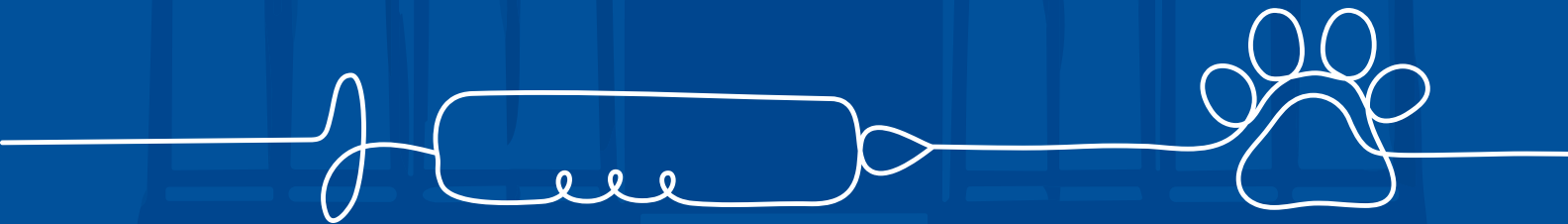


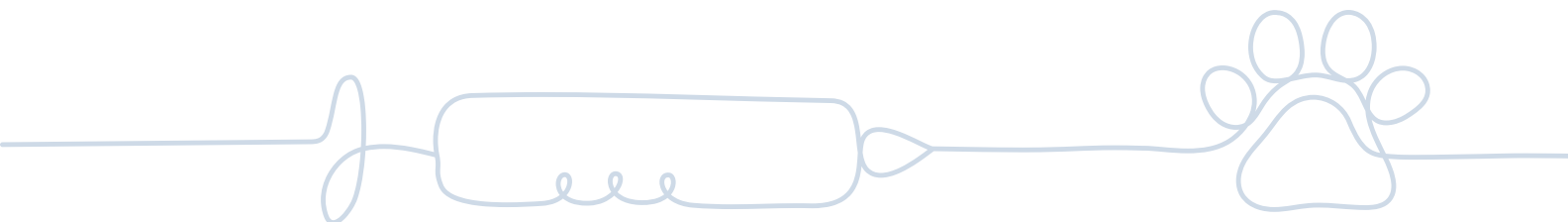


**STATE ACTION PLAN FOR
DOG MEDIATED
RABIES ELIMINATION
FROM PUDUCHERRY
BY 2030**





STATE ACTION PLAN FOR
DOG MEDIATED
RABIES ELIMINATION
FROM PUDUCHERRY
BY 2030



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MESSAGE

Government of Puducherry reasserts its commitment towards STATE ACTION PLAN FOR DOG MEDIATED RABIES ELIMINATION (SAPRE) from Puducherry. This Union Territory has its strategic priorities aligned with National Action Plan for Dog Mediated Rabies elimination by 2030. Rabies is a public health concern and the post exposure prophylaxis by effective vaccination strategy plays a pivotal role in prevention and effective control of rabies. In order to achieve this target of elimination of Dog Mediated Rabies there should be determined inter departmental coordination and cooperation that will alleviate the efforts of all stake holders for Rabies free Society by 2030.

India has now created "**ONE HEALTH**" network which strengthens the effective surveillance under National Rabies Control Programme (NRCP). NRCP through inter departmental coordination between Health Department, Animal Husbandry and Local Administration Department plays a major role in elimination of Dog Mediated Rabies by 2030.

The efforts taken by the Implementing Partner UNDP which helps along with State Health Ministries and Ministry of Health and Family Welfare Services at the National Level deserves an appreciation for their sustained contribution on their meticulous inputs in preparation of this document.


(Dr. TAMILISAI SOUNDARARAJAN)

N. RANGASAMY

CHIEF MINISTER
GOVERNMENT OF PUDUCHERRY



PONDICHERRY

Date: 26.9.2023

MESSAGE

Rabies is one of the important Zoonotic disease affecting both animals and humans. It is estimated to cause an approximate 59,000 human deaths annually across the world. Human rabies can be prevented through prompt administration of Anti-rabies vaccine. Dog is the main source of death due to rabies among humans, contributing to 99% of all rabies transmission to human from rabid dog.

Government of Puducherry reassures its commitment in providing all technical support in developing and implementing the state action plan for rabies elimination based on National action plan for dog mediated rabies elimination from India by 2030 through a "One Health" initiative with the understanding that safe public health is a common goal for human and animals.

I hope this document will be useful as a ready reference in framing the State Specific Action Plan for prevention and control of rabies. I would like to extend my appreciation to all individuals and institution who have contributed towards framing of this important document with excellent inter departmental coordination between National Rabies Control Programme (NRCP), Dept of Health and Family Welfare Services, Dept of Animal Husbandry & Animal Welfare Services, Rajiv Gandhi Institute of Veterinary Education & Research (RIVER), Municipality corporations, Puducherry and UNDP.

Successful implementation of this strategy requires a multi - sectoral collaborative and coordinated approach with involvement and support of many stakeholders. We are optimistic that each of our partners will join hands and play their role in eliminating human dog mediated rabies in India by year 2030.

(N. RANGASAMY)

ABBREVIATIONS

ABC	AR Animal Birth Control Anti Rabies
APCRI	Association for Prevention and control of Rabies in India
ARC	Anti Rabies Clinic
ASCAD	Assistance to States for Control of Animal Diseases
AWBI	Animal Welfare Board of India
CNS	Central Nervous System
CSF	Cerebrospinal Fluid
DAHD	Department of Animal Husbandry and Dairying
DFA	Direct Fluorescent Antibody Assay
DPM	Dog Population Management
DRIT	Direct Rapid Immunohistochemical Test
ELISA	Enzyme Linked Immunosorbent Assay
FAO	Food and Agriculture Organization
FAT	Direct Fluorescent Antibody Test
HRIG	Human Rabies Immunoglobulins
IDSP	Integrated Disease Surveillance Programme
IEC	Information, Education and Communication
IHIP	Integrated Health Information Platform
IM	Intramuscular
LFA	Lateral Flow Assay
MoHFW	Ministry of Health & Family Welfare
NCDC	National Centre for Disease Control
NGO	Non-Governmental Organization
NRCPC	National Rabies Control Programme
NTD	Neglected Tropical Diseases
PEP	Post exposure Prophylaxis
SRL	State Referral Laboratories
RT	PCR Reverse Transcription Polymerase Chain Reaction
SBM	Swachh Bharat Mission
SDG	Sustainable Development Goal
SOP	Standard Operating Procedure
UNDP	United Nations Development Programme

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Historical Perspective of Rabies in India

INTRODUCTION

Rabies is a preventable viral disease most often transmitted through the bite of a rabid animal. **Rabies virus** is a Neurotropic virus and that affects the central nervous system of mammals, ultimately causing disease in the brain and death (1). Rabies lyssavirus, like many Rhabdoviruses, has an extremely wide host range (2).

The World Health Organization (WHO) identifies Rabies as one among the neglected tropical diseases (NTDs), that affects over a billion people globally, primarily those living in poverty in low- and middle-income countries in the tropics and subtropics, imposing a significant economic burden on these countries (3)(4).

In most rabies-endemic countries in Africa and Asia including India, domestic dogs are the main rabies reservoir and source of human exposure (4).

Rabies is one of the neglected tropical diseases (NTD) that predominantly affects already marginalized, poor and vulnerable populations (5). In the wild, it has been found infecting many mammalian species, while in the laboratory it has been found that birds can be infected, as well as cell cultures from mammals, birds, reptiles, and insects can cause Rabies (6). Rabies is reported in more than 150 countries on all continents, with the exclusion of Antarctica (7). The main burden of disease is reported in Asia and Africa, but some cases have been reported also in Europe in the past 10 years, especially among travelers (8)(9).

Rabies is almost hundred percent fatal yet hundred percent preventable by proper vaccination of both Humans and animals (10). As per WHO estimates, globally, there are 59,000 human deaths due to dog-mediated rabies. India contributes to one third of the total global burden due to rabies and two-third of rabies burden in the South East Asia Region as per the WHO-APCRI 2004 Survey, worldwide (11).

Rabies is a vaccine-preventable, Zoonotic, Viral Disease. Once clinical symptoms appear, rabies is 100% fatal. Almost among 99% of the cases, domestic dogs are responsible for the transmission of rabies virus among humans (12). Yet, rabies can affect both domestic and wild animals (13). It is spread to people and animals through bites or scratches, usually via saliva of a rabid animal (13).

The importance of the disease was brought to limelight with the implementation of National Rabies Control Programme (NRCP) in India during the 12th FYP to control this Neglected Tropical Disease.

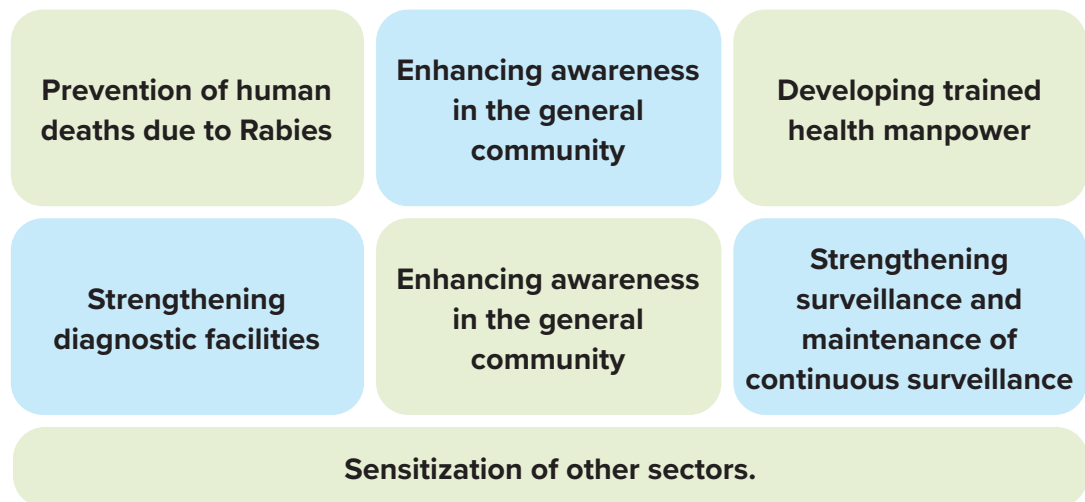
To achieve the global target of Zero Human Dog- Mediated Rabies Death by 2030,

India has launched the National Action Plan for Dog mediated Human Rabies Elimination (NAPRE) based on “One Health Approach in 2021. In continuation of the above there was a workshop organized by the UT of Puducherry in coordination with NCDC and UNDP for Development of State Action Plan for Dog Mediated Rabies Elimination (SAPRE) by 2030.

NATIONAL RABIES CONTROL PROGRAM – PILOT PROJECT, AN INITIATIVE UNDER THE 11TH FIVE YEAR PLAN (14).

In the 11th five-year plan (2007–2012) the efforts to control Rabies in India gained momentum. So, the Ministry of Health and Family Welfare, Govt of India approved a “Pilot Project for the Control of Human Rabies”, for which 8.65 crores were allocated. For the first time, Rabies control in animals, animal birth control and vaccination of stray dogs were focused in this plan, as components of animal welfare to be handled by the Animal Welfare Board of India. In 2015, four organizations namely WHO, OIE, FAO and GARC -had joined forces, as United Against rabies Forum to reach this goal.

The objectives of the programme are:



To achieve the objectives of the programme, there will be involvement of many other departments in the Elimination of Rabies from Puducherry.

DEPARTMENTS TO BE INVOLVED FOR RABIES ELIMINATION IN PUDUCHERRY

- ◆ Department of Health and Family Welfare, Govt. of Puducherry
- ◆ Department of Animal Husbandry, Govt. of Puducherry
- ◆ Municipal Corporations
- ◆ Department of Forest and Wildlife
- ◆ Private NGOs – Voice for voiceless, Bark India Charitable Trust, Auroville Dog Shelter
- ◆ Department of Local Administrative Department
- ◆ Commune Panchayats

2

Epidemiology of Rabies

Rabies is estimated to cause 59,000 human deaths annually in over 150 countries, with 95% of cases occurring in Africa and Asia. Due to widespread underreporting and uncertain estimates, it is likely that this number is a gross underestimate of the true burden of the disease. 99% of rabies cases are due to dog-mediated disease and the burden of disease is disproportionately borne by rural populations, which approximates to children under 15 years of age.

GLOBAL BURDEN

As per WHO estimates **20,565 human deaths occur due to rabies annually in India**. India contributes to 59.9% of deaths in Asia and globally 35% human rabies deaths. But it has been observed that there is a huge gap between estimated cases of rabies.

Rabies is a zoonotic disease prevalent in wildlife.

Europe: Fox, Bats

Middle East: Wolf, Dogs Asia: Dog

Africa: Dog, Mongoose, Antelope

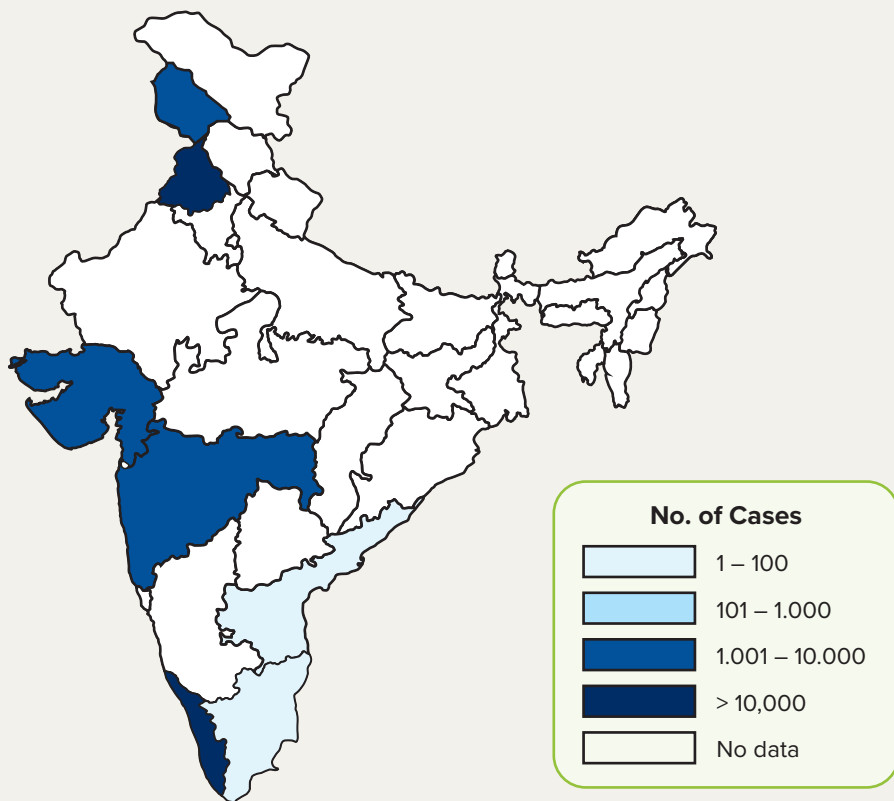
North America: Foxes, Shunks, Racoons, Insectivorous Bats.

South America: Dogs, Vampire Bats

RABIES IN ASIA AND INDIA

In India 97% of human rabies is due to **dog bite** and the remaining being contributed by cat and other wild animals. An estimated 35,712 human deaths i.e., 59.6% occur per year in Asia due to dog mediated Rabies. In India, Rabies is endemic in all States/UTs except Andaman and Nicobar, and Lakshadweep Islands, and 96% of the mortality and morbidity due to Rabies is associated with dog bites. Although Rabies affects people of all age groups, children are the most vulnerable, which constitutes 40% of people exposed to dog bites in Rabies-endemic areas.

The map on the next page is a Choropleth map showing dog-bite cases in the States and Union Territories of India between January-October 2022, as reported by local media reports. The map was created using QGIS 3.26.3. The base layer map was used from Survey of India.



Choropleth map showing dog-bite cases in the States and Union Territories of India between January – October 2022

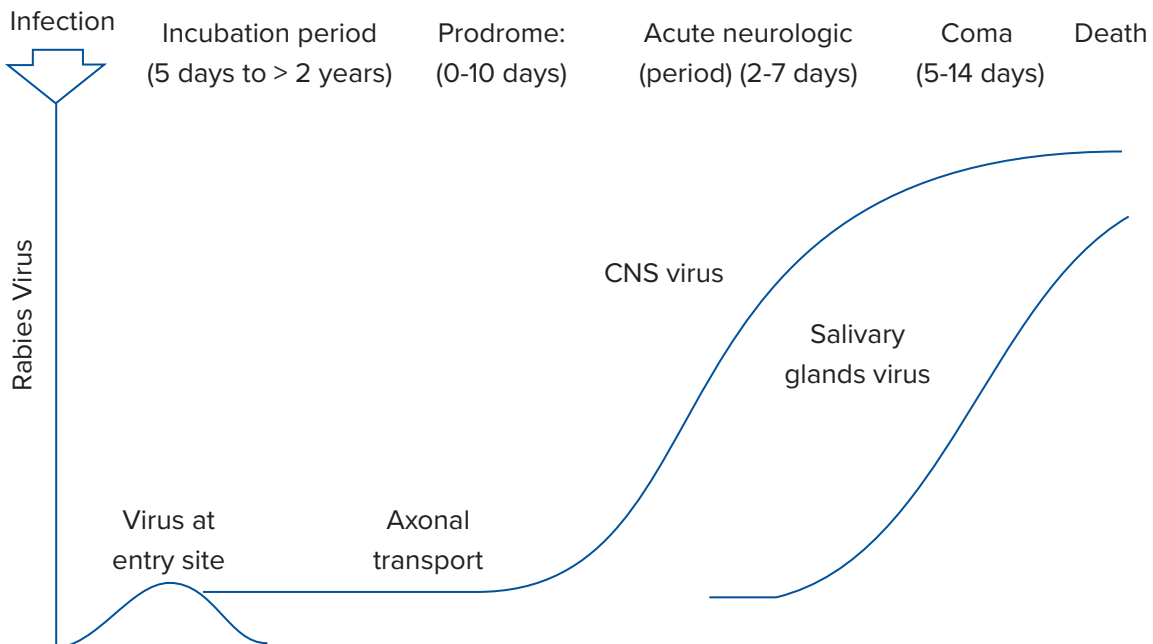
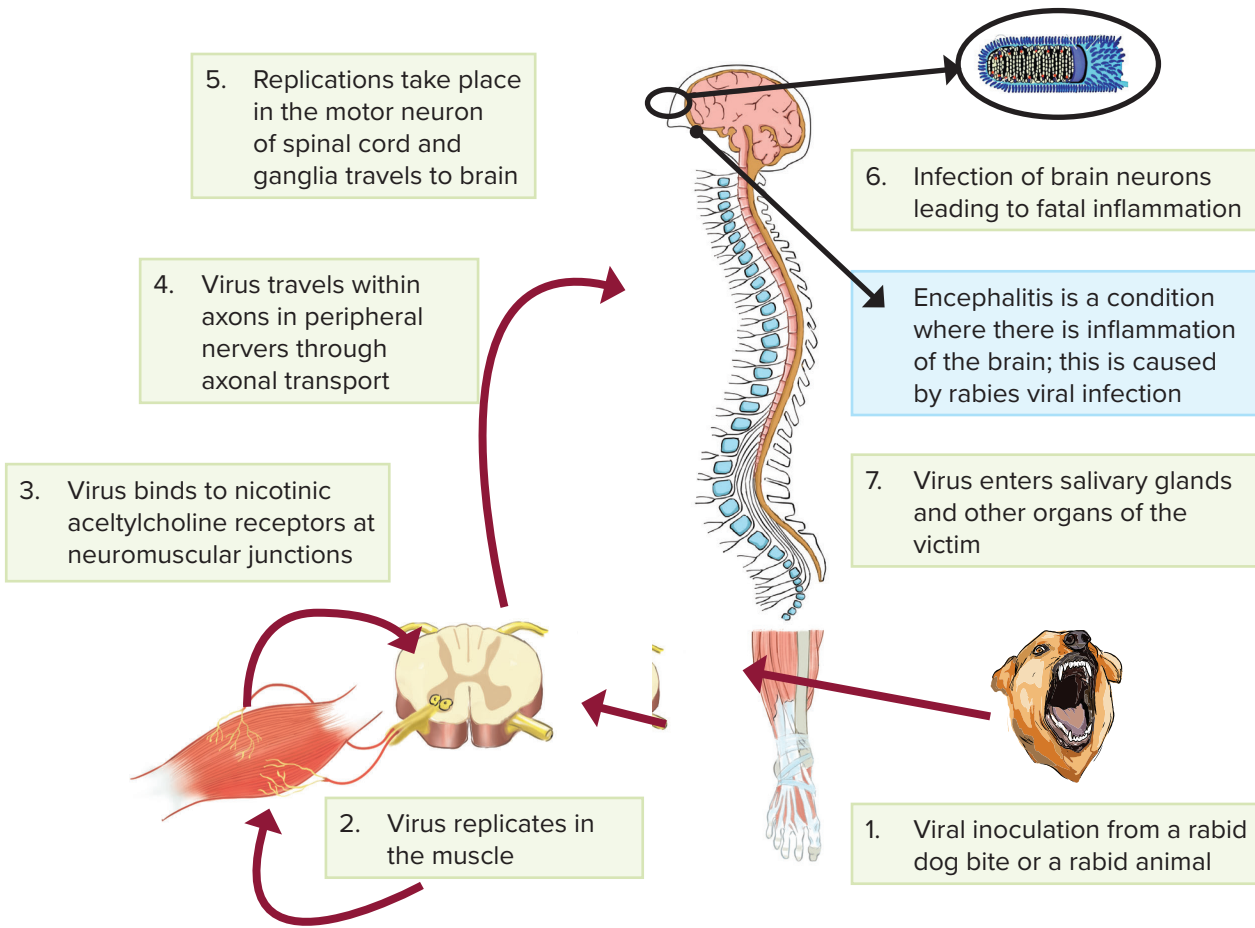
Rabies virus had been shown to infect all mammals so far tested. Dogs, cats and cattle are particularly susceptible. Skunks, bats, foxes, squirrels, badgers, raccoons, and mongooses are the principle wildlife host (21). Birds have also been shown to be susceptible to infection (21). Compartmentation occurs with rabies, so that the disease is reported in one major host species in certain geographical areas while it is reported less frequently in the same species in other areas of endemic rabies.

PATHOGENESIS

The commonest mode of transmission in man is by the bite of a rabid animal or the contamination of scratch wounds by virus- infected saliva. However, other routes have been implicated in the past, such as through mucous membranes of the mouth, conjunctiva, anus and genitalia.

Infection by aerosol transmission has been demonstrated in experimental animals and has been implicated in human infection in rabies-infected bat caverns and in several laboratory accidents. Man to man transmission by transplantation of infected corneas were also reported in few instances. Rabies is an acute infection of the CNS which is almost invariably fatal.

PATHOGENESIS OF RABIES VIRUS



RABIES IN HUMANS

Rabies is a viral disease that causes encephalitis in humans and other mammals. It was historically referred to as hydrophobia (“fear of water”) due to the symptom of panic when presented with liquids to drink. Early symptoms can include fever and tingling sensation at the site of exposure. These symptoms are followed by one or more of the following symptoms: nausea, vomiting, violent movements, uncontrolled excitement, fear of water, an inability to move parts of the body, confusion, and loss of consciousness.

Once symptoms appear, the result is virtually always death, regardless of treatment. The period between contracting the disease and the start of symptoms is usually one to three months but can vary from less than one week to more than one year. The time depends on the distance the virus must travel along peripheral nerves to reach the central nervous system .

When a patient is affected with Rabies, the following symptoms will appear:

- ◆ Hydrophobia (Fear of water)
- ◆ Aerophobia (fear of breeze)
- ◆ Photophobia (fear of light)

FURIOUS RABIES

Furious rabies results in hyperactivity, excitable behaviour, hallucinations, lack of coordination, hydrophobia (fear of water) and aerophobia (fear of drafts or of fresh air). Death occurs after a few days due to cardio-respiratory arrest.

DUMB RABIES

The paralytic form, also known as dumb or apathetic rabies, makes up one in five cases. The patient is characteristically quiet and lucid throughout. The course of the illness is a little more prolonged, beginning with tingling or paralysis of the bitten limb.

INCUBATION PERIOD

The **incubation period** (Time lag between exposure to rabid animal and onset of rabid symptoms) of the disease varies from few days to few months in humans and depends on

1. **Site of exposure** – This affects the distance that virus has to travel to reach the central nervous system.
2. **Severity of exposure**, etc.

To combat the disease burden, Surveillance is a key element in NAPRE so that problems can be easily identified, and actions could be initiated whenever required. NAPRE envisages developing a dedicated portal and GIS-enabled electronic surveillance system for establishing a Joint Rabies Surveillance Network and Integrated Data sharing mechanism for local, state, and central agencies. The

portal would provide essential information on animal Rabies, human Rabies, dog bites, availability of Rabies vaccine & Immunoglobulins for the states and other partner organizations on real-time Basis. This system would provide linkages between health, veterinary, and wildlife sectors at an appropriate level and thus enable systematic data sharing on agreed parameters identified in the NAPRE. This will help to analyze the situation and strengthen intersectoral coordination and appropriate public health actions by concerned stakeholders.

IMPORTANCE OF ONE HEALTH APPROACH

One Health Approach is required through concerted and coordinated efforts by all stakeholders to combat Rabies. Accordingly, the “National Action Plan for dog mediated Rabies Elimination from India by 2030” (NAPRE) was conceptualized in the year 2018 by the Division of Zoonotic Disease Programme at

NCDC and submitted to Ministry. Accordingly, a core committee was constituted under the chairmanship of DGHS and Commissioners animal husbandry. This was in turn decentralized to form SAPRE across India.

To combat the seriousness of the disease, National Rabies Control Programme was implemented in India during the 12th FYP for rabies control. To achieve Zero Human Dog-mediated Rabies Deaths by 2030, India launched the National Action Plan for dog mediated human Rabies elimination (NAPRE) based on “One Health” approach in 2021. In view of this, Puducherry has developed a comprehensive State level Action Plan for Dog Mediated Human Rabies Elimination (SAPRE) by 2030 based on the guidelines of NAPRE.

The activities of the Human health component are already being implemented under the National Rabies Control Programme through the State and District Nodal Officer (SNO & DNO) under National Health Mission.

- ◆ SAPRE envisages developing a dedicated Toll-free number from the State solely to prevent Dog mediated Rabies.
- ◆ This Toll-free number when accessed by the public will provide the essential information on animal Rabies, human Rabies, dog bites, availability of Rabies vaccine & Immunoglobulins for the states and other partner organizations on real-time Basis.
- ◆ This system would provide linkages between health, veterinary, and wildlife sectors at an appropriate level and thus enable the public to obtain awareness about Dog mediated Rabies.

The goal of zero human rabies deaths by 2030 was adopted by the “Ending the neglect to attain the Sustainable Development Goals: A road map for neglected tropical diseases 2021–2030” which had set global targets and milestones to prevent, control, eliminate or eradicate 20 diseases and disease groups, including rabies.

3

State Legislations

THE PUDUCHERRY (PUBLIC) HEALTH ACT, 1973 (No. 5 of 1974)

RABIES: A NOTIFIABLE DISEASE

Diseases like rabies are highly infectious and fatal and affect multiple sectors (domestic animals, wildlife conservation, public health, modern services, and livestock economies); therefore, it is important to make sure that rabies does not spread. Notification will aid in rabies surveillance providing better estimates of rabies burden also it will facilitate contact tracing and incorporation of prompt prophylactic measures to prevent infection in other people exposed to the same source. It will also aid in prompt identification of the emerging rabies foci in animals and interventions to curtail the spread of disease to other animals and humans.

Rabies is a Notifiable Disease in UT of Puducherry as per Public Health Act. 1973

LEGISLATION

CENTRAL LAWS

Laws and by-laws provide the sound foundation for effective implementation of any disease control and elimination programme. The legislation allows the competent authority/stakeholders to bring about necessary actions that are required for early detection, reporting and effective management of rabies. The actions required for active dog population management include capacity to:

1. Seize animals, vaccinate, quarantine.
2. Control animal infiltration at borders.
3. Effective elimination and safe disposal of potential rabies transmitting risk animal.

THE PREVENTION & CONTROL OF INFECTIOUS AND CONTAGIOUS DISEASES IN ANIMALS ACT, 2009:

An Act to provide for the prevention, control and eradication of infectious and contagious diseases affecting animals, for prevention of outbreak or spreading of such diseases from one State to another, and to meet the international obligations of India for facilitating import and export of animals and animal products and for matters connected therewith or incidental thereto.



Rabies is a scheduled* disease, under [See sections 2 (o) and 38], under (a), at no 15].

(As per chapter I, definitions at no 2, “scheduled disease” means any disease included in the Schedule)

Under chapter 1, Control of scheduled diseases, at no 4 of Reporting scheduled diseases obligatory. — (1) * (*Every owner, or any other person, non-governmental organization, public bodies, or the village panchayat, in charge of any animal which he or it has reason to believe to be infective of a scheduled disease shall report the fact to the Village Officer or village panchayat in-charge, who may report the same in writing to the nearest available Veterinarian).

PREVENTION OF ANIMAL CRUELTY ACT- 1960’ AND THE ‘ANIMAL BIRTH CONTROL (DOGS) RULES’, 2001

Purpose: - ‘Animal Birth Control (Dogs) Rules’, 2001, is created under the ‘Prevention of Animal Cruelty Act 1960’ prescribing humane methodology for street dog population management, ensuring Rabies eradication, and reduction in man–dog conflicts.

The Public Liability Insurance Act, 1991

Purpose: - Act to provide public liability insurance to provide immediate relief to the persons affected by accident occurring while handling any hazardous substance and for matters connected therewith or incidental there.

THE CLINICAL ESTABLISHMENTS (REGISTRATION AND REGULATION) ACT, 2010

Purpose: - This Act has been enacted by the Central Government to provide for registration and regulation of all clinical establishments in the country with a view to prescribe the minimum standards of facilities and services provided by them.

As per this law, the hospital shall maintain health information and statistics in respect of national programmes, notifiable diseases and emergencies/ disasters/ epidemics and furnish the same to the district authorities in the prescribed formats and frequency.

REPORTING AND NOTIFICATION

- ◆ As per WHO definition, any disease that is required by law to be notified to the government or health authority is classified as notifiable disease.
- ◆ Any suspected or confirmed case of a notifiable disease is required to be reported by clinicians/veterinarians to allow the competent authorities to take necessary actions to monitor and prevent outbreak of disease.
- ◆ A disease is declared notifiable based on several important factors such as –

severity, incidence, communicability, socio-economic costs, and preventability; and the list of notifiable diseases may vary from country to country, within country, between the states and between rural and urban areas.

RABIES: A NOTIFIABLE DISEASE (ANNEXURE 1 - GOVT. ORDER OF RABIES NOTIFIABLE DISEASE)

Diseases like rabies are highly infectious and fatal and affects multiple sectors (domestic animals, wildlife conservation, public health, modern services, and livestock economies); therefore, it is important to make sure that Rabies is a notifiable disease.

Notification will aid in rabies surveillance providing better estimates of rabies burden also it will facilitate contact tracing so that prompt prophylactic measures can be undertaken to prevent infection in other people exposed to the same source.

It will also aid in prompt identification of the emerging rabies foci in animals and interventions to curtail the spread of disease to other animals and humans.

MECHANISM FOR HUMAN RABIES NOTIFICATION

A suspected/probable/ confirmed case should be notified via email to National nodal officer Rabies along with State and District nodal officer in complete standard format to nrpc.ncdc@gmail.com through the formats-

1. **ANNEXURE:** Compiled Monthly Report of Animal Bite Victims receiving treatment at Anti Rabies Clinic (to be submitted by District Focal Point to State Nodal Officer) District Monthly Report (NRCP- M02). (Annexure 2)
2. **ANNEXURE:** Compiled Monthly Report of Animal Bite Victims receiving treatment at all District Anti Rabies Clinic (to be compiled by State Nodal Officer) State Monthly Report (Annexure 3)
3. **ANNEXURE:** (Line List): Rabies/Hydrophobia Cases Monthly report from ID / any others hospital (NRCP- RC). (Annexure 4)

4

Efforts undertaken by the Human Health Sector

There are various efforts undertaken in the human sector and in other departments too.

EFFORTS UNDERTAKEN IN HUMAN HEALTH SECTOR DATA COLLECTION AND ANALYSIS:

HUMAN COMPONENT:

The Data flow and reporting is available at all Govt. Institutions which includes:

- ◆ All four District Hospital, (Puducherry, Karaikal, Mahe, Yanam) CHCs, PHCs of UT of Puducherry every month.
- ◆ Dog bite surveillance data.
- ◆ Identification of clusters (of dog bite cases) and daily update in IHIP portal in UT of Puducherry region.
- ◆ Daily fever surveillance is carried out by Health Assistants and Health Inspectors that help in reporting of Rabies cases including cluster of dog bites cases in and around the UT of Puducherry region.
- ◆ But there is no data available from the private sectors. Henceforth a missed call or cross referral to be sent from the private nursing homes, dispensaries, clinics, and medical colleges. Cross referral systems can help in linkage of human and animal rabies surveillance systems.
- ◆ A Joint Steering Committee under the chairmanship of Health Secretary to be formed at State and District level and to conduct meetings every quarter and have an Inter sectoral approach and steps to identify the poor performing areas to be shared.
- ◆ Field investigations are conducted by health care workers. The field investigations for all suspected human rabies cases to be strengthened. So to enhance this process Rapid Response teams will be formed and comprises of :
 - ◆ State Nodal officer NRCP and Veterinary Consultant – Health Department , Puducherry
 - ◆ Director of Animal Husbandry and Joint Director of Animal Husbandry, Puducherry
 - ◆ Joint Director of Animal Husbandry – Karaikal
 - ◆ Veterinary Officers – Department of Animal Husbandry , Mahe and Yanam
 - ◆ Food Safety Officer- Karaikal and Yanam

- ❖ Veterinary Officer – Department of Forest and Wildlife, Puducherry
- ❖ Municipality Health Officers , Puducherry
- ❖ To provide 24x7 free helpline for animal bite management and availability of Anti Rabies Vaccines at
- ❖ all the levels of health care like PHC's, CHC's, Medical Colleges and District Hospitals.

DOG BITES CASES REPORTED IN THE UT OF PUDUCHERRY

Below details mentions the no: of dog bite cases reported in Puducherry every year.

Years	No. of Dog Bites (Total)
2014	16,458
2015	17,529
2016	22,516
2017	22,485
2018	22782
2019	23,359
2020	24,929
2021	24,282
2022	30,184

ZOONOTIC DISEASES INCIDENCE IN PUDUCHERRY

Zoonoses: (“zoo” = animal; “noses” = Diseases): Diseases/Infections that are naturally transmissible from vertebrate animals to humans

The Zoonotic Diseases reported in the UT of Puducherry from the year 2017-2022

Zoonotic Diseases	2022	2021	2020	2019	2018	2017
Leptospirosis	9	11	14	5	7	18
Japanese Encephalitis	2	2	2	0	5	2
Scrub typhus	204	55	44	40	51	31

NOTIFICATION OF RABIES

Rabies case is notified using the following format:

HUMAN RABIES NOTIFICATION (HYDROPHOBIA)

Name: _____

Age: _____

Sex: _____

Address: _____

Biting Animal (Dog/Cat/Monkey/ any other. specify):

Date of Bite /Scratch: _____

Geographical (Location) of Biting event (s) _____

Date of Bite: _____

Category of Bite(I, II, III) : _____

PEP given Yes/No: _____

IM/ID : _____

Immunoglobulin given: Yes /No _____

Case definition: suspect/probable/laboratory confirmed. _____

Date of Diagnosis: _____

Date of Death (If applicable in some cases notification may proceed mortality)

ENTRY OF HUMAN RABIES CASES IN –IHIP PORTAL

All suspected human rabies cases and laboratory confirmed cases are reported by Govt Hospitals in IHIP portal.



Efforts undertaken by the Veterinary Sector

EFFORTS UNDERTAKEN IN VETERINARY SECTOR

ANIMAL SURVEILLANCE (ANIMAL COMPONENT)

Animal Rabies Surveillance Systems:

Animal husbandry:

- ◆ For providing integrated leadership towards One Health Approach to Rabies Elimination by 2030, existing State/ District Level Zoonotic Committee will be extended for Rabies control with additional members from Municipality and Wildlife (i.e.) Joint Steering Committee at State and District level which is mentioned in Annexure 1
- ◆ Task force committee for Rabies shall be formed for decision making to achieve Rabies Elimination by 2030.
- ◆ In toto there are 17 veterinary dispensaries, 5 municipalities and one veterinary college hospital involved in handling animal Rabies cases. These shall be designated as Surveillance Sites for animal bite cases. These sites shall be strengthened for reporting systems.

List of Municipalities

- ◆ Puducherry district-2 (Puducherry and Oulgaret municipality)
- ◆ Karaikal district -1
- ◆ Mahe district-1 (Mahe municipality)
- ◆ Yanam district-1

List of Veterinary dispensaries Puducherry Region

- | | |
|---------------------------------------|---|
| 1. Veterinary dispensary Puducherry | 6. Veterinary dispensary Thirukannur |
| 2. Veterinary dispensary Ariyankuppam | 7. Veterinary dispensary Thattanchavady |
| 3. Veterinary dispensary Bahoor | 8. Veterinary dispensary Villiyanur |
| 4. Veterinary dispensary Kariamanikam | 9. Veterinary dispensary Sivarandhagam |
| 5. Veterinary dispensary Madagadipet | |

Karaikal Region

1. Veterinary dispensary Karaikal
2. Veterinary dispensary Nedungadu
3. Veterinary dispensary Thennangudi
4. Veterinary dispensary Neravy
5. TR. Pattinam
6. Veterinary dispensary Kottucherry

Yanam Region

- ◆ Veterinary dispensary Yanam

Mahe Region

- ◆ Veterinary dispensary Mahe.

INTEGRATION AND STRENGTHENING OF REPORTING SYSTEMS

- ◆ To collect information on confirmed human rabies cases / suspected human rabies cases / dog bite cases / animal to animal bite cases.
- ◆ Since Rabies is a **Notifiable disease** in UT of Puducherry, SOPs will be developed for exchange of information and data sharing among the health, animal husbandry, and municipality and forest departments.
- ◆ Reporting by Private Veterinary Practitioners regarding dog bites and other animal bite cases will be made mandatory. Private Practitioners will report to IDSP in a prescribed format monthly.
- ◆ 'Kalnadaikural' Rajiv Gandhi Institute of Veterinary Education and Research (RIVER) 24x7
- ◆ Livestock helpline services to be extended for reporting animal bites.
- ◆ Though rabies is a notifiable disease, it is mandatory to report the animal bite case (Dog to Dog, Dog to Livestock, Dog to other Animals) in all Govt. Veterinary Dispensary / Veterinary College and wild animals in UT of Puducherry.
- ◆ Any dog bite case, cases suspected of rabies and death of animal species such as Cattle, Dog, Cat, Goat, Sheep, with history of rabies like symptoms should be shared with Rabies counterparts for further follow-up eg. Ring vaccination, PEP etc.
- ◆ The nodal officer should disseminate the reports to all the stakeholders once a month so that action can be initiated at the earliest.

SERO MONITORING/ SEROSURVEILLANCE PLAN

Blood sample collection from Stray Dog

Components of the Surveillance Systems

The surveillance system for domestic / wildlife animal Rabies has the following component :

The surveillance programme for the animal includes :

1. Laboratory Surveillance
2. Serological Surveillance as per the standard guidelines by Department of Animal Husbandry and Dairying (DAHD).

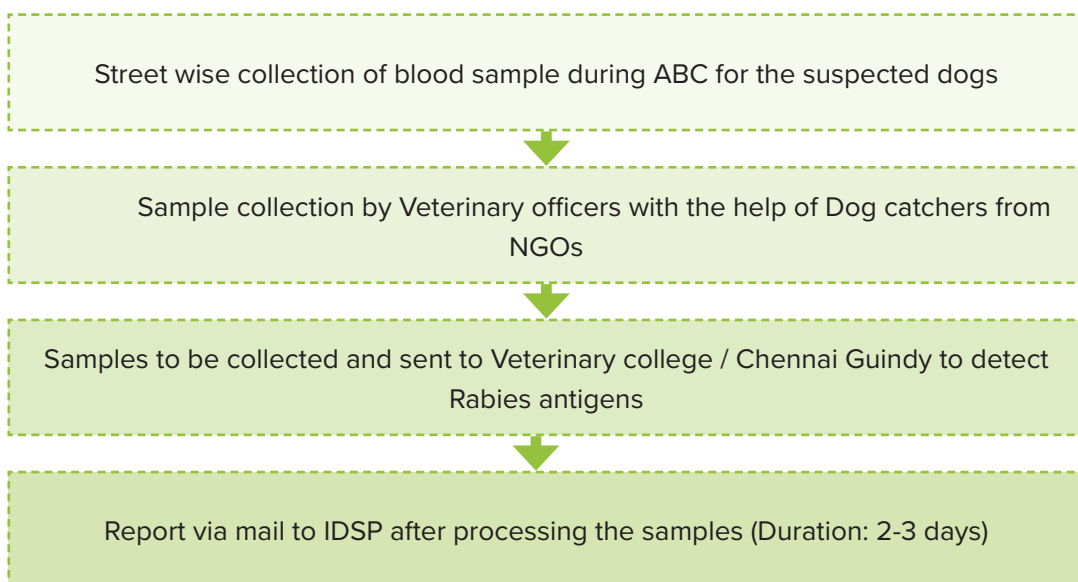
SURVEILLANCE OF RABIES IN ANIMALS

Clinical Surveillance - all animals (Livestock, Pet, Stray and Wild Animals) having clinical signs of rabies or sudden deaths in animals due to unknown causes but not confirmed by the lab.

Laboratory surveillance - Lab-based surveillance will be performed when the suspected/confirmed animal is dead and post mortem is done.

Laboratory confirmation is required to confirm whether the animal had Rabies or not. This is important when the dog is known to cause dog bites in a particular area.

Virological Surveillance - The brain tissue samples from carcasses (especially dogs and cats) shall be collected and subjected to a rapid antigen detection test and PCR / FAT to find a Rabies case. Samples tested positive to PCR/ FAT will be archived for molecular analysis and research purposes to identify the circulating virus in the region.



6

Efforts undertaken by the Municipal Corporations

EFFORTS UNDERTAKEN BY THE MUNICIPAL CORPORATIONS

In the urban areas, municipal corporations undertake stray dog management according to the 'Animal Birth Control (Dogs) Rules'. The Municipal Council dog-squad picks up unsterilized dogs (males and females), which are then neutered/sterilized, vaccinated with the Anti-Rabies Vaccine, and returned to their locality after 2 - 4 days. The right ear of the dog is clipped to indicate that it is sterilized.

Status of Animal Birth Control in the Puducherry Municipality

S.NO	Period	Name of NGOs	Total Nos. of dogs caught and ABC, ARV conducted		
			Male	Female	Total
1	April-2016 to March 2018	M/s. Vet for Animals 4983	5839	10822	
2	February 2019 to October 2021	Blue Cross of India	68	56	124
3	October 2020 to January 2021	Veterinarian Welfare and Animal Aid Society of Puducherry	432	64	496
4	March 2021 to June 2022	Veterinarian Welfare and Animal Aid Society of Puducherry	634	285	919
Total			6117	6249	12361

EFFORTS BY NON-GOVERNMENT ORGANIZATIONS AND PRIVATE SECTOR

- ◆ Several NGOs and Animal Welfare organizations are undertaking dog population management and vaccination programs and thus playing an important role in the fight against Rabies. Veterinarians across the state in urban

areas conduct awareness shows, vaccinations programmes in coordination with NGOs. Puducherry UT to enhance the dog population management such as ABC-ARV under the National Rabies

- ◆ Control Programme to eliminate the free rabies in the UT of Puducherry.

THE FIELD TEAMS INVOLVED IN THE DAY-TO-DAY RABIES CONTROL ACTIVITIES ARE AS FOLLOWS-

- ◆ Medical Health officers
- ◆ Veterinary officers
- ◆ Nurses/ANMs/ASHAs
- ◆ Wildlife officers
- ◆ Municipality Veterinary officer and Health Officer





Prevention and Control of Rabies

PREVENTION AND CONTROL

VISION AND MISSION OF THE SAPRE

VISION

To achieve zero human deaths due to dog-mediated Rabies by 2030.

MISSION

To progressively reduce and ultimately eliminate human Rabies, mass dog vaccination and appropriate post-exposure treatment.

KEY PRINCIPLES OF SAPRE

The State Action Plan for Rabies Elimination (dog mediated) in Puducherry is based on the following

three key principles as per the NAPRE guidebook:

- ◆ **Prevention:** Introduce cost-effective public health intervention techniques to improve accessibility, affordability, and availability of post-exposure prophylaxis to all people in need.
- ◆ **Promotion:** Improve understanding of Rabies through advocacy, awareness, education, and operational research.
- ◆ **Partnership:** Provide coordinated support for the Anti-Rabies drive with the involvement of community, urban and rural, government, private sectors, and NGOs.

THE COMPONENTS OF SAPRE:

The State Action Plan Rabies Elimination (SAPRE) has two components to achieve the Elimination of Dog Mediated Human Rabies:

- ◆ **Human health component:** To prevent human deaths due to Rabies by ensuring timely access for post-exposure prophylaxis for all animal bite victims and creating a well responsive Public Health System.
- ◆ **Animal health component:** To achieve at least 70 to 80 % Anti Rabies vaccination coverage among stray dogs/pet dogs in and around the UT of Puducherry.

STRATEGIES OF SAPRE

The strategies of both human and animal health components are described as under:

Strategies of Human health component of SAPRE:

The key strategic actions to achieve the objective of the human health component are as under:

Human Vaccines:

Sustained availability & easy accessibility of Anti Rabies Vaccine (ARV) and Anti Rabies Serum (ARS) to all animal bite victims at the State/ District Hospitals CHCs, PHCs, ESI.

Implementation of ID route ARV in the dog bites case attending in all PHCs and CHCs and sensitization of all health professionals both government and private sectors to routinely practice ID route instead of IM route for Rabies prophylaxis.

Strengthening infrastructures for treating the victims of animal bites by establishing Model Anti Rabies Clinics.

- ◆ Ensuring availability of trained manpower concerning appropriate animal bite management/ID inoculation/ ARS infiltration.
- ◆ ARV and ARS are procured and supplied by Govt, Pharmacy to all institutions.
- ◆ Availability of WHO pre-qualified vaccines and RIG to high-risk and exposed individuals
- ◆ RIG (ERIG and HRIG) available only in district hospitals and recommendations to be in place for supply of ARS in all the health facilities.
- ◆ Develop SOPs for sharing of information between sectors, been agreed upon at a State level.
- ◆ Draft a SOP for Outbreak response and the same to be shared with Animal husbandry department and Municipality.
- ◆ Prepare SOPs for an active response to outbreaks.
- ◆ Uniform SOP to be followed. To engage rapid response teams for an outbreak.
- ◆ Cold chain will be maintained (in refrigerator) and distributed from Central Government Pharmacy to all the districts and then distributed to all the health facilities (PHCs,CHCs).

CAPACITY BUILDING OF PROFESSIONALS IN APPROPRIATE ANIMAL BITE MANAGEMENT

- ◆ Training of health professionals and paramedical on Rabies pre & post-exposure prophylaxis as per National Guidelines.
- ◆ Training of State, district and below District level health care professionals on program management aspects.

- ◆ Joint training of Health and Veterinary professionals on the operational aspect of the Rabies Elimination plan.
- ◆ Training and capacity building of laboratory professionals on Rabies diagnostics.
- ◆ Training on Surveillance of Animal Bites and Rabies Case investigations and Notification.

STRENGTHENING SURVEILLANCE OF ANIMAL BITES AND RABIES CASES IN HUMAN

Ensuring implementation of Rabies notification in Human health sectors through the web portal for notification of animal bite victims/Rabies cases.

- ◆ Strengthening periodic reporting system about animal bites and Rabies incidence through IDSP and IHIP.
- ◆ Resource mapping – mapping the facilities (State/ District wise) for management of Animal bite victims, Treatment facilities for suspected Rabies cases or Infectious Diseases hospitals and mapping of laboratories for Rabies diagnostic.
- ◆ Establishing Sentinel surveillance system for animal bite cases through Model Anti Rabies Clinics

STRATEGIES FOR ANIMAL HEALTH COMPONENTS:

- ◆ A monitoring unit at district level to strengthen monitoring, supervision of procurement, availability, surveillance, and quality of Anti-rabies vaccines as per OIE standards/ agencies licensed at National Level will be done by Animal Husbandry and Municipality who will help in surveillance.
- ◆ Sero surveillance samples collected by field veterinarians to be sent to higher labs periodically to ensure efficacy and quality of vaccine. Samples will be sent to Chennai Diagnostic Labs for Rabies antigen detection.
- ◆ The State Animal Welfare Board, Dept. of Animal Husbandry and Animal Welfare and Municipality will monitor the progress towards elimination of Rabies.
- ◆ Identification and Quarantine of Rabies suspected dogs in Kennel/ shelters (i.e.) an isolation wards for rabies suspected animals) for which funding will be obtained from AWBI.
- ◆ Training of dog catchers will be done through funds from Municipality.
- ◆ Engagement of manpower for vaccination, dog catching and ABC programme.

ALL PET ANIMALS ARE GIVEN LICENSE AFTER ARV VACCINATION.

AH&AW State department Owned dogs

ARV – 2019	6,298
ARV – 2020	4,414
ARV – 2021	5,950

Veterinary College Owned dogs (ARV)

ARV – April 2018 to 2019	1385
ARV – April 19 to 2020	1665
ARV – April 2020 to 2021	1580
ARV – April 2021 to 2022	1422

Municipality – Issues license to owned dogs after ARV

ARV – 2016- 2018	10,822
ARV – 2019	124
ARV – 2020	496
ARV – 2021	919

- ◆ Mass Dog Vaccination (MDV) shall be carried out in all the districts in campaign mode. 5 camps to be arranged under each commune for a month towards MDV and almost 70% of vaccination to be achieved in a month.
- ◆ The funding will be sought from ASCAD scheme/ AWBI to cover more than 70% of dog population. Also PEP to all dog bite cases (including livestock) will be covered. The funds may be sought from Ministry of Animal Husbandry Department towards Primary dose, Booster dose, vaccination accessories (Syringe and Needle, icepack, Capacity building, Vaccine carrier, gloves, Cotton swabs, disinfectants , clean rubber sheet, dog mouth cap)
- ◆ For Anti-rabies Vaccine Campaign, Mobile Veterinary Unit funded by GoI will be utilized.



One Health Approach for Rabies Elimination

ONE HEALTH APPROACH FOR RABIES ELIMINATION (SAPRE)

Rabies is a Zoonotic disease and its prevention and control largely depend on multi-sectoral collaboration in the Health, Veterinary sector and wildlife, Local administrative department, municipality including commune wise. The collaborative, multi-sectoral, and trans disciplinary approach is named as 'One Health' approach for rabies elimination. It mandates work at the local, regional, national, and global levels- to achieve optimal health outcomes by recognizing the interconnection between people, animals, plants, and their shared environment.

The concerted effort from the Animal Husbandry sector, Human Health sector, Local governing bodies, communities forest and wildlife, and other stakeholders should have a unified approach. This paves way to detect, respond to, and prevent outbreaks of Zoonoses and food safety problems, epidemiological data and laboratory information which may be shared across sectors.

Government officials, researchers, and workers across sectors at the local, national, regional, and global levels should implement joint responses to health threats. The target of Rabies Elimination can only be achieved by sustained and synergistic political commitment.

THE CHALLENGES FOR REALIZING ONE HEALTH IN THE CONTEXT OF RABIES INCLUDES:

- ❖ Coordination between the departments
- ❖ Large stray dog population
- ❖ Fragmented activities of animal health components such as dog population management and dog vaccination across the sectors.
- ❖ Lack of structured mechanism of data sharing across human and veterinary sectors.
- ❖ Lack of awareness among professionals as well as general communities about the legal framework.
- ❖ Launch of communication campaign by obtaining consent of all the concerned departments.

- ◆ The State Action Plan for Dog Mediated Rabies Elimination is based on the One Health Vision and spells out the role and responsibilities of all the stakeholders at all levels to address the above list of challenges.

LIST OF STAKE HOLDERS

1. Department of Health
2. Department of Animal Husbandry
3. Department of Wildlife/ Forest.
4. Department of Municipality
5. Department of Panchayati Raj
6. Department of Education

9

Laboratory Diagnosis of Rabies

Rabies, an acute progressive, fatal encephalomyelitis, transmitted through the bite of a rabid animal, is responsible for an estimated 61,000 human deaths worldwide. The true disease burden and public health impact due to rabies remain underestimated due to lack of sensitive laboratory diagnostic methods. Therefore, timely diagnosis of rabies can help to initiate prompt infection control and public health measures, obviate the need for unnecessary treatment/medical tests, and assist in timely administration of pre- or post-exposure prophylactic vaccination to family members and medical staffs.

Ante-mortem diagnosis of human rabies provides an impetus for clinicians to attempt experimental therapeutic approaches in some patients, especially after the reported survival of a few cases of human rabies. Recent advances in technology have led to the improvement or development of several diagnostic assays which include methods for Rabies Viral Antigen and Antibody Detection and Assays for Viral Nucleic Acid Detection and identification of specific biomarkers.

The diagnosis of Rabies is essentially clinical however the role of rabies laboratory is undisputed and warranted in many situations.

IMPORTANCE OF LABORATORY CONFIRMATION OF HUMAN RABIES

- ◆ Confirmation of clinical diagnosis-especially in paralytic/atypical cases
- ◆ Patient Management/Barrier Nursing/Disinfection of ICU facilities
- ◆ Prophylactic vaccination to relatives, clinical & nursing staff
- ◆ Surveillance and estimation of disease burden
- ◆ Confirmation/Monitoring of disease-free status
- ◆ Characterization of causative agent/molecular epidemiology with regards to future scope for inclusion of surveillance of non-rabies lyssa virus in National Rabies Control Programme/National Action Plan for Rabies Elimination.

THE STRENGTHENING OF PUDUCHERRY VETERINARY COLLEGE FOR RABIES DIAGNOSIS AND SEROSURVEILLANCE

- ◆ Training of Veterinarians for Sample collection
- ◆ Pre exposure prophylaxis to be provided to all Vets, Paravets and vaccinators will be provided vaccination from Health department.



ROLE OF STATE LEVEL REFERENCE LABORATORIES

The SRLs will perform the serological and Nucleic Acid Amplification (NAAT) tests such as Direct Fluorescent Antibody Test (DFA), Real Time-Polymerase Chain Reaction (RT-PCR) and Enzyme Linked Immune Sorbent Assay (ELISA) for the diagnosis of suspected human and animal samples. In addition to performing these tests SRLs will provide the training to the district level laboratories.

ANIMAL DIAGNOSTIC LABS

- ◆ Provide training on brain sample collection, packing, transportation, processing of samples by LFA to district level laboratories (at least 2 /District).
- ◆ Test the samples by employing DFA/Direct Rapid Immuno histochemistry Test.
- ◆ Transport of samples (brain/serum) in the cold chain to the Regional Laboratory along with the details.

HUMAN DIAGNOSTIC LABS

- ◆ Undertake capacity building on the epidemiological and microbiological aspects of Rabies Diagnosis by using qualified ELISA, PCR, and FAT etc.
- ◆ Establish a system to regularly assess staff capacity to accurately diagnose suspect rabies samples (both human and animal).
- ◆ Proposal to be sent to NCDC for setting up Laboratory for Human Rabies Diagnosis and for recruiting manpower.
- ◆ Animal Rabies Diagnostic Laboratory will be established by seeking funds from NRCP/ through One Health Programme as per required standards.
- ◆ **For the UT of Puducherry, Rajiv Gandhi Institute of Veterinary Education and Research (RIVER) is identified as a centre for Regional Animal Rabies Diagnosis. Funding shall be sought from NRCP/ through One Health Programme.**
- ◆ Training of field Veterinarians for sample collection from rabies suspected animal cases/ PM cases funds from NLM will be sought.

IDENTIFICATION OF STATE REFERRAL LABORATORIES (SRL)

At least 2 SRLs (one for Human component and animal component) should be identified for each state to collect and diagnose rabies in humans as well as in animals. The laboratory with the following facilities may be chosen for the SRL.

The two SRLs are at IGMC and Veterinary college.

- ◆ Rajiv Gandhi Institute of Veterinary Education and Research, 17/5, Vazhudavoor road, Kurumbapet, Marie Oulgaret, Puducherry -605009(0413-2271671)
- ◆ Indira Gandhi Medical College and Research Institute, Kathirkamam, Puducherry, 605009.
- ◆ A separate sample collection area.

- ◆ A proper storage facility for temperature sensitive chemical/samples.
- ◆ A designated area for the preparation of reactions for the diagnosis.
- ◆ A separate air-conditioned area for the running of equipment's.
- ◆ A separate media preparation room is also available.
- ◆ A proper washing and cleaning area.
- ◆ A separate area for the laboratory staffs
- ◆ A designated area for storing and disposing the wastes
- ◆ Laboratory should have a microbiologist to participate in the training programme on the diagnosis
- ◆ of rabies.
- ◆ Laboratory should abide by the bio-risk management guidelines.
- ◆ Laboratory should have the internal quality assurance system.
- ◆ Laboratory should have the external quality assurance system.

SAMPLING TECHNIQUES

Sampling and various laboratory tests are available for diagnosis of humans Rabies (Ante-Mortem & Post-Mortem) and animals (post-mortem) are as under:

SAMPLING FOR POST-MORTEM DIAGNOSIS IN HUMANS AND ANIMALS:

Brain tissue is the preferred specimen for post-mortem diagnosis in both humans and other animals. In many situations, it may not be possible to remove the brain for post-mortem sampling because of factors such as family consent or practical and bio safety issues related to the removal of animal brains in the field.

Some of these challenges can be overcome by collecting samples with effective, well-established techniques that require less invasive post-mortem routes, such as through the orbit or foramen magnum.

A diagnostic sample can be collected without opening the skull, for example by introducing a 5-mm drinking-straw or a 2-mL disposable plastic pipette into the occipital foramen in the direction of an eye or using a trocar to make a hole in the posterior wall of the eye socket and introducing a plastic pipette or straw.

Samples can be collected from the rachidial bulb, the base of the cerebellum, the hippocampus, the cortex, and the medulla oblongata. When a straw is used, it should be pinched between the fingers to prevent material from escaping on withdrawal.

Sampling for intra-vital diagnosis in humans Secretions, biological fluids (such as saliva, CSF, tears, serum), and some tissues (such as skin biopsy samples, including hair follicles at the nape) can be used to diagnose rabies during life. Although serum and CSF may not be very sensitive specimens for ante-mortem



diagnosis, particularly in the early course of illness, a positive result provides valuable diagnostic information. The samples that afford the highest diagnostic sensitivity are at least three saliva samples, taken at intervals of 3–6 h, and skin biopsies (including hair follicles). Ideally, samples should be stored at –20 °C or less.

Ideally, brain tissue should be kept refrigerated or frozen until testing. If this is not possible, samples can be preserved at ambient temperature in a 50% glycerine–saline solution. Freezing samples in glycerine is not recommended. The glycerine must be removed by washing prior to testing, and acetone fixation is not recommended before the direct fluorescent antibody test.

Examination of chemically fixed specimens for viral antigens can be both sensitive and specific if appropriate tissues and tests are used but is not recommended for routine diagnosis. If specimens are received in formalin, the duration of brain fixation should be approximately 7–14 days before embedding in paraffin. Wet tissue specimens should be transferred from formalin to absolute ethanol for subsequent molecular diagnosis and antigen detection.

For molecular studies and genetic characterization of viral strains, the impregnation of brain tissue or body fluid suspected of infection with RABV on filter paper containing proper inactivating chemicals allows safe, stable, cost– effective shipment of samples at ambient temperature. Effective viral inactivation should nevertheless be ensured before shipment.

REQUIREMENT FOR RABIES DIAGNOSIS IN SRL

Many tests will be reported from time to time for detecting rabies antigen/virus, assessing rabies antibodies in the SRL depends on the availability of appropriate facilities. The tests may be for detecting rabies antigen in ante-mortem specimens like skin, hair, CSF, or saliva, etc., or post-mortem specimens, including brain and salivary glands. The following tests may be conducted at the SRL or District level laboratories.

DFAT – Direct Fluorescence Antibody Test.

DRIT – Direct Rapid Immuno-histochemistry Test. RADT – Rapid Antigen Detection Test.

NAAT – Nucleic Acid Amplification Test.

ELISA – Enzyme-Linked Immuno-Sorbent Assay.

The labs with the following equipment's will be selected for the SRL to perform the tests:

- ◆ RT-PCR machine (NAAT assay)
- ◆ Fluorescent Microscope (DFAT)
- ◆ ELISA Reader and Washer (ELISA)

- ◆ Compound microscope (RADT)
- ◆ BOD Incubator (37 °C)
- ◆ In addition to these, other equipment such as refrigerator, deep freezer, micropipettes, spinner, weighing balance, PH meter, water bath, vortexes etc.

The consumables and reagents required:

- ◆ Anti-Rabies Nucleocapsid may be conjugated with Fluorosis thea cyanate
- ◆ Rabies Rapid Antigen Test Kit
- ◆ One-Step RT PCR Kit for rabies diagnosis
- ◆ RNA extraction kit
- ◆ Triazole™ reagent
- ◆ Acetone
- ◆ Ethanol
- ◆ Chloroform
- ◆ Phosphate Buffered Saline
- ◆ Mounting medium.
- ◆ Formalin
- ◆ Hydrogen peroxide
- ◆ Distilled water

INTERPRETATION OF THE RESULTS AND REPORTING TO THE NATIONAL PORTAL (IHIP)

The results of the diagnostic tests should be interpreted appropriately (i.e.) positive, negative, false positive and false negative. The necessary positive and negative controls should be used along with the test samples. The test results to be verified by the microbiologists (in IGMC and RIVER) and to be entered in the designated portal for rabies surveillance.

10

Dog Population Management and Public Health

Rabies is more common due to the bite of Stray Dogs. Free-roaming dogs may pose a serious risk to public health through dog bites and transmission of diseases such as rabies, leishmaniasis and human cystic echinococcosis (22).

These free-roaming street dogs can transmit infectious diseases to pet dogs, livestock, and wildlife, and may also predate livestock. Free-roaming dogs are often a source of nuisance through barking and may pollute areas with feces that leads to road traffic accidents. The risks of dog bites and the nuisance created can lead to poor human-animal relationships within the community and the risks to public health can have huge economic implications too.

Puducherry District dog population (Source from Municipality, 2022)

S. No	Municipality / Commune	Dog Census (Stray/ Pet)	Total
1	Puducherry Municipality	8000	8000
2	Oulgarate Municipality	9945	9945
3	Ariyankuppam Commune Panchayat	3065	3065
4	Bahour Commune Panchayat	2255	2255
5	Villianur Commune Panchayat	2100	2100
6	Nettapakkam Commune Panchayat	2245	2245
7	Mannadipet Commune Panchayat	2156	2156
		Total	29,766

Karaikal District dog population (Source from Municipality, 2022)

S. No	Municipality / Commune	Dog Census (Stray/ Pet)	Total
1	Karaikal Municipality	1600	1600
2	Kottucherry Commune Panchayat	1900	1900
3	Neravy Commune Panchayat	950	950

S. No	Municipality / Commune	Dog Census (Stray/ Pet)	Total
4	TR pattinam Commune Panchayat	850	850
5	Thirunallaru Commune Panchayat	1750	1750
6	Nedungadu Commune Panchayat	1316	1316
		Total	8366

Region Wise Stray Dog Census(Source from Municipality,2022)

S. No	Region	Dog Census
1	Puducherry	29,766
2	Karaikal	8,366
3	Mahe	897
4	Yanam	971
	Total	40,000

The International Companion Animal Management Coalition define dog population management as “To manage roaming dog populations and the risks these may present, including population size reduction when this is considered necessary”.

Dog population management (DPM) is not a time-limited project, but a system of services that must be sustained and adapted to change the way in which people keep and live amongst dogs. These free-roaming dogs roam freely in the community unrestricted by physical boundaries, though they may well return to a familiar property or feeding station to rest and eat. In fact, in most countries, many roaming dogs have an ‘owner’ but they are currently roaming unsupervised. Even those without a specific household may not be entirely unowned, they may be community dogs, with more than one household offering some form of care in the form of food, shelter or even limited veterinary care.

“ There is no evidence that removal of dogs has a significant impact on the dog population density or the spread of rabies. Mass culling of dogs should not be an element of a rabies control strategy: it is ineffective and can be counterproductive to vaccination programmes.

WHO 2013

Culling is often strongly opposed by local people especially when the methods used to kill dogs are inhumane and the suffering of dogs is visible on the streets. The community point of view is that culling is an in- humane but effective approach towards dog population management.

RE-HOMING

Re-homing centres can only provide temporary shelter before adoption to a new home. Removing dogs to re-homing centres requires a large infrastructure and it is difficult to meet both the physical and psychological needs of the dogs in such an environment. Hence, they are expensive.

DOG POPULATION MANAGEMENT

DPM aims to have a sustained influence on the processes within dog population dynamics to change the sub-populations of dogs in a targeted way. For example, reducing abandonment of owned dogs, reducing breeding in unowned and community dogs, and increasing community engagement will result in a smaller unowned dog population and a better cared for and stable population of community dogs.

Dog population dynamics differ between communities and therefore population management needs to be adapted to local conditions, there is no one size fits all solution. To design a tailor made DPM system you need to assess and understand your local dog population dynamics, and then continue to monitor the dog population to allow for evidence-based evaluation.

CANINE CATCH-NEUTER-VACCINATE RETURN (CNVR) GOOD PRACTICE GUIDES

CNR is where dogs are caught, surgically sterilized, and then returned to the exact location where they were caught. The aim of CNR is to minimise the process of reproduction in the population of dogs that are already roaming, stemming this source of the next generation of roaming dogs and creating a healthier population by reducing the energetic costs of reproduction and the stress and disease risks involved in breeding. It also prevents the birth and suffering of many puppies who would otherwise have died within their first year of life on the streets.

Dogs going through CNR are usually also vaccinated against rabies so that they cannot transmit this virus to other dogs or humans. Where these dogs make up a large proportion of the dog population, this vaccination through CNR can also create herd immunity, where enough numbers of the dogs become immune to rabies so that the virus can no longer persist and die out.

However, achieving herd immunity for rabies usually also requires concerted mass vaccination of the whole dog population, not just those dogs going through CNR. Epidemiological models looking at annual mass vaccination campaigns have suggested that at least 70% of the dog population needs to be vaccinated annually to keep above the critical proportion of immune dogs. This 70% target allows for population turnover – where some vaccinated dogs die, and puppies are born - between vaccination campaigns.

There is evidence to suggest that a combination of neutering, vaccinating, and returning dogs back into their community:

- ◆ Reduces the dog population
- ◆ Reduces the prevalence of rabies
- ◆ Reduces the number of dog bites
- ◆ Improves individual dog physical wellbeing
- ◆ Improves human-animal relationships between dogs and communities in which they live in.

CNR has been shown to have benefits, but we should note that it acts on just one part of dog population dynamics, all be it an important part. To achieve effective and sustainable management, it must be used in combination with other DPM services.

CNR can also be considered an alternative approach to removal of dogs from the street either through culling or sheltering – and may be particularly appropriate where the roaming dog population exceeds the potential number of adoptive homes.

There are a huge number of free-roaming, reproductively active dogs in the world. The number of street dogs is because of uncontrolled breeding and abandonment of both street and pet dogs. Free-roaming dogs may be a source of nuisance, potential risk to livestock and wildlife and pose serious public health risks. Appropriate solutions in dog population management must consider the specific problems faced within a community, the origin of the dogs, their movement patterns, behavior and reproductive activities, and the connectivity between the pet and street dog populations to successfully address the challenges within that community. Whilst CNR may be a useful tool in controlling dog populations, all surgical procedures have risks, and CNR creates the potential for welfare problems including injury, disease transmission and even death. Also, the potential longer-term detriments of elective neutering cannot be overlooked. To ensure good dog welfare standards are maintained, the focus of CNR needs to be on individual dog welfare as well as the number of dogs to be neutered.

STRATEGIES TO BE ADOPTED

The total dog population UT of Puducherry (as per 2019 census) –

- ◆ Pet dogs - 17,337
- ◆ Stray dogs – 19,687

Municipality – Issues license to owned dogs after ARV & have carried out ABC operations. The details given as under:

- ◆ ABC - 2016-2018 - 10,822
- ◆ AVC – 2019 - 124

- ◆ ABC -2020 - 496
- ◆ ABC - 2021 - 919
- ◆ Presently ABC done is insufficient. To cover more ABC operations, financial aid is to be sought from AWBI.
- ◆ The licensing of owned dogs is strictly implemented by the Municipality. It is renewed every year based on ARV.
- ◆ Enumeration of Dog population to be done as the last census was in 2019.
- ◆ The ABC/ARV centers need to be established in the whole district of Puducherry UT including rural areas (NGOs done ABC/ARV in urban areas only in Puducherry region).
- ◆ A system for training or refresh courses on responsible dog management for professionals in animal health at local level is proposed.
- ◆ Training will be imparted with the help of Rajiv Gandhi Veterinary Education and Research (RIVER), to all stakeholders at all levels. The funds will be sources through ASCAD/NRCP by Animal Husbandry Department Puducherry.
- ◆ Training on Rabies will be provided to Veterinary professionals and animals handlers, also both medical, para medical staff in private health sector in the UT of Puducherry.
- ◆ Plan will be developed by Animal Husbandry Department to create awareness for pet dog owners through periodical campaign and involve NGO s and other stake holders for effective management.

LIST OF NGOS-ANIMAL BIRTH CONTROL IN THE PUDUCHERRY (MUNICIPALITY)

- ◆ Blue Cross of India
- ◆ Veterinarian Welfare and Animal Aid Society of Pondicherry
- ◆ Bark India Charitable Trust
- ◆ Voice for Voiceless



Information Education Communication(IEC)

INFORMATION EDUCATION COMMUNICATION (IEC)

HEALTH DEPARTMENT

- ◆ Display of Banners, posters, and other IEC materials on dog bite management to create awareness among the public.
- ◆ Awareness programme for school students and training programme for medical students.
- ◆ Creating Awareness to public through audio visual aids and social media.
- ◆ Block Development Officer to be approached and with his help to form small scale rabies control programme.

ANIMAL HUSBANDRY

- ◆ Available Rabies awareness material with NAPRE shall be utilized for public awareness.
- ◆ Efforts will be made to include knowledge on Rabies in school and college curriculum.
- ◆ Awareness on Rabies can be created to schoolteachers by Veterinary college.
- ◆ Use of Media viz. social media, TV, Radio, Newspapers etc. for awareness
- ◆ Liaison will be created with Officials involved in Waste Management through Swachh Bharat Mission
- ◆ Involvement of NGOs and local bodies to participate in generating awareness.

CROSS CUTTING ISSUES HEALTH DEPARTMENT

- ◆ Establish an inter sectoral rabies task force, committee, or working group, including all relevant stakeholders at a local or State level, and define their meeting intervals.
- ◆ Establishing joint steering committee and district level committee for Rabies elimination.
- ◆ Drafting SOP for Rabies reporting and outbreak response.
- ◆ Mobilizing Funds from different agencies (Central and UT level)
- ◆ Training at different levels for Rabies elimination

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Involvement of Stakeholders

CREATING A MULTI-STAKEHOLDER COMMITTEE

Ideally, it will be the duty of the responsible government authority to bring together stakeholders for consultation. However, if they are unwilling or unable to do this, NGOs can create a working group themselves and feed back the findings to the relevant authorities.

The following is a list of possible stakeholders to be consulted. Those marked with a * are recommended as the minimum requirements of the committee.

Government* – usually local, but central will also be relevant for policy and statutes. Will be the key stakeholder if the programme is national. Several departments are likely to be relevant, including agriculture/veterinary, health, environment (refuse collection), tourism, education, and sanitation. (The government must be represented on the committee).

Veterinary community* – national governing body, veterinary professional association, private practitioner clusters and veterinary college

NGO community* – local, national, and international organizations working in animal welfare, animal rights and human health.

Animal sheltering, fostering and rehoming community* – both government/municipality-run and private/NGO-run organizations.

Educators – in schools and universities.

Local media – for education, publicity, and local support.

International bodies with relevant responsibilities – World Health Organization (WHO), World Organization for Animal Health (OIE) and worldwide veterinary associations.

Local community leaders/representatives*

Local community – both dog owners and non-owners.

SCOPE OF THE ABC-ARV MONITORING COMMITTEE

The committee shall meet periodically in the department every quarter to review the status of birth control and anti rabies vaccination administered to stray dogs and to discuss about the latest technological development in vaccination with the following function:

- a. To issue instruction for catching, transportation, sheltering, sterilization, vaccination, treatment, and release of sterilized vaccinated or treated dogs.
- b. To create public awareness, solicit co-operation and funding.
- c. To provide guidelines to pet dogs owners and commercial breeders from time to time.
- d. To get a survey done of the number of street dogs by an independent agency.
- e. To take such steps for monitoring the dog bite cases to ascertain the reasons of dog bite, the area where it took place and whether it was from a stray or a pet dog.
- f. To keep a watch on the national and international development in the field of research pertaining to street dog control and management, development of vaccines and cost-effective method of sterilization, vaccination.

ABC-ARV MONITORING COMMITTEE MEMBERS

- ◆ Directorate of Health and Family Welfare Services, Puducherry (National Rabies Control Programme)
- ◆ Senior Project officer from UNDP
- ◆ Directorate of Animal Husbandry and Animal Welfare, Puducherry.
- ◆ Rajiv Gandhi Veterinary Education and Research, Puducherry.
- ◆ Municipality – Oulgarate and Puducherry Municipality.
- ◆ Forest and Wildlife Department, Puducherry.
- ◆ NGOs

ROLE OF URBAN AND RURAL LOCAL GOVERNING BODIES (LGB)- (MUNICIPAL CORPORATION)

As per the Panchayat raj Act and Municipality act, the local self-government, councils, and corporations oversee implementing the ABC programs. These acts are to be implemented as per the guidelines (e.g., guidelines for stray dog vaccinations, and dog population management).

The activities envisaged for LGB are:

- ◆ Advocacy, Training, and capacity building of Panchayati Raj Institution (PRI) members on prevention and control of Rabies in their ward.
- ◆ Members can immediately Report to A.H, Health Dept. when an unusual incidence of dog bite or potentially Rabies case in their respective ward is noted.
- ◆ Members can ensure that human bite victim (exposed) gets proper (full dose) medical treatment.
- ◆ Provide a list of patients exposed to animal bites and the same be maintained in the respective ward and follow up measures to be done strictly.

- ◆ Monitor and strictly implement mass vaccinations campaign of dogs in their respective ward/Villages.
- ◆ Encourage pet dog registration in their wards/constituencies.
- ◆ Monitor pet owners and encourage them to register and vaccinate their pets.
- ◆ Monitor Mass Dog Vaccination and Dog Population Management plans undertaken by the concerned agency.
- ◆ Coordination with health and veterinary sectors for strategic Mass vaccination of stray dogs.
- ◆ Monitor solid waste management and garbage disposal areas in their wards and Identify problem areas of waste collection points and ensure proper waste management to prevent conglomeration of stray dogs in such areas.
- ◆ Information sharing on animal bites and Rabies cases to the local animal husbandry department, health department and local authority.
- ◆ To provide required logistics for undertaking Dog population Management and Mass stray dog vaccinations such as dog pounds (ABC Centre with Operation Theatre/ Mobile Clinic & Dog Kennels), Dog Vans & Logistic Support to run the program as per the ABC (Dogs) Rules, 2001.
- ◆ Monitoring of slaughterhouses and meat stalls with existing laws (Food Safety and Standards Authority of India, licensing, and Registration, 2011) and regular monitoring of waste generated from these units.
- ◆ To collect waste from vegetable, fruit, flower, meat, poultry, and fish market on a day-to-day basis and promote setting up of decentralized compost plant or bio-methanation plant at suitable locations in the markets or near markets ensuring hygienic conditions to accumulation of waste which would attract dogs (free-roaming dogs & community owned dogs).
- ◆ Special focus on preventing the disposal of animal carcasses in and around peripheral areas of villages, towns, cities and around forest areas to avoid easy availability of food for Free roaming dogs and scavenging wild animals and further prevent the interactions between wildlife & domestic animals.

ROLE OF DIRECTORATE OF EDUCATION

Children are most vulnerable to dog bites. It is therefore important to include Rabies in the formal education system at all levels in the UT of Puducherry

- ◆ Prevention of Rabies and animal bite management to be incorporated in the school health program.
- ◆ Inclusion of the basic prevention and control measure for Rabies in the school curriculum to sensitize children and youth about the disease and measure to be undertaken in case of animal bites.
- ◆ Capacity building of teachers on first aid measures in the event of animal bites.
- ◆ To ensure that dogs in and around school premises are vaccinated.
- ◆ Ensure proper waste management in school compounds to prevent access to garbage to free- roaming of owned dogs.

ROLE OF SWACHH BHARAT MISSION (SBM)

- ◆ Steps should be taken to exclude dogs from access to the sources of food (e.g., rubbish dumps and abattoirs, and Installing animal-proof rubbish containers.
- ◆ Swachh City Plans under SBM could consider including steps to install animal proof rubbish containers.
- ◆ Monitor solid waste management in their wards and identify problem areas of waste collection points and ensure proper waste management to prevent conglomeration of stray dogs in such areas.
- ◆ Community awareness and IECs on maintaining clean neighbourhood.
- ◆ Strict monitoring of waste generated from slaughterhouses and meat stalls with existing laws i.e., Food Safety and Standards Authority of India (FSSA Regulations) (licensing and Registration) 2011.

ROLE OF PRIVATE PARTNERS, NON-GOVERNMENT SECTORS, PROFESSIONAL MEDICAL AND VETERINARY ORGANIZATIONS.

The elimination of dog-mediated rabies envisages active participation of the Private and NGO sector.

The key roles identified are as follows:

- ◆ Develop a strong volunteer network for community engagement & mobilization.
- ◆ Promotion of Anti Rabies vaccination campaigns.
- ◆ Promote responsible pet ownership.
- ◆ Intensify Rabies awareness education and interpersonal communication campaign.
- ◆ Surveillance/reporting of suspected animal & human Rabies cases.
- ◆ Ensure animal bite management in humans and animals.

RESPONSIBILITY OF ANIMAL HUSBANDRY DEPARTMENT / WILDLIFE DEPARTMENT

- ◆ Identifying the rabid animal/dog
- ◆ Quarantine of the rabid animal/dog
- ◆ Identifying any other sick animal/dog in the urban and rural area
- ◆ Mass canine Vaccination in identified area.
- ◆ Dedicated manpower
- ◆ Regular Mass canine rabies vaccination
- ◆ Regular Humane dog population management
- ◆ Vigorous Community education
- ◆ Frame/ enforce rabies control laws.
- ◆ Strengthening & establishment of check post/quarantine centers
- ◆ RRT and State and District Zoonotic Committee to be constituted.

ROLE OF HEALTH DEPARTMENT

- ◆ The established Anti-Rabies Clinic in all the Primary Health Centers, Community Health Centers, and ESI Hospitals with all the required logistics / intra dermal trained staff.
- ◆ Proper dog bite data entry (name, address, mobile no., detail of village type of exposure, type of animals, etc.)
- ◆ Inter sectoral coordination between both Health and Veterinary for share the information regarding animal bites cases/ Cluster of Dog bites to Municipality and Animal Husbandry Department for further action.
- ◆ The Health Department to make adequate availability of both ARV & ARS in all district Hospitals and ARV in all Primary Health Centers and Community Health Centers, ESI Hospitals.
- ◆ Early warning protocol to be developed.
- ◆ Activities for awareness creation to be performed during the World Rabies Day.

13

Surveillance of Rabies

Surveillance is the process of systematic collection, collation, and analysis of data with prompt dissemination to those who need to know, for relevant action to be taken. A well-functioning disease surveillance system provides information for planning, implementation, monitoring and evaluation of public health intervention programmes.

Surveillance is a key element in SAPRE so that problems can be identified, and actions can be undertaken in a timely manner. A dedicated surveillance system each for human and animal health components (veterinary and wildlife) with linkages at the appropriate level and systematic data sharing on the defined parameter is a prerequisite before targeting a geographical area for control and progressive elimination of Rabies.

COMPONENTS OF THE SURVEILLANCE SYSTEMS

The surveillance system for human rabies and domestic / wildlife animal Rabies has the following component: -

1. Priority Events / Data Parameters
2. Disease Notification
3. Data Nodes/ Data Generation points
4. Responsible officers
5. Recording and Reporting Mechanism
6. Monitoring and Evaluation
7. Support functions
8. Data Sharing & Intersectoral coordination
9. Infrastructure and logistics
10. Information Education and Communication.

SURVEILLANCE OF HUMAN HEALTH COMPONENT ON SAPRE

The surveillance programme includes Clinical/Physical, Laboratory and Serological Surveillance as per the standard guidelines by MoHFW. Recording & reporting of every case of Animal bite victim and Rabies cases occurring in the community is an essential step for maintaining the surveillance.

HUMAN RABIES NOTIFICATION

Name: _____

Age: _____

Sex: _____

Address: _____

Biting Animal (Dog/Cat/Monkey/ any other. specify):

Date of Bite /Scratch: _____

Geographical (Location) of Biting event (s) _____

Date of Bite: _____

Category of Bite(I, II, III) : _____

PEP given Yes/No: _____

IM/ID : _____

Immunoglobulin given: Yes /No _____

Case definition: suspect/probable/laboratory confirmed. _____

Date of Diagnosis: _____

Date of Death (If applicable in some cases notification may proceed mortality)

REPORTING AND ENTRY OF HUMAN RABIES CASES

All suspected, probable and laboratory confirmed Human rabies cases to be reported to state nodal officer and in IHIP portal by all government and private hospitals.

SURVEILLANCE OF ANIMAL HEALTH COMPONENT ON SAPRE

The surveillance programme for the animals includes Laboratory and Serological Surveillance as per the standard guidelines by the Department of Animal Husbandry and Dairying (DAHD). Recording and reporting formats for surveillance of Animal Rabies needs to be available at all animal health facilities at Block, District and State levels.

GENERAL GUIDELINES FOR PET OWNERS

To be a responsible pet owner one should protect the pets and keep vaccinations up to date. Pets should not be allowed to roam.

- ◆ Do not leave food of any kind outside the home and Use garbage can with lids to avoid attracting stray animals.
- ◆ It is against the law to own wild animals as pets. If you see a wild animal acting strangely, report it to the local administrative bodies. Do not go near it.
- ◆ Bats and other wild animals should be kept out of dwellings by closing any small opening they can use to enter.
- ◆ If the pet is bitten or has had physical contact with a potentially rabid wild animal, wear gloves to examine or wash your pet. Contact your local veterinarian for further advice.

EVENTS BASED SURVEILLANCE SYSTEM AND PUBLIC HEALTH ACTION TO BE TAKEN FOR ANIMAL HEALTH SECTOR

Observed abnormal behavior in a stray animal (dogs running amok or causing unprovoked bites) Following events could be observed in the veterinary sector.

ACTIONS TO BE TAKEN

- ◆ Complete Epidemiological Investigation of the event and active case search in and around areas.
- ◆ Follow up of the animal that had bitten the livestock/pet animal – status alive or dead.
- ◆ Notify the authorities in standard Format- Block/ District with Unique Case ID / State/National Level.
- ◆ Conduct Risk Assessment and ensure PEP of those in contact with suspected animal.
- ◆ In case of death, send the biological sample to the lab with TPL.
- ◆ Issue advisory/ IEC about dead body disposal and use of milk or meat in case of livestock animal

DEATH OF A PET FOLLOWING ANIMAL BITE / UNEXPLAINED DEATH WITHOUT H/O EXPOSURE OR DEATH OF A LIVESTOCK FOLLOWING ANIMAL BITE/UNEXPLAINED DEATH WITHOUT H/O EXPOSURE

ACTION TO BE TAKEN

- ◆ Complete an Epidemiological Investigation of the event and enquire about the status of vaccination.
- ◆ Follow up of the animal that had bitten the livestock/pet animal – status alive or dead).
- ◆ Send sample to the lab in the TLP (Saliva/Brain tissue if dead).
- ◆ Issue advisory/IEC about use of Dead body disposal and use of milk or meat in case of livestock animal.

- ◆ Notify the respective authorities.
- ◆ Do Risk Assessment and ensure PEP of those in contact with the dead animals.

UNEXPLAINED DEATH OF WILD ANIMAL (CAPTIVE AND FREE ROAMING BOTH)

The event can be observed by a common man / Forest dweller / Workers / Woodcutters / wildlife officer / forest officers / veterinary / Health care worker etc.

ACTION TO BE TAKEN

Immediately inform the concerned wildlife officer/ Commune Panchayats

- ◆ Complete Epidemiological Investigation of the event through RRT.
- ◆ Send sample to the lab in the TLP (Saliva/Brain tissue if dead).
- ◆ Issue advisory/ IEC about Dead body disposal and use of Milk or meat in case of livestock animal.
- ◆ Notify the respective authorities.
- ◆ Conduct Risk Assessment and ensure PEP of those in contact with the dead animals.

DEATH OF ANY STRAY ANIMAL-DOGS

The event can be observed by a common man/ vet/ municipal workers/ Health care worker etc.

ACTION TO BE TAKEN

- ◆ Immediately informed to the municipality veterinarian/ PRI and animals should be immediately removed from the community to prevent further risk of exposure. It should be confined and appropriate action to be taken as per local laws.
- ◆ The appropriate biological sample shall be taken after the death of the animal (samples from the central nervous system for laboratory diagnosis, if available).
- ◆ Active case search of cases and exposed animals in and around the area.
- ◆ Conduct Risk Assessment and ensure full Rabies PEP for those who are exposed

Events Based Surveillance System and Public Health action to be taken for Human health Sector– the event observed in the human health sector and action to be taken are as under:

DEATH OF HUMAN FOLLOWING AN ANIMAL BITE

Neuro-encephalitic cases with H/O animal bite or Death of a person following animal bite reporting to a health facility (ID Hospital / Tertiary care hospital / Suspected Death in community.

ACTIONS TO BE TAKEN

- ◆ Complete Epidemiological Investigation (search cases in and around areas, bitten by the same animal).
- ◆ Follow up of the suspected source (animal – status alive or dead).
- ◆ Collect the appropriate biological sample (Brain tissue) and transport it to the lab in the triple-layered packing.
- ◆ Notify about human death to the authorities.
- ◆ Do Risk Assessment Ensure PEP for contacts of suspected/confirmed Human Rabies Case.
- ◆ Sharing of data with Animal Husbandry/ Municipal authorities.

CASES ON ANIMAL BITES IN HUMAN

ACTIONS TO BE TAKEN

- ◆ Arrangement for timely provision of complete PEP.
- ◆ Counseling of the animal bite victim.
- ◆ Follow up for completion of PEP.
- ◆ All cases of animal bites to be analyzed on weekly basis in terms of time place and person to identify clustering and in terms of the Quality parameter as defined above.
- ◆ Periodic data sharing with respective Animal Husbandry/ Veterinary Depart and Local Government
- ◆ (Municipalities / PRIs).

STANDARD CASE DEFINITION TO BE USED FOR SURVEILLANCE SYSTEM:

A. STANDARD CASE DEFINITIONS FOR HUMAN RABIES

Rabies surveillance under the National Rabies Control Program and the Integrated Disease Surveillance Programme (IDSP) is of three types.

- ◆ Suspect Case has to be reported by a health care worker in S Form,
- ◆ Probable Case has to be reported by medical officer in P form and
- ◆ Lab confirmed case has to be reported by all Laboratories having confirmatory test facilities for Rabies in L form.

STANDARD OPERATING PROCEDURE FOR DOG POPULATION ESTIMATION

The population estimate of free roaming dogs (FRD) in the intended area for conducting Mass canine vaccinations and even animal birth control (ABC) is essential to:

- ◆ To estimate the magnitude of resources required for interventions such as MDV. For e.g., number of vaccines required, dyes, identification marks, bikes, manpower etc.
- ◆ To evaluate the efficacy of interventions and course correction for subsequent MDV campaigns.

A. METHODS FOR DOG POPULATION ESTIMATION

In the Indian context, the approach for estimating the canine population should be resource and time- efficient while simultaneously providing the most accurate estimate for meeting the target (at least 70% of dog population). Following methods are suggested for estimating the FRD population for vaccination: -

- ◆ **Mark-Release-Recapture Methods** such as the name suggest, a sample of dogs captured, marked in a manner that does not affect the animal survival and then released back into the population. Allow the marked dogs to mix randomly through the total population and then the dogs are captured a second time. The number of recaptured dogs (i.e. marked dogs) to first-time captures in the second sample gives the Lincoln-Petersen estimate of total population size. This method can be planned in two ways :
 - ◆ **Single-Sight (SS) Surveys** – AM survey is done involving 2 surveyors in each team, travelling on a 2- wheeler bike through all parts of an allocated zone and recording details of every dog they see. Both people keep a look out for dogs, one is responsible for driving and the other records details of the dogs sighted in the mobile phone App.
 - ◆ **Sight-Re sight (SRS) Surveys** – after conducting the SS survey, SRS is done to check the accuracy of SS This is done by conducting a survey again in the same region (1 or 2 days continuously) and then marking all dogs with a physical marker (such as dyes), or virtually (pictures of the dog through mobile app. All dogs seen on the second day are recorded irrespective of whether or not they were ‘marked’ as seen on the first day. A minimum of two surveys should be conducted and the details should be matched to ascertain the number of dogs seen once and those seen twice during the entire survey.
- ◆ **Through using statistical software** – The population estimate with 95% Confidence Intervals can be obtained by using the Application Super Duplicates tool <https://chao.shinyapps.io/SuperDuplicates/20> As per the review of literature currently available on dog enumeration, probabilistic models developed on capture- recapture technique is the most feasible method adapted for the Indian context which has provided the most accurate population estimation to actual dog population.
- ◆ **Through using the local animal census database** – The canine census has been included in the 2012 livestock census. If enumeration of the dog population is not possible, the block-level census could be used for planning. However, this is not recommended method as this could lead to under vaccination and shortage of resource material in the selected area.

- ◆ **By conducting local house to house questionnaire** – based surveys- to estimate the number of owned dogs. The mean number of owned dogs per household and dog: human ratios. Since the total human population or number of households is generally known through national population censuses, an estimate of the owned dog population can then be extrapolated.

PLANNING OF DOG ENUMERATION IN AN IDENTIFIED AREA

BEFORE YOU BEGIN

- ◆ Identify the number of villages/wards/administrative units where the MDV is being planned.
- ◆ Map the boundaries, the internal streets/roads of the village/wards/administrative units.
- ◆ Draw Detailed Street map of the selected block to ensure that every street is covered.
- ◆ Make a list of owned and un-owned dogs in the local community which would be called Community owned dogs. All dogs that conform to the definition of free roaming dogs must be included in the survey.

IDENTIFY & TRAIN THE SURVEY TEAM

- ◆ A minimum of two surveys should be conducted and the details should be matched to ascertain the number of dogs seen once and those seen twice during the entire survey.
- ◆ Standard Operating Procedure for Mass Dog Rabies Vaccination Campaign

PLANNING OF MASS DOG RABIES VACCINATION CAMPAIGN

A meeting with stakeholders (AHD, Health, Municipality, NGO, Rabies Committee) must be set to discuss the :

- ◆ The vaccination teams should be divided into groups and briefed on the schedule for the day, location, and the selected route.
- ◆ The team should be equipped with enough ARV while maintaining a cold chain to undertake MDV.
- ◆ Registration and permanent identification of all vaccinated dogs should be done with the issuance of a card for pet animals and with owners.
- ◆ In the case of free roaming/stray dog vaccination, dog handlers could be used to catch and restrain dogs humanely as per the ABC rule and be vaccinated.
- ◆ The use of a color spray of all vaccinated dogs as temporary marking could be done for the stray/community owned dogs.
- ◆ A survey should be undertaken soon after the completion of the MDV (within 3 days) of the campaign to assess the numbers of marked and unmarked dogs.

TRAINING OF VACCINATORS, VACCINE HANDLERS, AND DOG CATCHERS

- ◆ Only trained volunteers should be involved in MDV. The volunteer should be trained on proper vaccination techniques and humane dog catching. vaccine handlers must be trained on the proper handling, storage of vaccines, disposal of used materials and vaccine utilization reporting.
- ◆ All volunteers involved in MDV campaigns should complete the vaccination against Rabies through pre-exposure prophylaxis as they are considered high-risk personnel.

SELECTION OF VACCINATION STRATEGY

Four basic methods have been described below for conducting mass dog vaccination programme*:

House-to-house visits – field Mobile teams visit individual houses and vaccinate the pet animals.

Hospital/ clinic visits – Dog owners take their dogs/cats at any time to private or government veterinary clinics.

Vaccination camps – Temporary vaccination posts can be set up at a central location within villages or cities which are convenient and commonly used by the community members.

Capture/vaccinate/release campaigns – In case the program is merged with the sterilization program.

- ◆ **Mobile street vaccination plans** – For pet dogs, community dogs & FRDs where vehicles would be used for gauging the areas and setting the base for vaccination.
- ◆ **Combined approach of all the above methods** – e.g., house-to-house vaccination can be combined with vaccination camp and mobile street vaccination plan.

FACILITIES REQUIRED FOR MASS DOG VACCINATION AND POST-VACCINATION SURVEY.

1. **Manpower**
 - ◆ State Program Management unit
 - ◆ Support Staff for Logistics
 - ◆ Project Manager
 - ◆ Trained AI technicians
 - ◆ Veterinarians
 - ◆ Post-vaccination survey staff Dog Catchers
 - ◆ Laboratory staff

2. **Vaccine**

Anti-Rabies vaccine in the cold chain-maintained environment

- ◆ Communication devices
- ◆ Cool box with an ice pack
- ◆ Dog Catching equipment's – capturing nets, Capturing pole, etc.
- ◆ Disinfectant -Ethanol 70
- ◆ Vaccine and vaccine carriers
- ◆ Camera for digital records
- ◆ Marker pen (permanent)
- ◆ GPS Device
- ◆ Cotton/tissue paper
- ◆ Dog Registration card
- ◆ Sample label
- ◆ Needle and syringe (18 gauze, 10 ml)
- ◆ Relevant registers and Forms
- ◆ Hand gloves
- ◆ Dyes/Identification tools

3. **Diagnostics** – ELISA kits for antibody titration, Laboratory testing- courier charges/fees.

4. **Vehicle**

- ◆ Staff transport & goods
- ◆ Post vaccination survey motorcycle
- ◆ Vehicle for Field Team
- ◆ Rent/Fuel allowance.



Proposed Financial Plan

FUNDS PROPOSED FOR SAPRE

STATE NAME: UT OF PUDUCHERRY

State Action Plan for Dog Mediated Rabies Elimination by Puducherry 2030

Broad Component	Animal/ Human	Strategy	Action point from the UT of Puducherry
1. Surveillance	Animal Surveillance	Dog population census (Stray and Pets).	Total 40000 in the UT of Puducherry
		Establishment of helpline facility (with SOPs).	Call centre with Health / Animal Husbandry / LED
		History of Rabies incidences in Dogs.	Veterinary Hospital / PHC / Hospital/ commune wise
		Training of manpower sample collection (Vets and Para vets).	RIVER
		Strengthening of the existing veterinary.	Training
		Dispensaries and polyclinics (with regard to anti-rabies vaccine)	Enough cold chain facilities available
		Reporting of incidence to all the stakeholders.	Call Centre / Whatsapp
		Quarantine facilities for the suspected rabid dog.	To be established
	Human Surveillance	Training of the health workers regarding animal bite management.	Training / Periodical including Peripheral Health Centre
		Reporting of incidences to all the stakeholders.	Integrated Diseases surveillance program (IDSP)

Broad Component	Animal/ Human	Strategy	Action point from the UT of Puducherry
		Training of manpower sample collection.	To be initiated
		Establishment of helpline facility for healthcare workers/veterinary sector workers/common public (with SOPs).	Common portal service required
2. Prevention and Control	Animal	Strategy to be followed for the mass dog vaccination.	Engage NGOs to train personal to carry out mass vaccination
		Availability of ARV in all major and minor veterinary dispensaries.	Insufficient
		Manpower for vaccination.	Insufficient
		Developing the infrastructure for cold chain maintenance.	To be established
		Annual vaccination for stray and pet dogs.	NGO's to be involved for stray dogs / AHD for pet dogs
		PrEP for pet dogs.	Routine
	Human	Availability of ARV and ARS in the PHC and CHC level, respectively.	Available in PHC / ARS available only in GH
		Follow-up of patients for the complete course of PEP	Respective PHC will take care
		PrEP for the High-Risk Group.	To be identified by Municipality
		Identification of the existing healthcare facility for the Model Rabies Clinic.	Model Rabies Clinic has to be established separately.
3. Laboratory Diagnosis	Animal	Identification of District health facility for animal rabies diagnosis.	Yet to be established

Broad Component	Animal/ Human	Strategy	Action point from the UT of Puducherry
		Capacity building for laboratory diagnosis.	RIVER
		Sensitization of veterinary department for the rabies laboratory diagnosis.	Will be established
	Human	Identification of District health facility for human rabies diagnosis.	Yet to be established / IGMC&RI
		Capacity building for laboratory diagnosis.	Require proper training at District Level Hospital / IGMC
		Sensitization of clinicians for the rabies laboratory diagnosis.	Microbiologist has to be trained / IGMC &RI
4. Dog population Management		District dog population senses (Stray and Pets).	Through Municipality enumeration has to be inducted and re-numeration has to be given
		Strategy for dog senses (Stray and Pets).	Through Municipality enumeration has to be inducted and re-numeration has to be given
		Identification of manpower for dog catching.	Identified and trained
		Training of manpower for dog catching.	Training is mandatory
		Establishment of the dog Kennel management.	Involving various stake holders
		Castration/spaying of dogs.	Recruiting Veterinary doctors/NGO, AWBI

Broad Component	Animal/ Human	Strategy	Action point from the UT of Puducherry
5. IEC		Educating the public for good pet ownership.	Media / Schools / TV / Cinema
		Educating the society about community dog ownership.	Multimedia
		Education of children at school for preventing from animal bite.	All stakeholders should be involved / Animated Videos
		Distribution of leaflets/ pamphlets/booklets regarding rabies in Tamil and English.	Stakeholders
6. Cross cutting issues		Common digital platform for the stakeholders	Separate website with all data involving stakeholders
		Creation of joint taskforce which will include nodal person from all the stakeholders. Joint action during rabies incidences.	Combined action plan has to be taken with treating the encountered person / Ring vaccination in animals

DISTRICT NAME: KARAIKAL DISTRICT

**Action Plan for Dog Mediated Rabies
Elimination by Puducherry 2030**

Broad Component	Animal/ Human	Strategy	Action point from Karaikal District	
1. Surveillance	Animal	District dog population census (Stray and Pets)	Dog population presented totally 8366	
		Establishment of helpline facility (with SOPs)	Call centre with Health/ Animal Husbandry/ LED	
		History of Rabies incidence in Dogs	Veterinary Dispensary/ PHC/ CHC	
		Training of manpower sample collection (Vets and Para vets)	RIVER, Puducherry	
		Strengthening of the existing veterinary	Training	
		Dispensaries and Polyclinics (with regard to anti-rabies vaccine)	Facilities are available	
		Reporting of incidence to all the stakeholders	Call centre	
		Quarantine facilities for the suspected rabid dog	To be established	
		Human	Training of health workers regarding animal bite management	Training/ Periodical including PHC
			Reporting of incidence to all the stakeholders	Integrated Disease Surveillance Program (IDSP)
Training of manpower sample collection			To be initiated	
Establishment of helpline facility for healthcare workers/ veterinary sector workers/ common public (with SOPs)			Common portal service required	

Broad Component	Animal/ Human	Strategy	Action point from Karaikal District
2. Prevention and control	Animal	Strategy to be followed for the mass dog vaccination	Engage NGO's to train and carry out Mass Dog Vaccination
		Availability of ARV in all major and minor veterinary dispensaries	Sufficient only for pet dogs
		Manpower for vaccination	Insufficient
		Developing the infrastructure for cold chain maintenance	Need to be established
		Annual vaccination for stray and pet dogs	Engage NGO's to train and carry out Annual Vaccination
		PrEP for pet dogs	To be followed strictly
		Human	Availability of ARV and ARS in the PHC and CHC level, respectively.
Follow-up of patients for the complete course of PEP	Respective PHC or CHC will take care		
PrEP for the High-Risk Group	Need to be initiated by Municipality		
		Identification of the existing healthcare facility for the Model Rabies clinic	Need to be established

Broad Component	Animal/ Human	Strategy	Action point from Karaikal District
3. Laboratory Diagnosis	Animal	Identification of District Health facility for animal rabies diagnosis	Need to be established
		Capacity building for laboratory diagnosis	RIVER, Puducherry
		Sensitization of Veterinary department for the rabies laboratory diagnosis	Need to be initiated
	Human	Identification of District health facility for human rabies diagnosis	JIPMER, Karaikal
		Capacity building for laboratory diagnosis	JIPMER, Karaikal
		Sensitization of clinicians for the rabies laboratory diagnosis	Dept. of Microbiology, JIPMER, Karaikal
4. Dog Population management		District dog population census (Stray and Pets)	Municipality has to be involved with NGO's
		Strategy for Dog census (Stray and Pets)	Municipality has to be involved with NGO's
		Identification of manpower for dog catching	Engage NGO's
		Training of manpower for dog catching	Engage NGO's
		Establishment of the dog kennel management	Involving all stakeholders
		Castration/ Spaying of dogs	Veterinarians need to be recruited
5. IEC		Educating the public for good pet ownership	Through mass communication. E.g. TV, Radio, etc.,
		Educating the society about community dog ownership	Through mass communication. E.g. TV, Radio, etc.,

Broad Component	Animal/ Human	Strategy	Action point from Karaikal District
		Education of children at school for preventing from animal bite	Animated videos – visit schools
		Distribution of leaflets/ pamphlets/booklets regarding rabies in Tamil and English	Stakeholders need to be involved
		Circulation of visual advertisements in public forum	Stakeholders need to be involved
6. Cross cutting issues		Common digital platform for stakeholders	Website to be created with proper data in place involving the stakeholders
		Creation of joint taskforce which will include nodal person from all the stakeholders. Joint action during rabies incidence	Focused nodal person to be designated among each stake holders

REQUIREMENTS AND COSTING

A. HUMAN RESOURCE

Total number of people:

Vaccination Team:

- 1 Project Supervisor
- 2 Team leaders

60 Dog catchers/ In Puducherry there are 30 constituencies, and each constituency requires two dog catchers. So, a total of 60 nos. are required. May also be utilized from MLA funds.

1 Post vaccination Surveyor

Surveillance Team: 1 person.

One Hotline operator

Education Officer – 1 person

He shall be carrying out vaccination intimations, including informing the Panchayats, Municipalities, Veterinary Hospitals and NGOs about the date or

vaccination of their Village, as well as conducting education and awareness and attends to complaints, as well bite case management.

Veterinary Doctor (all municipalities and all commune panchayats)

1. Puducherry state = 7
2. Karaikal district= 6
3. Mahe district = 1
4. Yanam district = 1

B. VEHICLE REQUIREMENT

One four-wheeler vehicle for the vaccination net-catching teams

Five Two Wheelers:

Two for hand catching teams

One for post vaccination surveyor

One for Hand catching team leader

One for Education Officer

Financial Table for “Rabies controlled project for Puducherry”

(Jan 2024 to December 2026)

In UT of Puducherry 5 Municipality and 10 Commune panchayats viz

A. PONDICHERRY REGION:

1. Puducherry Municipality
2. Oulgaret Municipality
3. Ariyankuppam commune
4. Mannadipet commune
5. Bahour commune
6. Villianir commune
7. Nettapakkam commune

C. MAHE Municipality

B. KARAİKAL

1. Karaikal Municipality
2. Kotticherry Commune
3. Neravy Commune
4. T.R Pattinam Commune
5. Nedungadu Commune
6. Thirunalllar Commune

D. YANAM Municipality

OPERATION PLAN

TENTATIVE BUDGET PLANNED FOR UT OF PUDUCHERRY

Phase 1

Only mass vaccination Campaign and establishment of infrastructure in first year and to develop manpower, dog catching training in Puducherry state and district level people under the NGOs. Totally 40,000 dog population in the UT of Puducherry.

	Activity	Tentative Budget	Total cost(Rs)	Comments (If any)
Surveillance	Manpower	Rs.8000000 (For Enumeration of mass vaccination) 40000dog x 200	Rs. 8000000	Rs.200 / dog /first year mass vaccine
	Infrastructure	Rs. 500000	Rs. 500000	PC + Printer + Internet connections, etc..
	Training	Rs. 200000 /training	Rs. 200000/ training	Honorarium + Materials
	Logistics	ARV procure from AHD under ASCAD		Vaccine cost , if animal husbandry provide through ASCAD
	Dog catchers/ Veterinary assistant wages/ month	60x Rs 20000= Rs. 1200000/month	Rs. 1200000 Rs. 14400000/ year	In Puducherry there are 30 constituencies. Each constituency requires two dog catchers (total nos. required= 60) . May also be utilized from MLA funds
Prevention and Control	Cost for ARV and ARS	Rs.1200000+ Rs.650000= Rs.1850000	Rs.1850000	NRCP funds
	Infrastructure for cold chain maintenance	Rs. 350000 + Ice Box + Gloves + face mask = Rs. 400000	Rs. 400000	NRCP funds
	Manpower	Rs25000x15(Doctors) x12month= Rs. 4500000	Rs.4500000/ one year	Veterinarian doctor NGOs/ AWBI

	Activity	Tentative Budget	Total cost(Rs)	Comments (If any)	
	Logistics	Rs. 1200000 (Vaccines)	Rs. 1200000	Vaccine cost, if animal husbandry provides through ASCAD	
	Cost for PrEP (Human and Animal) Dog catchers/ Veterinary assistant	60 + 15 x 300 = Rs.22500	Rs.22500	PrEP for the High-Risk Group. Dog catchers/ Veterinary assistant	
Laboratory Diagnosis	Cost related to collection of Samples	100 No's * 200 = Rs.20000	Rs.20000		
	Cost related to the sample packaging and transportation.	100 No's * 200 = Rs. 20000	Rs. 20000		
	Logistic cost	Rs. 50000	Rs. 50000		
	Manpower(to transport the samples)	Rs. 5000	Rs. 5000		
	Cold chain maintenance	Rs. 5000	Rs. 5000		
		Total		Rs 3,117,2500 (3.10cr)	

The Tentative Total Cost required for District wise the UT of Puducherry

Phase I Mass vaccination

	Activity	Puducherry	Karaikal	Mahe	Yanam
Surveillance	Dog Population	29766x 200 Vaccine cost/ dog	8366 x200	897x200	971x200
	Manpower	Rs 5953200	Rs 1673200	Rs 179400	Rs 194200
	Infrastructure	Rs200000	Rs100000	Rs100000	Rs100000
	Training	Rs100000	Rs 50000	Rs 25000	Rs 25000
Logistics					
	60 Dog catchers/ wages/ month	46xRs20000= Rs 920000/ month Rs 11040000/ year	10x20000 Rs 200000/ month Rs 2400000/ year	2x20000 Rs40000/ month Rs 480000/ year	2x20000 Rs 40000/ month Rs 480000/ year
Prevention and Control	Cost for ARV and ARS	Rs 1400000	Rs 200000	Rs 125000	Rs 125000
	Infrastructure for cold chain maintenance	Rs 200000	Rs 100000	Rs50000	Rs50000
	Manpower (Vet. Doctor)	7x25000= Rs175000x12 Rs 2100000/ year	6xRs25000 Rs 150000 x12 Rs 1800000year	1x25000/ month Rs 300000/ year	1x25000/ month Rs 300000/ year
	Logistics	Rs 600000	Rs 300000	Rs 150000	Rs 150000
	Cost for PrEP (Human and Animal) Dog catchers/ Veterinary assistant	53x 300 = Rs 15900	16x300 Rs 4800	3x300 Rs 900	3x300 Rs 900
Laboratory Diagnosis	Cost related to collection of Samples	Rs 10000	Rs 5000	Rs 2500	Rs 2500

	Activity	Puducherry	Karaikal	Mahe	Yanam
	Cost related to the sample packaging and transportation.	Rs 10000	Rs 5000	Rs 2500	Rs 2500
	Logistic cost	Rs 30000	Rs 10000	Rs 5000	Rs 5000
	Manpower (to transport the sample)	Rs 2000	Rs 1000	Rs 1000	Rs 1000
	Cold chain maintenance	Rs 2000	Rs 1000	Rs 1000	Rs 1000
	Total	Rs 21,663,100	Rs 6,650,000	Rs 1,422,300	Rs 1,437,100

Total

Rs 31,172,500 (3.11cr)

Phase II- ARV/ABC

Dog population Management	Manpower ABC-ARV programme	40000 dog x Rs.1650 per dog	Rs.66000000 (6.6 cr)	ABC-ARV establish all the commune panchayats in the UT of Puducherry
	Logistics	ARV procure from AHD under ASCAD		ARV procure from AHD under ASCAD
	Infrastructure (Pre and Post-operative care)	Rs. 600000	Rs. 600000	Establishment of ABC centre at each commune 15 nos
	Training manpower	Rs. 200000	Rs. 200000	Doctors + Attenders
	Dog Kannel management	Rs. 100000	Rs. 100000	4 Persons

IEC	Organizing awareness campaign	Rs.200000 (10 Campaign)	Rs. 200000	UT of Puducherry
	Manpower			
	Logistics	-----		
	Material cost		Rs 100000	Posters / Pamphlets
	Advertisement cost	Rs. 200000	Rs. 200000	TV / FM
	Training manpower			
	Phase II	Total Cost	Rs:67400000 (6.74crs)/year	ABC-ARV

Phase II

Tentative Total Cost required for Districts wise the UT of Puducherry (ABC-ARV)

		Puducherry	Karaikal	Mahe	Yanam
	Dog Population	29766x 1650	8366 x 1650	897x1650	971x1650
Dog population Management	Manpower ABC-ARV programme	Rs 49,113,900	Rs 13,803,900	Rs 1,480,050	Rs 1,602,150
	Logistics				
	Infrastructure (Pre and Post-operative care)	Rs 300000	Rs 100000	Rs 100000	Rs 100000
	Training manpower	Rs 100000	Rs 50000	Rs 25000	Rs 25000
	Dog Kennel management	Rs 25000	Rs 25000	Rs 25000	Rs 25000
	IEC	Organizing awareness campaign	Rs.100000 (5 Campaign)	Rs.50000 (3 Campaign)	Rs.25000 (1Campaign)
	Manpower				
	Logistics	-----			

		Puducherry	Karaikal	Mahe	Yanam
	Material cost (Posters / Pamphlets)	Rs 25000	Rs 25000	Rs 25000	Rs 25000
	Advertisement cost	Rs 50000	Rs 50000	Rs 50000	Rs 50000
	Total	Rs 49,713,900 ABC-ARV	Rs 14,103,900 ABC-ARV	Rs 1,730,050 ABC-ARV	Rs 1,852,150 ABC-ARV
	Phase II (Total cost) District wise	Rs 67400000 (6.74cr)	ABC-ARV/ one year		
	Phase I	Rs: 31,172,500 (3.11cr)	Mass Vaccination for first year		

COSTING EXPLANATION:

The Veterinary Doctor salary is included in this project with the assumption that the Government Veterinary Doctors shall support the project for surveillance, postmortem of suspected animals and testing of samples. The project is worked out on the assumption that the dog catchers are locally recruited and trained by Mission Rabies. If it does not work out, and if migrant workers are going to be used, the accommodation and food expenses for all the dog catchers and Team leaders for 12 months Rs.15, 00,000 to be added to the costing.

Notes: 1) Vaccine cost: If Animal Husbandry department provides the vaccines from the department budget, Rs.10, 00000 shall be reduced from the project cost.

If one four-wheeler is diverted for this project by AH department from central funding for ambulance vehicle, Rs.600000 shall be further reduced from the project funding.

If vaccine and one four-wheeler are available as per notes 1 and 2, the Project cost shall be only Rs.36,73,000, which may be allotted out of NCDC budget or by MP funding or any other government support.

This project may be redesigned to carry out both sterilization and vaccination. For this redesigned project to carry out ABC and vaccination, the project cost shall be about Rs.6.73 crores (Rs.1650/dogX40000 dogs). In this case all the 5 Municipalities & 10 commune panchayats can fund the above cost out of their ABC funding.

If Mission Rabies is asked to carry out the project, Mission Rabies shall provide Project Management, the staff training and Mhealth App management and research of the project free of cost.

TWO DAYS WORKSHOP HELD AT PUDUCHERRY ON 27TH & 28TH APRIL TO DEVELOPMENT OF STATE ACTION PLAN FOR DOG MEDIATED RABIES ELIMINATION FROM PUDUCHERRY BY 2030

Directorate of Health and family welfare services, Puducherry organized two days workshop on the development of State Action Plan for Dog Mediated Rabies Elimination for Puducherry by 2030 on 27th and 28th April 2023 at Hotel Accord under National Rabies Control Programme, supported by UNDP India and the “Access and Delivery Partnership(ADP)”. ADP is a UNDP-led global project supported by the Government of Japan.”

The objective of the workshop was to develop state and district action plan for dog mediated rabies elimination from UT of Puducherry by 2030

The workshop was inaugurated by chief guest Hon’ble Lt. Governor of Puducherry, Hon’ble Chief Minister, Puducherry, in the presence of Hon’ble speaker Puducherry, Hon’ble Agriculture Minister, Puducherry, District Collector, Puducherry and dignitaries from Minister of Fisheries, Animal Husbandry, New Delhi, Deputy Director, NCDC, New Delhi, dignitaries from UNDP, New Delhi and consultant from NCDC new Delhi.

The following officials had participated in the two days workshop.

- a. Directors – Health and Animal Husbandry.
- b. Commissioners of all Municipality and all commune panchayats in UT of Puducherry
- c. UNDP National Programme Manager , health Systems Strengthening Unit, United Nations Development Programme.
- d. Senior Project Officer from UNDP.
- e. Medical Officers from all Primary Health Centers, Puducherry.
- f. Veterinary officers from Dept of Animal Husbandry, Puducherry.
- g. Officials from Rajiv Gandhi Veterinary Edu. & Research Institute.
- h. Officials from Indira Gandhi Medical College & Research Institute.
- i. Officials from Forest & Wildlife and
- j. Representative from NGOs.



List of Contributors

1. Dr. G.Sriramulu, Director, Health and Family Welfare Services, Puducherry
2. Dr. G. Latha Mangeshkar, Director, Dept. of Animal Husbandry and Animal Welfare Puducherry
3. Dr. R.Murali Deputy Director, Public Health, Puducherry
4. Dr. S.Guneswari, Chief Medical Officer, Govt. General Hospital, Nodal Officer, NRCP, Puducherry
5. Dr. K. Vivekananda, State Surveillance Officer/IDSP
6. Dr. Rajiv. R Joint Director, Dept .of Animal Husbandry and Animal Welfare, Puduchery
7. Dr. K. Coumrane, Joint Director cum Veterinary Officer Forest & Wild Life, Puducherry
8. Dr. P. KavitaVasudevan, HoD, Dept of Community Medicine, IGMCRI, Govt. Medical College, Puducherry
9. Dr. V. Banurekha, HOD, Dept. of Vetrerinary Public Health and Epidemiology, RIVER, Puducherry
10. Dr. Simmi Tiwari, Joint Director & Head, Centre for One Health, NCDC
11. Dr. Ajit Shewale, Deputy Director, Centre for One Health, NCDC
12. Dr. Tushar Nale, Deputy Director, Centre for One Health, NCDC
13. Dr. Debalina Mitra, Assistant Commissioner, Department of Animal Husbandry and Dairying, MoFAHD
14. Dr. Quincy Madona J., Senior Project Officer, UNDP
15. Dr. Chiranjeev Bhattacharjya, National Programme Manager - HSS, UNDP
16. Dr. S. Balaji, Consultant Microbiology, Centre for One Health, NCDC
17. Dr. Atul Anand, Consultant One Health, UNDP
18. Dr. B.Thulasiraman, Veterinary Medical Officer, Puducherry Municipality
19. Dr. P. Muralidarane, State Veterinary Consultant, NRCP, Puducherry
20. M. Jaisankar, Municipal Health Officer, Oulgaret Municipality Puducherry

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Zero deaths due to Human Rabies by 2030

Annexure: 1

THE PUDUCHERRY (PUBLIC) HEALTH ACT, 1973 (No. 5 OF 1974)

CHAPTER – V

PREVENTION AND CONTROL OF COMMUNICABLE DISEASES

Communicable or infectious diseases in general

35. For purposes of this Act ‘communicable disease’ or ‘infectious diseases’ means: -

- (a) anthrax,
- (b) cerebro spinal fever,
- (c) chicken pox,
- (d) cholera,
- (e) diphtheria,
- (f) enteric group of fevers,
- (g) erysipelas,
- (h) influenzal pneumonia,
- (i) infective hepatitis,
- (j) leprosy,
- (k) measles,
- (l) plague,
- (m) rabies,
- (n) relapsing fever,
- (o) smallpox,
- (p) tuberculosis,
- (q) tetanus,
- (r) malaria,
- (s) typhus,
- (t) virus encephalitis,
- (u) whooping cough, and
- (v) any other disease which the Government may, from time to time, by notification declare to be a communicable disease either generally throughout the territory or part thereof.

Annexure: 2

NATIONAL RABIES CONTROL PROGRAMME

MONTHLY REPORT OF ANIMAL BITE VICTIMS

Format I

Name of PHC/ Institution		
Reporting Month and Year		
Total no.of Patients attending ARC Clinic (New Cases Only)		
Animals & Species		
1. Dog		
2. Cat		
3. Monkey		
4. Any other Animals & Wild Animals(Cow , Rat, Rabbits, etc)		
Type of Dog		
Stray Dog		
Pet Dog		
Category of Bite		
1. Licks on intact skin		
2. Minor scratches or abrasions without bleeding		
3. Single or Multiple transdermal bites or scratches, licks on broken skin; Contamination of Mucous Membrane with saliva		
Age & Gender		
0-12 Years	Male:	Female:
13- 50 Years	Male:	Female:
60 & above	Male:	Female:
Wound Washing Facility at Anti Rabies Clinic (Yes/No)		
Vaccine Used at Anti Rabies Clinic		
1. Quantity Procured (Vials)		



2. Quantity Utilized (Vials)		
3. Mention shortage if any		
Anti Rabies Serum (Immunoglobulin) used at Anti Rabies Clinic		
1. Quantity Procured (Vials)		
2. Quantity Utilized (Vials)		
3. Mention shortage if any		
Vaccination given by		
IM Route (Essential schedule on day 0.3.7.14.28 days)		
ID Route (Updated Thai Red Cross Regimen 2-2-2-0-2)		
Post Exposure Treatment Received after Animal Bites		
1. Complete		
2. Partial		
3. No treatment		

Annexure: 3

NATIONAL RABIES CONTROL PROGRAMME MONTHLY REPORT OF HUMAN HYDROPHOBIA CASES

FORMAT II

Name of PHC/ Institution	
Reporting Month and Year	
Address	
Number of Human Rabies Deaths confirmed by Laboratory Tests	
Number of Human Rabies Deaths Diagnosed on Clinical ground only	
Animals & Species	
1. Dog	
2. Cat	
3. Monkey	
4. Any other Animals & Wild Animals(Cow , Rat, Rabbits, etc)	
Category of Bite	
1. Licks on intact skin	
2. Minor scratches or abrasions without bleeding	
3. Single or Multiple transdermal bites or scratches, licks on broken skin; Contamination of Mucous Membrane with saliva	
Post Exposure Treatment Received after Animal Bites	
1. Complete	
2. Partial	
3. No treatment	



Annexure: 5

Details of RRT Dept of Health Puducherry Under NRCP

SI.No	Name	Designation	Mob no	Mail id
1	Dr.S.Guneswari	Chief Medical Officer State Nodal Officer-NRCP	9367519072	guneswariravi63@gmail.com
2	Dr.P.Muralidarane	Veterinary Consultant	9894836633	mdaran82@gmail.com

Details of Veterinary Officers in State RRT

SI.No	Name	Designation	Department	Mob no	Mail id
1	Dr. G. atha Mangeshkhar	Director	Dept.of. Animal Husbandry & Animal Welfare, Puducherry		ahd.pon@nic.in
2	Dr. R.Rajiv	Joint Director (LH)	Dept.of. Animal Husbandry & Animal Welfare,Puducherry	9486522518	ahd.pon@nic.in

Details of Veterinary Officers in District RRT _2019

SI.No	Name of the place	Name of the officer	Designation	Department	Mob no	Mail id
1	Karaiakl	Dr.M. Gobinath	Joint Director	Dept.of. Animal Husbandry & Animal Welfare, Puducherry	9443673929	ahd.pon@nic.in
2	Mahe	Dr.Suresh	Veterinary Officer	Dept.of. Animal Husbandry & Animal Welfare, Mahe	490 - 2337787	ahd.pon@nic.in
3	Yanam	Dr. M. Mohan,	Veterinary Officer	Dept.of. Animal Husbandry & Animal Welfare, Yanam	884 - 2324031	coumarane@gmail.com

Details of Food Safety Officers in District RRT 2019

Sl.No	Name of the place	Name of the officer	Designation	Department	Mob no	Mail id
1	Karaikal	M. Ravichandran	Food safety Officer	Dept. of Food Safety, Puducherry	8681898255	rvspark1135@gmail.com
2	Yanam	I.Danaraju	Food safety Officer	Dept. of Food Safety, Puducherry	9443536146	

Details of Municipality Officers in RRT

Sl.No	Name of the place	Name of the officer	Designation	Mob no	Mail id
1	Puducherry Municipality	Dr.B. Thulasiraman	Veterinary Medical Officer	9444247219	pomrpm.pon@nic.in
2	Oulgaret Municipality	M.Jaisankar	Municipal Health Officer	9443960447	jsankar003@gmail.com

Details of RRT In Forest Dept , Puducherry

Sl.No	Name of the place	Name of the officer	Designation	Mob no	Mail id
1	Puducherry	Dr. K.Coumarane	Dept.of. Forest &Wild life, Puducherry	9443535255	coumarane@gmail.com

