

"RABIES FREE CITIES" IN INDIA

(Concept note and Template action plan)

Rabies is a viral disease, present on all continents, except Antarctica. Rabies causes tens of thousands of deaths every year, mainly in Asia and Africa. Successful rabies control programmes have been implemented throughout the world, demonstrating that elimination is technically feasible in different country contexts. Canine rabies vaccination has helped countries such as United States and Great Britain to eliminate canine rabies.

Countries in Western Europe, South America have successfully control rabies. Even the nations economically challenged regions of sub-Saharan Africa and Asia were able to maintain sufficient coverage. In the Philippines and Indonesia, rabies campaigns are also leading to a drastic reduction in cases and good progress towards elimination in selected provinces. This has been proven by successful efforts in several countries, including eradication in Malaysia in 1999.

It has been proven that Mass Dog Vaccinations if undertaken in strategic manner controls canine rabies and safeguards those who struggle to access post-exposure prophylaxis. Further it eliminates dog-mediated human rabies deaths and protects the lives of livestock and the livelihood of rural communities

India is estimated to suffer the greatest rabies burden, both in terms of annual human deaths and disability-adjusted life years. Human rabies incidence depended critically on dog-related transmission parameters. Human cases of rabies are reported from India, all over the country with the exception of Andaman & Nicobar and Lakshadweep Islands. Dogs are the main source of human rabies, up to 99% of all rabies transmissions to humans occur after dog bites. Rabies is 100 percent fatal but preventable.

As per the current scenario in India, there are free roaming dogs that are very tough to reach out. It is believed that the roaming-dog population is the major source of human cases as pet dogs are mostly kept confined and vaccinated. The mass dog vaccination, animal population control and Solid waste management are the three requisite steps towards preventing viral transmission of rabies to humans. To account for population turnover, annual vaccination of over 70% of dogs is proven to be a successful approach to eliminate viral perpetuation.

To address this challenge, the National Action Plan for Dog Mediated Rabies Elimination from India by 2030 (NAPRE) was launched on 28th of September, 2021. The NAPRE was developed under the National Rabies Control program in coordination with MoFAH&D, MoA&FW, MoPR, MoH&UA, NITI AAYOG and other key stakeholders based on a 'One Health' approach.

Further handholding is being done with all states to develop to State specific action plans.

It is understood that conflicts between the man and animal have occurred since the dawn of humanity. However, it has come to light ever more frequently in recent times. The Menace of Stray Dogs is a common sight in India. Though, it has been the most loyal animal to humans, incidents of dog bites, dogs attacking childrens, spread of rabies etc. creates insecurity among local residents to walk safely on streets Hence, a step-change in the prioritization and surmounting the logistical challenges in reaching vaccination coverages as well as dog population management will be critically sufficient to control the disease at City level and make "**Rabies Free Cities**". These Cities will set an example as zoning for rabies in India which will encourage the other States as well as Cities to step forward towards elimination of rabies in India.

As per formation received from Goa state, in 2018, Goa recorded zero cases of people getting rabies after being bitten by a dog in the state. It maintained the record in 2019 and did it again in 2020. As of June 2021, there have been zero human rabies cases in the state for over three years and just eight cases in which dogs were found to be infected. This example of Small state in our country highlights that with systematic planning control and elimination of Rabies in Small parts of our country can be achieved.

As we know a journey of a thousand miles begins with a single step. A City Action Plan will address a wide range of short and long-term measures, with the aim of preventing rabies and its elimination. Therefore, it will be critical step towards rabies elimination through interventions and obligations at a small unit of population. It will be a committed comprehensive strategy at city level to educate, motivate, mandate each and every key stakeholder while implementing the National Action Plan on Rabie Elimination by 2030 (NAPRE).

However, it is likely that the successful elimination of dog-mediated human rabies will require a variety of considered approaches in different communities. Cities may be able to provide a meaningful impact through less intensive, persistent efforts, particularly in mass vaccination programmes. The city administration will involve key sectors and local stakeholders in the approach and will evaluate policies, services and financing in order to prevent rabies by 2030. Creating awareness among the general public is fundamental to changing behaviour and attitudes about handling and vaccination of pet dogs as well as stray dogs.

As inspired by best practices implemented for elimination of rabies around the world, it is necessary approach towards elimination of rabies should be undertaken in mission mode by implementing authorities with key involvement human and animal health sector to achieve the goal of "Zero by Thirty " as envisaged under NAPRE.

Rabies free Cities approach action points:

It will be a road map for implementing NAPRE for eliminating rabies by 2030 at comm unity level by identifying and specifying the key stakeholders actively involved in the elimination of rabies programme.

Further this will be framework for implementing sustainable sanitation and solid waste management activities that are required to control stray dog population. Also, Animal Birth control strategies implemented by NGOs involved locally will pave a way towards zero rabies status of the concerned cities. It is important that the community members

should come up as the main actors while implementing the NAPRE at Cities level. The key stakeholders identified are Municipality Commissioner, Municipality- Chief Veterinary Officers, Municipality- Chief Medical Officers, Chief Veterinary Officers, AHD, Chief Medical Officers, Health Department, Sub district magistrate, Wildlife officer in case of wild interphase if any, personnel/ NGOs for ABC and Secretaries of the societies

The following are the action points towards for zero rabies Cities approach.

A. THEMATIC AREA 1- DATA COLLECTION AND ANALYSIS				
S.No	Activity	Proposed Action Points	Responsible Authority	Proposed Timeline
1	Surveillance (Human Health)	<ul style="list-style-type: none"> Identify Ward, Block and Institutes wise Hospital/Clinics, Nodal officer for submission of reports on Human Rabies Cases and Animal/Dog Bite Management Ensure submission of reports through IHIP Portal only Declare Human Rabies as a Notifiable disease Ensure all the relevant staff is trained in recording and reporting SOPs for surveillance of Dog bite cases causing human death and Epidemiological investigation of rabies transmission, Geographical and time series clustering of cases 	Department of Health, City administration and Municipal Corporation	Ongoing
2	Surveillance (Animal Health)	<ul style="list-style-type: none"> Identify State, Zone and District Hospital/Clinics, wise Nodal officer for submission of report Develop mechanism and frequency of submission of reports (Real time/daily recommended) Ensure all the relevant staff is trained in recording and reporting Develop a mechanism for prompt reporting of suspected Rabies case by general public 	Department of Veterinary Services City administration and Municipal Corporation	Within 2 MONTHS

A. THEMATIC AREA 1- DATA COLLECTION AND ANALYSIS				
S.No	Activity	Proposed Action Points	Responsible Authority	Proposed Timeline
3.	Establishment of Linkage of human and animal rabies surveillance	<ul style="list-style-type: none"> Identify data sharing parameters for both Human and Animal Health sectors and develop SOPs for execution of data sharing mechanism Ensure action and case investigation based on feedback and reporting of outcomes of investigation Constitute State, District Joint Steering Committee, Technical working group, joint investigation task forces for an active response to case and outbreak findings Technical committee may include one Public health representative and microbiologist each from both medical & veterinary health services, 2 veterinarians each from the Animal Health Department and Municipal Corporation, representative (s) of Major NGOs, one member each of Indian Academy of Paediatrics, Veterinary college and Medical college, two rabies experts and City Nodal Officer for Rabies. The committee should meet quarterly and member tenure should be of 3 years renewal 	Department of Veterinary Services Department of Health, City administration and Municipal Corporation, Forest Department	1 ST 3 MONTHS

A. THEMATIC AREA 1- DATA COLLECTION AND ANALYSIS				
S.No	Activity	Proposed Action Points	Responsible Authority	Proposed Timeline
		<ul style="list-style-type: none"> Task force at the village, municipality, ULB, district and state levels may include one professional each from the Human Health Department, Animal Husbandry Department, Forest Department, Panchayati Raj Department, and Municipality Department at respective levels. They will be act as nodal implementing agencies at respective levels and need Budget allotment at respective levels. It will reviewed at every 3months. 		

B. THEMATIC AREA 2- DOG POPULATION ENUMERATION/ ESTIMATION AND MANAGEMENT				
S.No	Activity	Proposed Action Points	Responsible Authority	Proposed Timeline
1	Constitution of coordination committee	<ul style="list-style-type: none"> Constitution of coordination committee at State HQ and at Zones – 12 Zonal committees (as mentioned annexure-3) 	Department of Municipal Corporation	Within 2- months
2	Dog population	<ul style="list-style-type: none"> The dog enumeration is proposed to be done ward-wise (250 wards) and the data will be compiled at the Zonal level 		6 months (From the

B. THEMATIC AREA 2- DOG POPULATION ENUMERATION/ ESTIMATION AND MANAGEMENT			
S.No	Activity	Proposed Action Points	Responsible Authority
	enumeration/estimation	<ul style="list-style-type: none"> It is proposed that Municipal Corporation will hire agency/agencies to conduct the enumeration of the dog population These agencies will be supported by the community dog feeders/dog lovers/RWA member just to get the baseline information on the number of dogs in the societies/area/ward etc. Strategies for the dog enumeration will be as per available census methodologies 	Department of Municipal Corporation
3.	Dog Population Management	<ul style="list-style-type: none"> Existing- 17 ABCs center functional under Municipal Corporation. It is proposed to establish 1 ABC center covering 10 wards and then gradually increased to 1 ABC center covering 5 wards Use of spaying and castration of stray dog through establishing facility Introduction or pilot IUCDs CD for female dogs (Currently Russia, Ukraine, Bosnia, and other countries are widely using this technique) The existing Monitoring committee will review the activities of DPM, vaccination and other activities etc 	Department of Animal Husbandry/ Department of Municipal Corporation
4	Dog Registration	<ul style="list-style-type: none"> Compulsory registration as well as vaccination of pet dogs to be introduced through Municipal Corporation /AH Legislation if not available or enforce existing legislation. The Legislation should also be enforced on hidden community owners of stray dogs which provide feeding, protection and legal guard ship to stray dogs but let them free to roam on street 	Department of Animal Husbandry/ Department of Municipal Corporation

B. THEMATIC AREA 2- DOG POPULATION ENUMERATION/ ESTIMATION AND MANAGEMENT			
S.No	Activity	Proposed Action Points	Proposed Timeline
5	Funding Agency	<ul style="list-style-type: none"> Funds will be explored from AWBI, Municipal Corporation, DAHD, ASCAD and donors for the provision and allocation of funds for all activities 	

C. THEMATIC AREA 3- PREVENTION AND CONTROL			
S.No	Activity	Proposed Action Points	Proposed Timeline
1.	Availability & accessibility of human rabies vaccines in the State	<ul style="list-style-type: none"> Identify the Nodal person for analysing demand of Rabies vaccine, RIG as per NHM essential drug list and associated consumables to be used in operation of elimination of rabies Assess the present availability and use of vaccine and RIG in health facilities across the City including storage capacity and cold chain facility during storage and transportation. Work out the shortage and ensure time framed procurement and supply of remains of Rabies vaccine and RIG at PHC & above level health facilities during operational period. For this purpose the DVDMS/ other real time drug monitoring systems for monitoring stock status and stockouts may be used. Identify budget sources like state funds or NHM- funds for procurement of Rabies Vaccine & RIG 	Within 2 months

C. THEMATIC AREA 3- PREVENTION AND CONTROL			
S.No	Activity	Proposed Action Points	Proposed Timeline
		<ul style="list-style-type: none"> • Work out requirement of more centres for vaccination and for this Aam Aadmi Polyclinics can be roped in. • Train concerned human resources with latest guidelines of Rabies vaccination & RIG administration. A cost-effective method of intradermal vaccination is to be ensured at all health facilities. 	
2.	Availability & accessibility of canine rabies vaccines in the State	<ul style="list-style-type: none"> • Identify the Nodal person for analysing demand of animal Rabies vaccine and associated consumables to be used in operation of elimination of rabies • Ensure timely procurement of canine Rabies biological and cold chain infrastructure availability for storage and transportation of vaccine. It is proposed Animal husbandry Department, shall act as nodal agency for procuring dog rabies vaccine and share it with Municipal Corporation • Work out the requirement of trained Human resources, mobile vans etc, calculate the shortage and ensure it before start of mass vaccination campaign • Explore budget from AWBI, Municipal Corporation, DAHD, ASCAD, donors and other sources for procurement of dog Rabies Vaccine, hiring vehicle, mass vaccination campaign cost etc 	Within 2 months
3.	Mass dog vaccination campaign	<ul style="list-style-type: none"> • Ward/Cluster-wise vaccination may be preferred. Help of NGOs, Dog lovers, dog feeders and other volunteers may be ensured for smooth conduct and desired coverage of campaign. An action 	(Every 6 months)

C. THEMATIC AREA 3- PREVENTION AND CONTROL			
S.No	Activity	Proposed Action Points	Proposed Timeline
	for ensuring at least 70% vaccination coverage of total dog population according to the plan described in the national rabies strategy.	<p>team of 1 veterinarian, 2 vaccinators, 5 dog catchers, a driver, and one monitoring team behind the van to search and sanitize left dog shall be used as unit. It is proposed that 1 such team will cover 4 wards in the Municipal Corporation area. The vaccination shall operate in centripetal manner first starting from the periphery and will move towards the centre. Provide training to semi-skilled personnel in dog handling/ catching</p> <ul style="list-style-type: none"> The identification marking of vaccinated dog will be ensured through tagging/collar/dye etc for purposeful discrimination of vaccinated from non-vaccinated dogs SOPs for post-vaccination survey be kept ready 	Department of Municipal Corporation
4.	Other Rabies control and prevention activities	<ul style="list-style-type: none"> Prepare SOPs for the observation of dogs suspected for rabies, Assess available infrastructure and identify facilities that could be repurposed as animal observation/quarantine facilities. Municipal Corporation will pick a rabies-suspected dog from its dwelling, transport it to quarantine kennels of Municipal Corporation and dispose the dead dog after collection of laboratory sample for diagnosis in AHD. Proposed Incinerator facility in every district for carcass disposal Develop uniform home quarantine SOPs, train the operational staff and implement the relevant SOPs within each of the facilities 	Department of Animal Husbandry/ Department of Municipal Corporation

C. THEMATIC AREA 3- PREVENTION AND CONTROL			
S.No	Activity	Proposed Action Points	Proposed Timeline
		<ul style="list-style-type: none"> Contact the relevant authorities in the neighbouring States and share the relevant SOPs to develop a buffer zone at borders of City Check posts may be created at the entry points with neighbouring states to prevent entry of non-vaccinated dogs and vaccinating them 	
5.	Pre-exposure prophylaxis	Identify High risk groups as per national guidelines to implement PrEP for maintenance of desired prophylactic titre. The pre-exposure prophylaxis in active and follow up team members involved in mass vaccination campaign is proposed	Within 3 months
			Department of Health, City administration and Municipal Corporation
D. THEMATIC AREA 4- LABORATORY DIAGNOSIS			
S.No	Activity	Proposed Action Points	Proposed Timeline

C. THEMATIC AREA 3- PREVENTION AND CONTROL			
S.No	Activity	Proposed Action Points	Proposed Timeline
1.	Strengthening Laboratory Diagnosis of Animal Rabies	<ul style="list-style-type: none"> Identify laboratories/institutions for rabies diagnosis in dog and other animals. At least one veterinary diagnostic laboratory is proposed to be set up with trained manpower in City for suspected sample testing or sero-surveillance can be outsourced Two persons from each district are proposed to be trained in sample collection from animals and NCDC may facilitate training for animal sample collection The Qualitative Lateral Flow Assay is proposed and few samples can also be sent to the referral laboratory for confirmation. Develop and Share SOP of sample collection, transportation, and courier requirements A guidance/helpline to guide people to take dead canines to sample collection centres may be issued, from these centres the collected sample will be sent to the respective diagnostics laboratory Fund from ASCAD/State Animal Husbandry Department/Unspent fund for infectious disease emergency response may be explored 	1 year

C. THEMATIC AREA 3- PREVENTION AND CONTROL			
S.No	Activity	Proposed Action Points	Proposed Timeline
2.	Strengthening Laboratory Diagnosis of Human Rabies	<ul style="list-style-type: none"> Develop SOP of sample collection from Suspected Human Rabies Cases Develop a mechanism for transporting samples to CAZD, NCDC laboratory for diagnosis 	Department of Health and Municipal Corporation

E. THEMATIC AREA 5- INFORMATION, EDUCATION, AND COMMUNICATION			
S.No.	Activity	Proposed Action Points	Proposed Timeline
	Public awareness Advocacy	<ul style="list-style-type: none"> Briefing of elected representatives, administrators, judiciary officials on action plan of elimination of Rabies and its importance to public to avoid forced petition in court Public awareness through posters, radio jingles, pamphlets, comic books, and loop in of students in school assemblies. Garbage collection vans may be used to play radio jingles to make people aware of Rabies. Thematic awareness campaigns may be organized at village, mandal, municipal wards levels through support of volunteers. 	Media Team Ongoing

E. THEMATIC AREA 5- INFORMATION, EDUCATION, AND COMMUNICATION			
S.No.	Activity	Proposed Action Points	Proposed Timeline
		<ul style="list-style-type: none"> Framing of Dog breeding rules and its implementation through the concerned agency strictly Promoting responsible dog ownership Awareness regarding proper domestic Waste disposal Branding of Rabies PEP clinic for easy accessibility of PEP Branding of Veterinary clinic for free pet vaccination 	
	Professional education	<ul style="list-style-type: none"> Regular Sensitisation of professional organisation like IMA, IAP & General Practitioners on recent updates of rabies elimination programme. The private veterinary practitioners have to made request to pet owners visiting to his/her clinic to register their dogs. Training and practical exposure of Medical and Veterinary Students in Rabies control campaign to be organized on rabies or similar days 	Ongoing
			Medical & Veterinary colleges & Research Institutes

F. THEMATIC AREA 6- CROSS-CUTTING ISSUES			
S.No.	Activity	Proposed Action Points	Proposed Timeline
	Funding/Budget	<ul style="list-style-type: none"> Develop budget and secure funding for the short, medium- and long-term action plan. 	1 year

F. THEMATIC AREA 6- CROSS-CUTTING ISSUES				
S.No.	Activity	Proposed Action Points	Responsible Authority	Proposed Timeline
		<ul style="list-style-type: none"> Develop a mechanism for mobilizing emergency funds for rabies control 		

list of identified cities for undertaking “Rabies Free Cities”

Tier 1 cities in India

States	Tier 1 cities in India
Delhi	Delhi
Maharashtra	Mumbai, Pune
Karnataka	Bengaluru
Gujarat	Ahmedabad
Tamil Nadu	Chennai
West Bengal	Kolkata

Tier 2 cities in India

States and Union Territories	Tier 2 cities in India
Andhra Pradesh	Guntur, Kakinada, Kurnool, Nellore, Rajamahendravaram, Vijayawada, Visakhapatnam, Warangal
Assam	Guwahati
Bihar	Patna
Chandigarh	Chandigarh
Chhattisgarh	Durg-Bhilai, Bilaspur and Raipur
Gujarat	Ahmedabad, Bhavnagar, Jamnagar, Rajkot, Surat, and Vadodara
Haryana	Gurugram, Faridabad, Karnal
Himachal Pradesh	Hamirpur, Shimla
Jammu and Kashmir	Jammu and Srinagar
Jharkhand	Bokaro Steel City, Dhanbad, Jamshedpur, and Ranchi

Karnataka	Belgaum, Hubli-Dharbad, Mysore, and Mangalore
Kerala	Kannur, Kollam, Kozhikode, Kochi, Malappuram, Thrissur, Thiruvananthapuram, and Vijayapura
Madhya Pradesh	Bhopal, Gwalior, Indore, Ratlam, and Jabalpur
Maharashtra	Amravati, Bhiwandi, Jalgaon, Nagpur, Nanded, Aurangabad, Kolhapur, Nashik, Sangli, Solapur, Vasai-Virar and Ujjain
Odisha	Bhubaneswar, Rourkela and Cuttack
Punjab	Amritsar, Ludhiana and Jalandhar
Pondicherry (Puducherry)	Pondicherry (Puducherry)
Rajasthan	Ajmer, Bikaner, Kota, Jaipur, and Jodhpur
Tamil Nadu	Coimbatore, Erode, Madurai, Thanjavur, Tiruppur, Tirunelveli, Tiruvannamalai, Tiruchirappalli, Vellore, and Salem
Uttar Pradesh	Aligarh, Agra, Bareilly, Firozabad, Ghaziabad, Gorakhpur, Jhansi, Kanpur, Lucknow, Mathura, Moradabad, Meerut, Noida, Prayagraj (Allahabad), Gorakhpur, Varanasi
Uttarakhand	Dehradun
West Bengal	Asansol, Durgapur, Purulia, Siliguri