veterinary Authority through National Animal Diseases Reporting System (NADRS)

- ii. Detailed field investigation and laboratory confirmation of suspected Rinderpest case(s) in any part of the country
- iii. Advice by the National Rinderpest Expert Team (NRET)

Simultaneously, Government of India would enforce precautionary as well as control and other measures as stipulated under Chapter II of PCICDA 2009 to be undertaken by the central as well as by the state governments. A dedicated 24X7 Incident Help Desk will be set up both at the centre and at the states. Veterinarians would be obliged to ensure that neither any damage is inflicted to animal health nor there is any damage to public health nor to the national economy. The National Rinderpest Contingency Plan (NRCP) would be put into action under notification to OIE.

2.3 Destruction of infected animal carcasses and access to sites used for this purpose

Under the relevant provisions (Chapter III and IV) of the PCICDA 2009, notification and de-notification of Rinderpest in the infected areas would have to be done by Government of India. The disposal of Rinderpest infected animal carcass would be carried out as per the provisions of Article 26 Chapter IV of the Act i.e. *“Every person in possession of carcass (or any part thereof) of any animal, which, at the time of its death, was infected with any scheduled disease or was suspected to have been infected, shall dispose it of in such manner as may be prescribed”*.

2.4 Payment of compensation

Compensation would be paid, to the *bona fide* livestock owners for the loss of their livestock, as prescribed by Government of India from time to time.

2.5 Cleaning and disinfecting and other bio-security measures with regard to buildings and land

The disposal and disinfection of premises/locality would be implemented as per the provisions of Article 18 Chapter II of the PCICDA-2009 i.e. *“(1). Every common carrier whether a vessel or vehicle shall be cleaned and disinfected immediately before and after the transportation of any animal in that vessel or vehicle, and so also any other place where the animal has been kept in transit.*

(2). Where any area has been declared as a controlled area or free area in respect of any scheduled disease affecting any species of animal, the Director of the concerned State Animal Husbandry Department may, by an order duly published in the Official Gazette and in a local newspaper in the vernacular language, direct the owner of every

vehicle in which any animal belonging to that species is carried, to have the vehicle properly cleaned and disinfected.”

2.6 Standstill orders and limitation of movement orders

Absolute restriction on the movement of affected and other in-contact animals from the declared/notified infected to the controlled areas would be enforced under the provisions of Article 7 of Chapter II of PCICDA- 2009 i.e. *“(1). Where a notification has been issued under sub-section (1) of section 6 declaring any area as a controlled area in relation to any disease affecting any species of animals, no animal belonging to that species shall be moved from the place where it is kept.*

(2) The Director of the concerned State Animal Husbandry Department may, for the purpose of control, prevention or eradication of any scheduled disease, in respect of any area, order published in the Official Gazette, prohibit the movement of all animals belonging to any species specified therein, from the place where it is kept, to any other place.

(3) Nothing contained in sub-sections (1) and (2) shall be deemed to prohibit -

(a) The movement of any animal referred to therein, from the place where it is kept, to the nearest place where it can be got vaccinated, so long as the animal is being moved for the purpose of its immunization by vaccination; or

(b) The movement of any such animal, so long as it is accompanied by a valid certificate of vaccination to indicate that the animal is duly immunized against the particular disease and it bears proper mark of such vaccination”.

As soon as a premises/farm is Rinderpest notified, it would automatically come under the general legal provisions of the Act. A ban on congregation of animals in fairs and markets and on the movement of animals, products and materials that could be potential carriers of infection entering or leaving the farm as well as restricted access for persons will be as per the conditions laid down in the Act.

2.7 Vaccination

For the purposes of vaccination, availability, production, issue, regulatory certification, etc. would be as per the provisions of Article 8 Chapter II of PCICDA- 2009 i.e. *“(1) The vaccine to an animal may be administered by any person competent under the law for the time being in force to administer it, and issue a certificate of administration of vaccination.*

(2) Where any animal has been vaccinated for any scheduled disease in compliance with the provisions of sub-section (1), the person vaccinating the animal shall cause to put a mark by branding, tattooing or ear tagging, or in such other manner as the Director, shall not be removed.

(3) The authority issuing certificate of vaccination shall specify the date of vaccination, date of manufacture and expiry of the vaccine and the date up to which the vaccination of the animal with the particular vaccine shall be valid.”

Further guidelines in this regard, if necessary, would be issued by Government of India in consultation with the NRET.

2.8 Enforcement and Penalties

Enforcement orders and recovery of expenses (Article 29), penalty for issuing vaccination certificate without authority or administering defective vaccine (Article 31) would be enforced as per Chapter V of PCICDA- 2009, which also includes Article 32 with provision for penalties for any person who contravenes the provisions or obstructs competent officers in performing their duties shall be guilty of an offence punishable with fine or with imprisonment in case of non-payment of penalty. The officials designated by DAHD are responsible for compliance with disease control in accordance with this Act. Detection of punishable offences is the responsibility of the officials so designated under the Criminal Procedure Code.

Chapter 3: Control and Containment

If a Rinderpest emergency situation occurs, all initiatives should be directed at rapid containment of the disease in the primary focus and eradication within the shortest possible time to avoid further spread. The existing OIE / FAO directives on contingency Rinderpest situations would be strictly complied with including follow up with periodic reporting to OIE.

3.1 Zonation

When dealing with a Rinderpest emergency, one of the first steps would be to delineate zones for the purposes of containment and elimination of the disease, irrespective of the control option to be adopted. Three zones consisting of an infected zone, ring-vaccination zone and a surveillance zone, would be delineated.

3.1.1 Infected Zone

It is a clearly defined area surrounding the herd(s), premises, villages or settlements where clinical Rinderpest is detected or where a high risk of contamination is known to have occurred. It would include all herds / settlements that have received susceptible species of animals from an infected herd in the last 21 days before Rinderpest appeared in that herd (of origin).

The infected zone would therefore include herds, premises and villages where clinical cases have been identified, as well as high-risk contact areas (dangerous contact premises). The infected zone would be the smallest size that is consistent with effective disease containment as per OIE guidelines. In deciding its shape and size, consideration would be given to topographical features, physical barriers, administrative borders and the resources available for enforcement and surveillance.

3.1.2 Ring Vaccination Zone

As per OIE guidelines, a 10-km radius around the disease centre(s) in areas where intensive livestock management is practised, and a 50-km radius in areas where extensive husbandry is practised, would be delineated to carry out ring vaccination of all the cattle population.

3.1.3 Surveillance Zone

This would be the area surrounding the infected and ring vaccination zones and its size would depend on realistic assessment post outbreak field scenario for surveillance.

3.2 Disease Control Options

In India, the pragmatic option for dealing with a Rinderpest disease emergency should be 'Quarantine with ring vaccination but without slaughter' considering that cow slaughter is not possible on account of religious ethos.

The essential elements of this option include:

- immediate quarantine and movement control in the infected zone;
- ring vaccination and identification of vaccinates;
- disposal of carcasses of dead animals and decontamination;
- Tracing and surveillance to determine source and extent of the infection;
- awareness campaign;
- proof of elimination.

Stringent restriction on movement of animals into and out of Rinderpest notified areas is to be enforced with punishable legal provisions under PCICDA-2009. OIE guidelines in such post-Rinderpest emergency will be followed to establish **proof and verification of Rinderpest elimination.**

3.3 Quarantine and Ring Vaccination

3.3.1 Actions to be taken in the Infected zone

Quarantine: Strict movement controls would be imposed on all susceptible livestock species in the infected zone. Susceptible animals in that zone would be vaccinated.

Vaccination: In case of occurrence of a localized outbreak of Rinderpest in a zone within the country, a limited emergency vaccination of susceptible domestic livestock in the zone would be carried out. Two rounds of vaccination within six months (immune-sterilization) would be done.

All in-contact animals in the affected herds and other herds in the infected zone would be vaccinated with TCRP vaccine. A source of high-quality vaccines conforming to OIE standards would be identified in advance.

The vaccination programme would be structured. At least two independent vaccination teams would be required to work in the infected zone. The first team would vaccinate the remaining members of the infected herd or herds, of which a proportion may be incubating the disease. The second team will undertake vaccination of surrounding herds in a ring around the infected herd(s), premises or settlements in the infected zone, starting from the outside of the ring and working inwards. The size of the ring would be determined by the ability to complete vaccination within one week or less. Several rings would be defined which are to be vaccinated successively, starting with the area at highest risk and then one ring which takes an excessively long time to complete.

Affected herds would not be assembled with neighbouring herds at communal crushes for vaccination, as this would greatly increase the risk of transmitting infection, both within the infected zone and to the herds in the surveillance zone. For attaining a sufficiently high level of herd immunity second round of vaccination within four to six weeks would be done. Vaccination coverage would be monitored closely. The target would be to raise the herd immunity levels to above 75 percent by 100 percent coverage.

Standstill order: This would be imposed within the infected zone through effective police or military enforcement. Closure of livestock markets, abattoirs and slaughterhouses in the infected zone would remain in force for at least 56 days after vaccination has been completed. Restocking with susceptible livestock would not be done until at least 56 days after the last clinical case has been removed or vaccination has been completed, whichever is the later. Adequate public awareness campaigns would be carried out.

Surveillance: Within the zone, all premises, villages or settlements with susceptible livestock species would be visited daily to examine the animals for clinical Rinderpest disease. This would continue for at least 21 days after the last vaccination has been completed, whichever is the later.

3.3.2 Actions to be taken in the Surveillance Zone

Within the surveillance zone, all livestock holdings (premises, villages or settlements) with susceptible livestock species would be visited weekly to examine animals for clinical disease. This would continue for at least 21 days after the last clinical case in the infected zone has died

or has been removed or until vaccination has been completed, whichever is later. In some circumstances, a sanitary cordon consisting of a buffer zone and a surveillance zone would be done to separate a Rinderpest-infected area from a Rinderpest-free one. Susceptible livestock species may move into the buffer zone but must remain for at least 21 days. To prevent secondary outbreaks of Rinderpest, susceptible livestock species in this zone would be vaccinated if transiting animals develop the disease. The surveillance zone of the sanitary cordon would be subjected to a high level of disease surveillance but no Rinderpest vaccination will be carried out.

3.4 Proof and Verification of Rinderpest Elimination

It would be necessary to carry out seromonitoring of the vaccinated animals to confirm herd immunity levels. Repeated active disease search and sero-surveillance in all susceptible livestock and wildlife species would be carried out in the infected and surveillance zones.

Chapter 4: Rinderpest Expert Team

4.1 National Rinderpest Expert Team (NRET)

NRET notified by Government of India would comprise the following officials:

- Animal Husbandry Commissioner, DAHD, Government of India, New Delhi -Chairman
- DDG (AS) ICAR New Delhi - Member
- Director ICAR-IVRI - Member
- Director ICAR-NIHSAD, Bhopal - Member
- Director ICAR-NIVEDI, Bengaluru - Member
- Animal Husbandry Director (Rinderpest affected state) - Member
- Retired Senior Rinderpest Professionals-Member
- Designated Officer from Livestock Health Division, DAHD, Government of India, New Delhi-Convener.

Dedicated co-ordination and activity monitoring units would be commissioned at DAHD, New Delhi and at Directorate of Veterinary Services of the Rinderpest notified state. Other critical inputs including epidemiological investigations, training and publicity/disease awareness would be assigned / resourced from ICAR, Veterinary Colleges / Universities and DAHD institutions. Veterinary and administrative machinery at the State level would be fully geared up to meet Rinderpest emergency.

4.2 State Rinderpest Expert Team (SRET)

The State Director of Veterinary Services will constitute front-line specialist diagnostic team:

1. Director, Animal Husbandry of the State Government.
2. State disease investigation /epidemiology officer
3. Head/Representative, Regional Disease Diagnosis Laboratory (Government of India)
4. Scientist, ICAR-NIHSAD, Bhopal
5. Epidemiology Scientist, ICAR-NIVEDI, Bengaluru
6. Expert from state Veterinary Colleges / University
7. State Rinderpest Officer-Convener

Terms of Reference

- conduct thorough clinical and epidemiological investigations into suspected Rinderpest;
- collect and dispatch specimens to national laboratory for Rinderpest diagnosis;
- present a detailed report to the DAHD and ICAR-NIHSAD, Bhopal

4.3 National Animal Disease Control Centre

The NPRES unit at the DAHD would deal with any Rinderpest exigencies.

4.4 Local Animal Disease Control Centres

The state administrative setup for Rinderpest control under NPRES will deal with any Rinderpest exigencies. The state veterinary department will mobilise adequate number of veterinarians, vaccinators, para-vets and supporting staff. Additional Mobile vehicles (laboratory and vaccination squads) and communication facilities would be provided to contain the disease.

For implementation of the Rinderpest emergency plan, the country would establish one or more temporary local animal disease control centres situated close to the outbreak site(s). For dealing with a Rinderpest emergency, each local animal disease control centre would be equipped with:

- adequate telephone, facsimile, electronic mail or radio communications, with at least one line reserved for communication with the national animal disease control centre;
- recording systems, preferably computer based, including a chronological diary of events; maps of scale 1:50 000 and, if possible, 1:10 000 covering the territory overseen by the centre;
- updated lists of persons and organizations in the area covered by the centre to be contacted in the event of Rinderpest outbreak;
- facilities for informing the press and other media so that all persons are fully aware of the restrictions in force;
- equipment stores;
- facilities for cleaning and disinfecting livestock holdings, personnel, clothing and vehicles.

The local animal disease emergency control centre will be organized into the following team:

Infected premises team: Under the supervision of an experienced field veterinary officer, staff would be involved in removal, disposal, decontamination, quarantine, movement restriction and active disease search in the infected premises of the infected zone.

Disease surveillance team: This team, under the supervision of a veterinary epidemiologist, would be involved in enforcement of movement restrictions and active disease and serological surveillance in the surveillance zone.

Vaccination team: The national policy on Rinderpest control involves vaccination, a group would be charged with vaccination of the relevant herds in the ring vaccination zone.

Stores and administration: For ease of operations and promptness in response, a stores and administration unit would be established at the local animal disease control centre. It would be responsible for the supply of all equipment and chemicals needed for removal, disposal and decontamination during a Rinderpest emergency. This unit will also coordinate:

- hire of equipment such as heavy earthmovers for burial of carcasses;
- contracting out of any aspects of the operations;
- the appointment of valuers;
- payment of compensation.

Public relations team: DAHD would have a public relations unit in place for public awareness and information on the presence of Rinderpest, the rationale for the national control policy and the necessity for enforcement of movement restrictions and quarantine.

4.5 Training

To ensure that staff are regularly trained in procedures for diagnosing and dealing with Rinderpest, national authorities would arrange for the regular training of all veterinary and support staff who may be engaged in dealing with Rinderpest outbreaks. The State Disease Investigation officer in collaboration with the respective state and four Regional Animal Disease Diagnosis Laboratories of Government of India, national institutions of ICAR-IVRI, ICAR-NIHSAD and ICAR-NIVEDI will organise laboratory diagnosis, bio-risk management and epidemiology trainings. These institutions have modern laboratory infrastructure and expertise in animal diseases. In the past, ICAR-IVRI and ICAR-NIVEDI led from the front to provide all requirements for the ultimate eradication of Rinderpest from India.

The training programme would include as under:

- the diagnosis of Rinderpest, using video presentations, projection slides, manuals, etc.;
- surveillance for Rinderpest;
- procedures at infected sites;
- procedures at the national animal disease control centre;
- procedures at local animal disease control centres;
- tracing exercises and record-keeping;
- notification and publicity procedures.

The competence of staff in this area will be maintained by regular training exercises at the national and local levels. These will also include simulated disease control operations.

4.6 Publicity / Disease awareness

ICAR-IVRI and ICAR-NIVEDI would develop relevant publicity materials to support any emergency Rinderpest incursions for the use of national and state governments that would include -

- the clinical disease
- the epidemiology of the disease;
- the notification responsibilities and procedures;
- the control measures and national strategy;
- the epidemiological situation in trading partners and neighbouring states.

These institutes will emphasize as under:

- the importance of Rinderpest
- the clinical signs;
- the importance of prompt reporting;
- the availability of funds for compensation, if appropriate.

Public veterinary services will rely on stockowners or private veterinarians attending farm animals to report the possibility of Rinderpest. Reporting will be prompt and accurate, so that all outbreaks are identified as soon as possible without raising false alarms. Prompt and accurate reporting will be achieved by the veterinary professionals, auxiliary staff and stockowners who will be made aware of the danger of Rinderpest and familiar with the signs of the disease. To this

end, the country will maintain awareness of the disease in both the veterinary profession and the agricultural community. Material will be aimed at veterinary students and at practising veterinarians. Veterinary colleges will provide with simple, professionally sound explanatory material that outlines in an intelligible manner:

- the clinical disease;
- the epidemiology of the disease;
- the notification responsibilities and procedures;
- the control measures and national strategy;
- the epidemiological situation in trading partners and neighbouring states.

Chapter 5: Support Plans

The following support plans would be in place to provide the necessary backing for implementing the Rinderpest contingency plan.

5.1 Early Warning Capabilities

India has one of the best peripheral / rural veterinary services to farmers provided by qualified para-vets and veterinarians in addition to many Non-Governmental Organisations (NGOs) providing health and insemination services. These professionals have imbibed the 'Early Warning' capabilities, being aware of pathognomonic and recognizable clinical Rinderpest symptoms and report routinely and invariably, if any suggestive symptoms are noticed. They are aware of the importance of:

- i. farmers' awareness of Rinderpest
- ii. active disease surveillance rather than passive disease monitoring
- iii. disease tracing capability
- iv. an effective disease reporting/information system at the national level through NADRS of Government of India
- v. national epidemiological capability to support Rinderpest emergency preparedness and disease management strategies

5.2 Resources

DAHD would ensure the required resources through its Livestock Health & Disease Control scheme.

Chapter 6: Action Plan

The action plan would cover most aspects of the controls to be implemented during Rinderpest emergency, from first suspicion of the disease to final eradication. In addition, a detailed standard operating procedure (SOP) would be prepared for different activities. User enterprise manuals containing zoo-sanitary codes of practice in high-risk enterprises such as meat and dairy processing plants would also be made available. The National Contingency Plan will concentrate on the following:

- i. awareness and capacity building/training
- ii. control centre management
- iii. decontamination
- iv. disposal procedures
- v. public relations
- vi. valuation and compensation
- vii. laboratory preparedness
- viii. artificial insemination centres
- ix. dairy processing
- x. meat processing
- xi. feedlots
- xii. sale-yards and transport

6.1 Investigation Phase

The investigation phase would exist when a report with a suspicion of Rinderpest occurrence is received by the veterinary services. It would be a legal obligation of any citizen suspecting the presence of Rinderpest to report that suspicion to a member of the veterinary or animal health services. In practice, a suspicious index case is most likely to be reported to the Field Veterinary Officer (FVO) by:

- a private veterinary practitioner
- an animal health officer
- an abattoir / meat hygiene officer
- ancillary veterinary staff, public or private
- a farmer / livestock owner
- a community leader

Field Veterinary Officer (FVO): On receipt of such information, the FVO would immediately carry out investigations and collect necessary information including the location, clinical and epidemiological features of the index case(s). The FVO would also:

- collect specimens from the suspected cases for diagnosis and arrange for proper packaging and sending of samples to National Laboratory for Rinderpest for testing and confirmation;
- impose such immediate quarantine and movement restrictions as are within his/ her power if there are sufficient grounds to suspect Rinderpest;
- inform the District Veterinary Officer (DVO) or equivalent such as the state veterinary officer or the regional veterinary officer, with copies to the Director, Animal Husbandry Department (DAH) of the concerned State and Animal Husbandry Commissioner (AHC), DAHD, Government of India

District Veterinary Officer (DVO): On receipt of information from the FVO, the DVO would -

- analyse the information provided by the FVO and carry out further investigations
- facilitate sending of diagnostic samples to the designated National Laboratory for Rinderpest
- take further steps to limit possible spread
- advise the DAH on the outcome of investigation and likelihood of Rinderpest

Director, State Animal Husbandry Department (DAH): Based on the results of investigation, the DAH should instruct the DVO to declare either a false alarm and winding-down of operations or a progression to the alert phase.

Diagnostic laboratory

The suspected samples would be sent to ICAR-NIHSAD, Bhopal, which is the designated National Laboratory for Rinderpest. The results would be communicated to DAHD which in turn will communicate to the concerned State for necessary action.

6.2 Alert Phase

If clinical and epidemiological results are highly indicative of Rinderpest, officers would carry out the following duties -

Director, Animal Husbandry Department:

- appoint an experienced senior veterinary officer as the Rinderpest emergency coordinator in the local animal disease control centre
- activate the national animal disease emergency preparedness plan for Rinderpest
- appoint and dispatch the Rinderpest expert team
- alert the police and fire departments

District Veterinary Officer:

- instruct the FVO to remain on the infected locality and enforce quarantine and movement restrictions;
- ensure that the equipment and materials needed by various teams are available;
- delineate the various control zones in consultation with NRET and with the approval of the DAHD;
- send progress/situation reports to NRET

Field Veterinary Officer:

- accompany the Rinderpest expert team to the infected site(s) for detailed investigations;
- secure adequate supplies for the team to carry out all necessary investigations;
- brief the SRET in advance, providing such detailed information as may be needed by the team;
- supervise disinfection of personnel and materials after investigations, before leaving the infected premises.

State Rinderpest Expert Team (SRET): Following adequate briefing by the FVO, the SRET should -

- proceed to the infected area/premises
- conduct detailed clinical examination of as many affected animals as required to arrive at clinical diagnosis
- collect epidemiological information and carry out forward and backward tracing to determine the possible origin of the disease

- collect as many specimens as possible, then package, label and dispatch the samples to the relevant national laboratory for Rinderpest diagnosis
- report findings to the CVO

The epidemiological report from a primary outbreak by the SRET will describe:

- the situation of the infected premises
- the number and species of susceptible and other livestock
- the method of husbandry
- the number of dead and clinically affected animals, and the age of the oldest lesion(s)
- the size and location of the premises/ herd, and its contacts with other herds, markets, etc.
- the recent movements of livestock and personnel on and off the holding
- and any other relevant information
-

On the basis of these findings, the head of the team should advise the local or national disease control centre on:

- the possible origin and the date of the introduction of infection
- the likely period of infection on the premises / holding
- the holdings most at risk from spread by livestock movements

6.3 Operational Phase

The operational phase would be initiated when Rinderpest has been confirmed and the DAHD declares that a Rinderpest emergency exists in the country. This information should then be sent by the DAHD to OIE and FAO.

Various teams in the local animal disease control centre(s) will be expected to go into operation as listed below.

Infected premises team: This team would carry out proper disposal of carcasses of animals that have died of the disease, and would be responsible for decontamination in the infected zone.

Vaccination team: This team would carry out immediate peri-focal vaccination in the infected zone and mark vaccinated animals permanently.

Disease surveillance team: This team would carry out repeated active disease search and sero-surveillance in both the infected zone and the surveillance zone.

6.4 Stand-down Phase

This phase may exist when Rinderpest is either not confirmed or when the disease is confirmed. When investigations carried out during the alert phase fail to confirm the disease, the DAH would instruct the DVO and FVO to notify all organizations and persons previously informed of suspected Rinderpest occurrence and possible emergency that the situation has ceased to exist.

If Rinderpest is confirmed, the stand-down phase begins as soon as all necessary operations for containment, control and elimination are completed to the satisfaction of the CVO, as head of the national animal disease control centre. Winding-down operations should not be delayed and must be systematic, gradual and supervised by the head of the local animal disease control centre.
