Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Rekha M Ravindran Sujith Thripthi Veena Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Thripthi Veena .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Rajan Khobragade Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Rekha M Ravindran Sujith Thripthi Veena Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Shanmugam GV Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Shanmugam GV Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Thripthi Veena .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J

Department of Health Services

May 2026

Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rekha M Ravindran Sujith Thripthi Veena Rahul Krishna Sharma Rajan Khobragade Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J

PANDEMIC MANAGEMENT PLAN
Kollam

Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Arun Mahesh Ajan Dileepkumar Anjulekshmi P Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Reetha Sunija Jithesh Bijoy Harikumar Rekha M Ravindran Sujith Thripthi Veena Arun Mahesh Ajan Dileepkumar Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M Ravinan Sujith Thripthi Veena Vinay Goyal Rahul Krishna Sharma Sheeba George Reena Viswanathan Vismaya Shajahan Salma N .Jayasankar J Shanmugam GV .Jayasankar J Anjulekshmi P Shanmugam GV Iswarya S Uwais Nazar Sujith Babu .Thripthi Rekha M

Department of Health and Family Welfare
Government of Kerala
www.health.kerala.gov.in

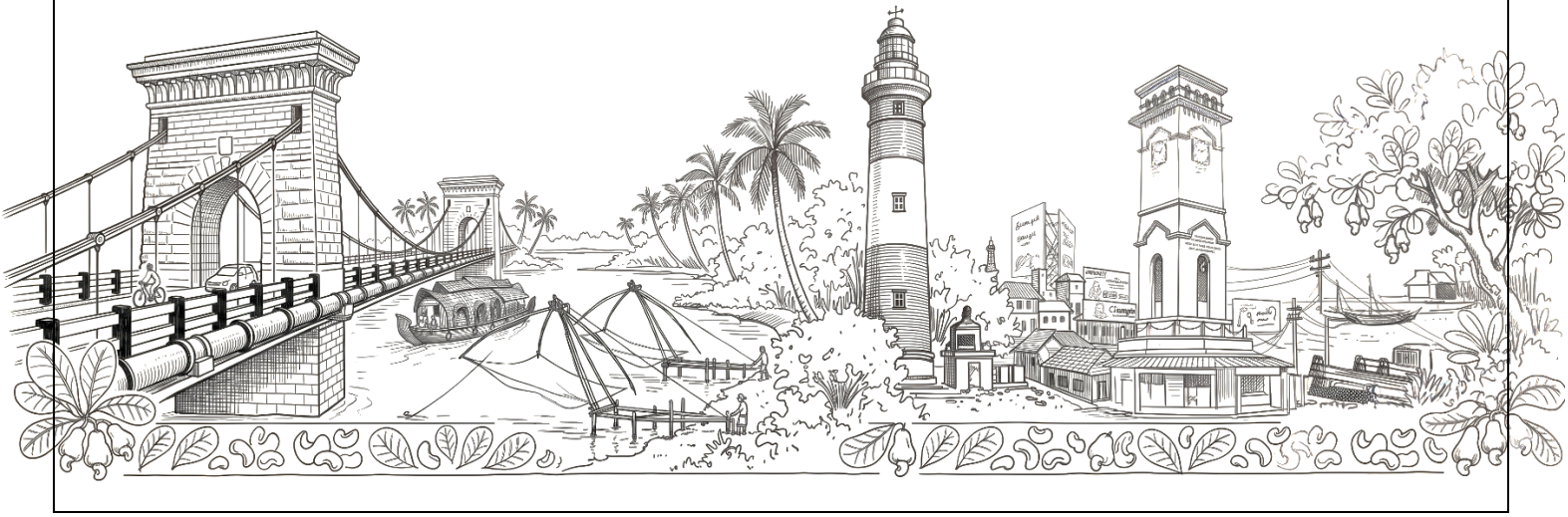
KERALA.HEALTH

PANDEMIC MANAGEMENT PLAN

KOLLAM DISTRICT

2026

KERALA.HEALTH



Message

Kerala Health has consistently recognised that pandemic preparedness is no longer a standalone activity limited to the health sector, but an essential component of public safety, governance resilience, and sustainable development. The experiences of NIPAH outbreaks, COVID-19 pandemic, emerging zoonotic threats, climate-sensitive diseases, and increasing global interconnectedness have clearly demonstrated that future public health emergencies require continuous preparedness, rapid response systems, and strong institutional coordination. In this context, the preparation of comprehensive Pandemic Preparedness Plans by the Department of Health and Family Welfare marks an important landmark towards strengthening Kerala's health security framework.

Today, pandemic management plans must be viewed through the broader lens of the One Health approach, which recognises the interconnectedness of human health, animal health, environmental systems, and ecological balance. Emerging infections are increasingly influenced by environmental degradation, climate variability, urbanisation, migration, and changing human-animal interactions. Therefore, effective preparedness requires coordinated action not only from the Health and Family Welfare Department, but also from departments including Animal Husbandry, Forests, Local Self Government, Disaster Management, Revenue, Education, Transport, Police, Water Resources, and Civil Supplies. Such interdepartmental convergence is critical for surveillance, risk communication, outbreak containment, logistics management, and continuity of essential services during emergencies.

Kerala has always demonstrated exemplary leadership in responding to public health challenges through timely action, scientific decision-making, community participation, and decentralised governance. The integration of pandemic management with disaster management systems further strengthens our capacity to respond to multiple emergencies simultaneously, including outbreaks occurring during floods, heat waves, or other natural disasters. The development of structured protocols, surveillance mechanisms, escalation frameworks, surge planning systems, infection prevention strategies, and institutional coordination models reflects the state's commitment to building a resilient and future-ready health system.

I am informed that Keralam is the only state where the pandemic preparedness plans have been prepared to such a depth right from the Panchayath level to District and at institutional level up to Medical Colleges. I place on record my sincere appreciation to all those who worked on this endeavour. The dedication, technical expertise, and coordinated efforts demonstrated by the state and district teams are truly commendable. I am confident that these plans will further strengthen Kerala's capacity to effectively prevent, detect, and respond to future public health emergencies while ensuring the safety and wellbeing of our people.

Shri. K Muraleedharan

Minister for Health and Family Welfare and Devasom,

Government of Kerala

Foreword

Kerala Health has been taking efforts to strengthen the 'Health System". The outbreak of diseases is common across the world. But the important thing that stands out is public awareness, their advisory-abiding behaviour, accessing hospital and getting diagnosed. That is the reason that outbreaks of Nipah or MPox are detected early and scientifically managed without any hassle.

Public health emergencies and pandemics remind us that health systems must remain prepared, responsive, and closely connected with the community. The recent experiences of the COVID-19 pandemic and various other communicable disease outbreaks especially involving newer pathogens have shown that timely preparedness, a coordinated response, and strong community participation are essential to the reduction of health risks and protection of lives. Kerala Health has managed COVID in exemplary ways with the involvement of people and all the line departments. Following the COVID pandemic, all international and national organizations have worked on preparedness and published guidelines, books and papers. But the most important question one should ask "Have we learned our lessons?" and " In what way these learning we have put to practice managing future health emergencies?"

It is with this thought process of "WHAT IS NEXT?", a series of meetings were taken with Senior Medical Officers at the State level and district level of Directorate of Health Services. All officers of Medical Colleges and other stakeholders were also oriented to prepare the Pandemic Management Plans. Series of workshops were conducted in the districts to further follow up works done by the district teams.

The concept of 'Learning by Doing' was put to practice. NHM has deployed Epidemiologists in all Block FHCs. It was important to build their capacity to ensure day to day involvement in analysis and giving inputs for taking control and mitigation activities. Alappuzha district took the challenge and prepared a template. Dr Dileep and team took wholehearted efforts to work on this task. The prepared template was validated and sent to all concerned.

Later the district officers conducted series of capacity building meetings with all health as well as line departments functionaries. They submitted the first draft and conducted a workshop in which few plans of Panchayath, Block and major institutions in the Districts such as General Hospital, District Hospital and Medical Colleges were presented. Post discussions and getting feedback the district team fine-tuned the Plans. As Alappuzha district completed all Panchayaths and District Plans in depth, they were made into a 'Learning Site'. Another concept of capacity building was put to practice. All the key officers of the respective districts were sent to Alappuzha in two batches to understand the method with which the Pandemic Preparedness Plans should be prepared. This exposure and interactions were very useful as most of the officers realised the importance of doing such planning.

The state level resource team comprising of Dr Mahesh N, Dr Ajan M J, Dr Harikumar S, Dr Bijoy E, Dr Dileepkumar S R and others supported the district teams and all the districts prepared the Pandemic Management Plans. Dr Vinay Goyal then SMD NHM and Mr Rahul Sharma present SMD NHM provided their leadership to facilitate plans preparations.

Simultaneously this initiative was discussed with Digital University of Kerala, and they were engaged to develop Kerala Pandemic Management System. This system envisages an end-to-end solution for pandemic management. This will make things easy for the field workers and all functionaries at the health institutions to update the information. As we go forward, it is envisaged that HOEC shall work as Hub and information flow will be from Kerala Pandemic Management System, IDSP, IHIP, SDMA and other information sources to HOEC at the time of any disaster/ health emergency.

It is noteworthy to mention here that after Alappuzha, Thrissur also prepared a comprehensive Pandemic management Plan and Festival management Plan. Unfortunately, during this year's Thrissur Pooram preparations, there was a massive fire accident, but the Thrissur MCH team put the Management Protocol in practice and in a short span of time within eight minutes, they took care of the fire disaster victims and provided exemplary services. While they were handling the incident, thanks to timely preparation and awareness, they were handling hundreds of emergencies not relating to the disaster during that period. This has clearly demonstrated to all that well-prepared planning and capacity building is the key to mitigating problems.

I would like to highlight here that these plans are not only at the state and district level but up to the Panchayath level. We first oriented and coordinated work on the Panchayath Pandemic Preparedness Plans. These plans were collated to make Block Plans. At the same time District teams worked on the District Pandemic Plans be taking the details from Panchayath Plans as well as the assets available at the district. This has made our Grama Panchayat/Municipality/Corporation equipped to effectively prevent, detect, and respond to public health emergencies.

The plan serves as a framework for coordinated action involving the Health Department and other line departments, organisations, volunteers and other stakeholders at the local self-government level. The plans follow a One Health approach, recognizing the close relationship between human health, animal health, and the environment in the emergence and spread of diseases. Strengthening disease surveillance, infection prevention and control measures, environmental sanitation, risk communication, and community awareness are all important components of local preparedness.

We incorporated surge preparedness plans which can be adopted quickly during a public health emergency. Particular attention was also given to vulnerable populations including the elderly, children, persons with disabilities, individuals with chronic illnesses, and socially disadvantaged groups who may face greater risks during emergencies. Early reporting, community engagement, and coordinated interdepartmental action are critical for minimizing the impact of outbreaks and ensuring continuity of essential health services.

Kerala Health has taken this initiative for the last six months; there are hundreds of officers involved in preparing and completing such a huge task. Therefore, the design of the book is also done in a different way. It was decided that the officers who hands on worked on this project should be mentioned prominently. As this is a unique milestone achieved by Kerala Health, the sincerely working officers' names are put on the cover itself.

These tasks would not have been possible without the support of the state resource officers' team of Dr Vinay Goyal, Mr Rahul Sharma, Dr Mahesh, Dr Ajan, Dr Dileepkumar, Dr Harikumar, Dr Ravindran, and many others. I appreciate their untiring efforts and patience for agreeing to do additional things which I pushed to them in the last minutes.

I sincerely appreciate the efforts of one and all and I am confident that Kerala Health team is having capability and will to take up any challenge and excel in their endeavours.

Dr Rajan N Khobragade IAS
Additional Chief Secretary
Health & Family Welfare Department
Government of Kerala

Message

When we look at public health through an operational lens, it becomes clear that managing a crisis is as much about robust architecture as it is about public health interventions. A successful response relies on the strength of our systems: seamless data flows, efficient resource deployment and reliable communication networks.

The COVID-19 pandemic was an inflection point for public health systems worldwide. It exposed vulnerabilities, tested our capacity to respond under pressure, and reinforced the irreplaceable value of preparedness. As we move forward, it is imperative that the lessons we learnt from that experience are institutionalised and embedded into the very fabric of how our districts plan, coordinate, and respond to health emergencies.

This District Pandemic Preparedness Plan represents a significant milestone in our collective journey toward building resilient and responsive public health systems across the State. It is the outcome of sustained collaboration, ground-level insight, and an unwavering commitment shared by every member of our health team. From an administrative perspective, this plan is the blueprint that translates vital epidemiological data into actionable workflows on the ground. It ensures that our infrastructure, logistics, and human resources are perfectly synchronized, enabling our medical teams to deliver care without delay.

This Plan has been designed to serve as a practical, actionable guide for our health teams. It outlines clear roles and responsibilities, establishes robust surveillance and early warning mechanisms, streamlines supply chain and logistics frameworks, and ensures that our health workforce is trained, equipped, and supported to respond to emergencies. A preparedness plan is only as strong as the systems that sustain it, and this document reflects our shared commitment to building those systems with care and rigour.

I place on record my sincere appreciation for the district health team and all other stakeholders whose knowledge and commitment have shaped this framework. Their dedication to public health service is a source of great strength for us. I also call upon them to internalise this plan, champion its implementation, and treat preparedness not as a mandate from above, but as a professional and moral obligation to the communities we serve. Together, we have the capacity and the responsibility to ensure that no community in our State is caught unprepared.

Rahul Krishna Sharma IAS

State Mission Director

National Health Mission

Message

At the heart of an effective public health response is a simple truth: - a strong healthcare system doesn't just react to a crisis—it anticipates and prepares for it. Our true readiness is measured by how quickly and empathetically we can turn complex medical strategies into organized care on the ground.

Our District Pandemic Preparedness plans serve as a clinical and tactical guide. They bridge the gap between public health data and reality, turning data into clear action plans for our frontline workers. This ensures that everyone from Family Health Centres to major hospitals operates with complete clarity and a shared purpose.

A pandemic requires a balance of science and human compassion. While we look at data, trends, and logistics to plan our resources, our ultimate focus remains on the people and families behind those numbers. Ensuring clinical readiness, securing medical supply chains, and maintaining unbroken communication networks are the pillars that allow our medical teams to respond to emergencies and save lives.

I want to express my deepest gratitude to our public health workforce; your dedication is the foundation of our resilience. In particular, I thank the DMO, DPM, district program officers, medical officers, public health staff, and every member of the health team who worked tirelessly to bring this plan to life. By embedding these strategies into our daily work, we are doing more than just preparing for a future crisis—we are actively safeguarding the health, dignity, and future of our communities.

Let us continue to lead with science, serve with empathy, and strengthen our collective resilience.

Dr Reena K J

Director of Health Services

Message

The evolving landscape of public health threats, including pandemics and emerging infectious diseases, calls for a structured, anticipatory, and institutionally coordinated response at the district level. The District Pandemic Preparedness Plan for Kollam has been formulated as a comprehensive administrative framework to strengthen the district's capacity for prevention, preparedness, response, and recovery.

Kollam district, with its extensive coastline, dense network of inland waterways, and significant industrial and port activities, presents unique challenges in public health management. The district's demographic profile—marked by a high population density in coastal belts and a substantial workforce engaged in the traditional cashew and fisheries sectors—necessitates a robust, evidence-based, and multi-sectoral approach anchored in strong governance systems.

This plan has been developed through the convergence of all key stakeholders, including the Health Department, District Disaster Management Authority (DDMA), Local Self-Government Institutions (LSGIs), Police, Revenue, Fisheries, Labor, Water Supply, Sanitation, Animal Husbandry, Transport, and Civil Supplies. It outlines clearly defined roles, responsibilities, and standard operating procedures to ensure coordinated and timely action during public health emergencies.

The plan emphasizes the strengthening of integrated disease surveillance systems, early warning mechanisms, and laboratory networks, along with rapid response teams at all administrative levels. It also focuses on enhancing healthcare system preparedness, including surge capacity, human resources, logistics management, and critical care infrastructure tailored to both urban and rural coastal contexts.

A key administrative priority is ensuring the uninterrupted delivery of essential services, including healthcare, food supply, water and sanitation, and social protection. This is particularly vital for vulnerable and high-risk populations such as the elderly, coastal communities, migrant workers, and those living in the eastern hilly tracts of the district. The plan also integrates the One Health approach, recognizing the interdependence of human, animal, and environmental health in our unique ecological setting.

Effective risk communication, community engagement, and inter-departmental coordination form the backbone of this preparedness strategy. All departments and stakeholders are expected to work in close collaboration, ensuring transparency, accountability, and responsiveness in implementation.

This document serves not only as a preparedness plan but also as an operational guide for all administrative units and stakeholders in the district. Its success depends on sustained commitment, continuous capacity building, and regular review and updating in line with emerging challenges.

I urge all departments, institutions, and partners to actively participate in the implementation of this plan and to uphold the highest standards of public service in safeguarding the health and well-being of our citizens.

Devidas N IAS

District Collector

Kollam District

Message

It gives me great responsibility and assurance to present the Pandemic Preparedness Plan for Kollam District, a region characterized by its unique coastal geography, bustling urban centres, and vital industrial landscapes. With increasing risks from emerging infectious diseases, zoonotic threats, and climate-sensitive health events, a proactive and structured preparedness framework is essential for our district.

This plan is grounded in the principles of prevention, preparedness, response, and recovery, with a strong focus on strengthening the district's surveillance architecture under the Integrated Disease Surveillance Programme (IDSP). Special emphasis has been given to decentralized surveillance at the panchayat and ward levels, particularly within our dense coastal belts and inland industrial zones, to ensure early detection of unusual health events and timely intervention.

Adopting the One Health approach, the plan integrates efforts across human health, animal health, and environmental sectors. In a district like Kollam, where the convergence of the Ashtamudi Lake ecosystem, the Arabian Sea coastline, and the presence of migratory bird populations increase our epidemiological vulnerability, coordinated action is more critical than ever.

The plan outlines clear operational strategies including:

- Strengthening Rapid Response Teams (RRTs) and outbreak investigation capacity.
- Enhancing laboratory surveillance and robust sample transport systems.
- Ensuring surge capacity in hospitals, including oxygen supply, ICU beds, and essential logistics.
- Establishing efficient risk communication mechanisms to address misinformation and vaccine hesitancy.
- Protecting vulnerable populations, including the elderly, coastal fishing communities, and migrant workers (Athithi Thozhilalikal).
- Strengthening infection prevention and control (IPC) practices across all primary, secondary, and tertiary health facilities.

Interdepartmental convergence remains a cornerstone of this plan. Close collaboration with departments such as Fisheries, Animal Husbandry, Local Self Governments, Police, Revenue, and Civil Supplies ensures a comprehensive and coordinated response during health emergencies.

This document also emphasizes continuous capacity building, simulation exercises, and periodic review mechanisms to keep the system responsive and adaptive. Lessons learned from previous public health emergencies—including the COVID-19 pandemic, Nipah preparedness, and recurrent outbreaks of water-borne and vector-borne diseases—have been incorporated to build a truly resilient health system.

I acknowledge the dedicated efforts of all healthcare workers, field staff, and partner departments who have contributed to the development of this plan. Their commitment remains the backbone of our preparedness and response system.

Let this plan serve not only as a guiding framework but also as a collective commitment to safeguard the health and well-being of every citizen of Kollam district.

District Medical Officer (Health)

Kollam District

List of contributors	
SL. No	**Contributors**
1	Dr Rekha M Ravindran, District Surveillance Officer
2	Dr Sujith, District Epidemiologist
3	Dr Thripthi, Urban Epidemiologist
4	Veena, Data Manager
5	Superintendents of Major hospitals
6	Medical Officers in charge of FHC, BFHC, CHCs
7	Other members of Kollam district health team

TABLE OF CONTENTS

INTRODUCTION

Background of the Pandemic Preparedness Plan (PPP)

The Kollam District Pandemic Preparedness Plan (PPP) is a comprehensive strategic and operational framework designed to equip the district health administration and all partner departments with the preparedness, early warning, response, and recovery capacities required to effectively mitigate the impact of any public health emergency — particularly communicable disease outbreaks and pandemics.

Kollam district, situated on the south-west coast of Kerala, is characterized by diverse physiographic zones — coastal plains, midland rolling terrain, forested highland hills, and backwater networks — that create unique epidemiological vulnerabilities. The district's dense coastal fishing communities, high labour migration, cross-border movement, and substantial Gulf remittance-dependent population collectively amplify health risks during epidemic or pandemic events.

The COVID-19 pandemic (2020–2023) demonstrated that Kerala's district-level response capacity was decisive in flattening the epidemic curve. The lessons from Nipah (2018, 2023), COVID-19, and recurrent seasonal outbreaks of dengue, leptospirosis, and cholera form the foundational evidence base for this plan

Purpose and Scope

This PPP aims to:

- Establish a pre-positioned, functionally tested district-level preparedness framework
- Define clear command and coordination structures at district, taluk, block, and LSG levels
- Map all critical health, logistic, and community resources for rapid surge deployment
- Identify and protect high-risk and vulnerable population groups
- Integrate a One Health approach for zoonotic disease surveillance

Guiding Principles

- Health equity — prioritize the most vulnerable
- Whole-of-government and whole-of-community approach
- Evidence-based and locally validated strategies
- Decentralization — LSG-led first-mile response
- One Health integration — human, animal, and environmental health convergence
- Transparency and accountability in resource deployment

Legal and Policy Framework

This plan is guided by the following statutes and policies:

- Epidemic Diseases Act, 1897 (as amended)
- Disaster Management Act, 2005

- Kerala Public Health Act, 2023
- National Health Policy, 2017
- International Health Regulations (IHR), 2005
- Kerala State Disaster Management Plan
- National Action Plan for Health Security (NAPHS)

DISTRICT AT A GLANCE

General Overview

Kollam (formerly 'Quilon') is a prominent district on the south-west coast of Kerala, established on 1st July 1949. Known historically as a major maritime and trading hub, Kollam today is a dynamic district blending coastal fishing communities, agricultural hinterland, forested tribal regions, and urban industrial zones — each carrying distinct public health profiles.

GENERAL PROFILE OF THE DISTRICT

BACKGROUND OF KOLLAM DISTRICT	
Description	Details
Name of District	Kollam (formerly Quilon)
Date of Formation	1st July 1949
Headquarters	Kollam City (Kollam Municipal Corporation)
Taluks	5 — Kollam, Karunagappally, Kunnathur, Kottarakkara, Pathanapuram
Revenue Villages	104
Municipal Corporation	1 — Kollam Municipal Corporation (52 wards)
Municipalities	4 — Karunagappally, Punalur, Paravur, Anchal
Municipality Wards	102
Block Panchayats	11
Block Panchayat Wards	153
Grama Panchayats	68
Grama Panchayat Wards	1,274
District Panchayat Wards	26
Assembly Constituencies	11
Parliament Constituency	1 - Kollam
Total Area	2,491 sq. km (248,788 ha)
Forest Area	81,438 ha (32.7% of district area)
Coastal Length	37 km along the Arabian Sea

Agricultural Area (Net Sown)	1,24,779 ha
Number of Rivers	5 major (Kallada 121 km, Achenkovil 128 km, Ithikkara 56 km, Pallickal 42 km, Ashtamudi estuary ~61 sq.km)
Major Water Bodies	Ashtamudi Lake (61 sq.km), Sasthamkotta Lake (largest freshwater lake in Kerala), Kallada reservoir
Number of LSGs	73 (1 Corporation + 4 Municipalities + 11 Block Panchayats + 68 Grama Panchayats + 1 District Panchayat)
Number of Educational Institutions	1,573 schools (473 LP + 213 UP + 211 HS/HSS + 51 Vocational HS); 14 Arts & Science Colleges; 5 Engineering Colleges; 5 Medical Colleges (1 Govt + 2 Private + 2 AYUSH)
Factories / Major Industries	FACT Chavara, KMML Chavara, Hindustan Newsprint Punalur, 300+ Cashew processing units; 5 Mini Industrial Estates (Chavara, Kareepra, Perinadu, Sasthamkotta, Thevalakkara)
Flood-Prone LSGs	Coastal and low-lying panchayats: Munroe Island, Kunnathur belt, Karunagappally coastal blocks, Chavara, Alappad, Mayyanadu, Neendakara (details in Hazard Map)
Landslide-Prone LSGs	Eastern highland areas: Kulathupuzha, Anchal, Aryankavu, Thenmala, parts of Pathanapuram taluk
Terrain	Diverse: Coastal strip (37 km, flood-prone), Midland plains (laterite, cashew/coconut), Rolling uplands (rubber/pepper), Eastern forested highlands (tribal settlements, river origins)

Geographical Particulars

Total Area	2,491 sq. km (248,788 ha)
Location (Latitude)	8°45' N to 9°10' N
Location (Longitude)	76°25' E to 77°15' E
Forest Area	81,438 ha
Length of Coastal Line	37 km
Agricultural Area (Net Sown)	1,24,779 ha
Total Cropped Area	1,57,343 ha

Physiographic Zones

Kollam district exhibits four distinct physiographic micro-regions with characteristic health and hazard profiles:

Micro-Region	Area / Coverage	Key Characteristics	Taluks / Blocks
Kollam Coast	Coastal strip, 37 km shoreline	Sandy soils, brackish backwaters, fishing communities, flood-prone	Kollam, Karunagappally (coastal blocks)
Adoor Rolling Plain	Mid-elevation flatlands	Agriculture, rubber, cashew; moderate landslide risk	Parts of Kottarakkara, Pathanamthitta border
Kottarakkara Undulating Upland	Lateritic midlands	Cashew, coconut, laterite quarries; occupational hazards	Kottarakkara, Kunnathur taluks
Kulathupuzha Forested Hills	Eastern highland	Dense evergreen forests, tribal settlements, river origination zones	Pathanapuram, Anchal area

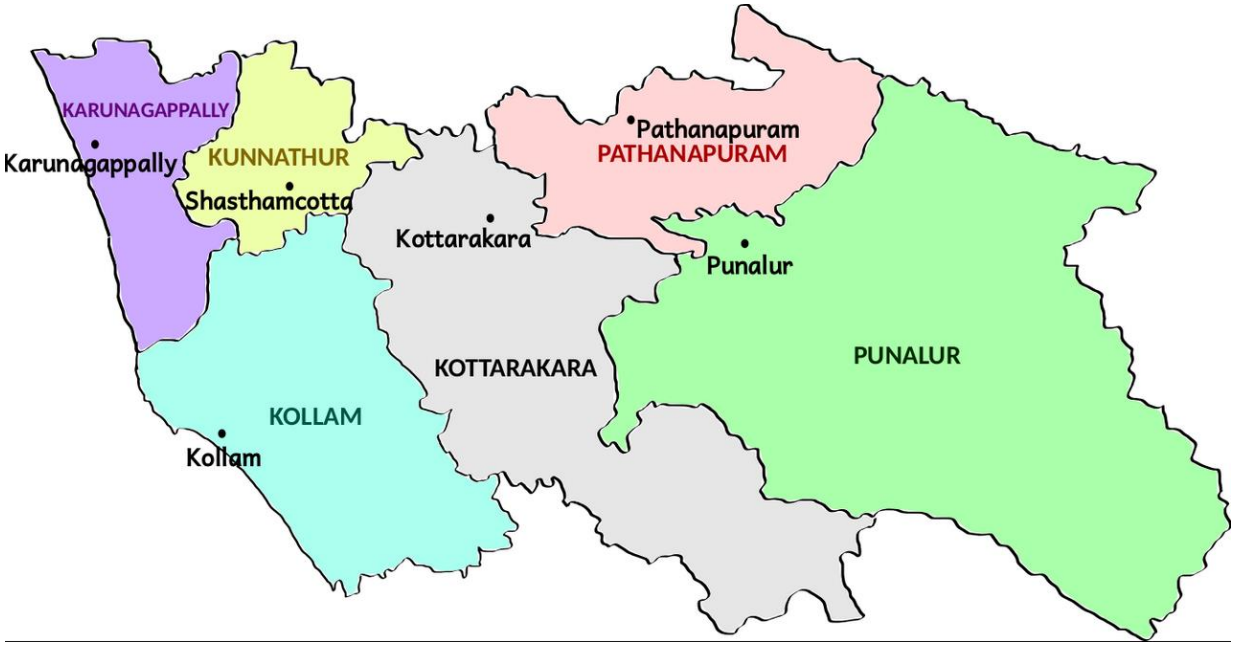
Demographic Profile

TABLE 2: DEMOGRAPHIC PROFILE OF KOLLAM DISTRICT		
Category	Count / Value	Source / Year
DEMOGRAPHIC PROFILE		
Total Population	26,35,375	Census 2011
	36,63,172	UIDAI/IIPA 2023
	~27,55,000	Census extrapolation
Male	12,46,968	Census 2011
Female	13,88,407	Census 2011
Transgender		Social Justice
Sex Ratio	1,113	Census 2011
Population Density	1,061	Census 2011
Children under 5 (0–5 yrs)	~2,10,000 (est.)	HMIS/ICDS 2022-23
Children 0–6 yrs	2,54,260	Census 2011
Adolescents (10–19 yrs) est.	~3,30,000 (est.)	NFHS-5 extrapolation
Elderly (>60 yrs)	~3,16,000–3,95,000 (est.)	NFHS-5/SRS 2021
Rural Population	14,48,217	Census 2011
Urban Population	11,87,158	Census 2011
Literacy Rate	93.77%	Census 2011
Male	95.83%	Census 2011
Female	91.95%	Census 2011
Decadal Growth Rate	1.94%	Census 2011
Total Households	6,69,375	Census 2011
SOCIAL / LIVELIHOOD VULNERABILITY		

Scheduled Caste (SC) Population	3,28,263 (12.46%)	Census 2011
Scheduled Tribe (ST) Population	10,761 (0.41%)	Census 2011
BPL Families	394,113	PDS
Previous EPEP Family	2213	-
Migration — Immigrant (Inbound)	1,26,346	Census 2011
Migration — Emigrant (Gulf/abroad)	~50,000–80,000+ (est.)	NORKA/IIPA 2023
Fisherfolk — Marine	~1,08,584 (27 marine villages)	Fisheries Dept/DDMP 2015
Fisherfolk — Inland	~43,372 (26 inland villages)	Fisheries Dept/DDMP 2015
Cashew Industry Workers	~1–1.5 lakh (300+ units)	Industries Dept.
Coir Industry Workers	~50,000+	Coir Board Kerala
Agricultural Labourers (Main + Marginal)	56,640 (main) + 35,553 (marginal) = 92,193	Census 2011
Kudumbasree NHGs / Members	24,137 NHGs; ~2,99,982 members	Kudumbasree Mission/IIPA
MGNREGS Card Holders	3,17,425 (Women: 2,53,980; Men: 63,495)	IIPA/MGNREGS Kerala

Legislative Assembly

Taluk Division



LSG division

District-Level Administration

- **1 District Panchayat:** Kollam District Panchayat.
- **1 Municipal Corporation:** Kollam Municipal Corporation.
- **4 Municipalities:** Karunagappally, Kottarakkara, Paravoor, and Punalur.
- **11 Block Panchayats 68 Grama Panchayats (Categorized by Block)**
- **Anchal Block:** Alayamon, Anchal, Aryankavu, Edamulakkal, Eroor, Karavaloor, Kulathupuzha, and Thenmala.
- **Chadayamangalam Block:** Chadayamangalam, Chithara, Elamadu, Ittiva, Kadakkal, Kummil, Nilamel, and Velinallur.
- **Chavara Block:** Chavara, Neendakara, Panmana, Thekkumbhagom, and Thevalkkara.
- **Chittumala Block:** East Kallada, Kundara, Mundrothuruthu, Panayam, Perayam, Perinad, and Thrikkaruva.
- **Ithikkara Block:** Adichanalloor, Chathannur, Chirakkara, Kalluvathukkal, and Poothakkulam.
- **Kottarakkara Block:** Ezhukone, Kareepra, Neduvathoor, Pooyappally, and Veliyam.
- **Mukhathala Block:** Elampalloor, Kottamkara, Mayyanad, Nedumpana, and Thrikkovilvattom.
- **Oachira Block:** Alappad, Clappana, Kulasekharapuram, Oachira, Thazhava, and Thodiyoor.
- **Pathanapuram Block:** Pathanapuram, Pattazhi, Pattazhi Vadakkekkara, Piravanthoor, Thalavoor, and Vilakkudy.
- **Sasthamcotta Block:** Kunnathur, Mynagappally, Poruvazhy, Sasthamcotta, Sooranadu North, Sooranadu South, and West Kallada.
- **Vettikkavala Block:** Kulakkada, Melila, Mylam, Pavithreswaram, Ummannur, and Vettikkavala

Major Rivers — Geospatial Reference

River	Length	Origin	Key Districts / Blocks Crossed	Pandemic / Disaster Relevance
Kallada River	121 km	Western Ghats (Kulathupuzha–Chendumi confluence)	Pathanapuram, Kottarakkara, Kundara, Kollam	Flood risk along basin; leptospirosis corridors; Kallada dam (KSEB emergency releases)
Achenkovil River	128 km	Pasukida Mettu / Ramakkal Teri	Kunnathur, Karunagappally (lower course)	Flood-prone lower basin; agricultural leptospirosis risk
Ithikkara River	56 km	Madathurikunnu hills	Chadayamangalam, Chathanoor, Adichanalloor	Seasonal flooding; enteric disease risk in lower reaches
Pallickal River	42 km	Near Adoor	Adoor (Pathanamthitta), Karunagappally border area	Minor flood risk; important drinking water source
Ashtamudi Lake (Estuary)	~61 sq. km	Brackish lake / estuary	Kollam Corporation, Munroe Island, coastal GPs	Cholera/Hep A risk; tidal flood; Island GP access constraints

Major Establishments - Health Facilities

Sl.	Institution Type	Location	Beds	Health Block
1	District Hospital	Kollam Corporation	—	DMO Kollam
2	CHC	Nedumpana	75	CHC Kalakkodu
3	CHC	Anchal	30	CHC Anchal
4	CHC	Chavara	46	CHC Chavara
5	CHC	Mayyanadu	70	CHC Mayyanadu
6	CHC	Kulathupuzha	12	CHC Kulathupuzha
7	CHC	Mynagappally	24	CHC Mynagappally
8	CHC	Ochira	12	CHC Ochira
9	CHC	Kottarakkara	—	CHC Kottarakkara
10	CHC	Pathanapuram	12	CHC Pathanapuram
11	CHC	Velinalloor	24	CHC Velinalloor
12	CHC	Sooranadu	16	CHC Sooranadu
13	CHC	Kulakkada	24	CHC Kulakkada
14	24x7 PHC	Parippally	24	CHC Kalakkodu
15	24x7 PHC	Thazhava	24	CHC Mynagappally
16	24x7 PHC	Perumon	24	CHC Kundara
17	24x7 PHC	Munroe Island	0	CHC Kundara (island)
18	24x7 PHC	Chadayamangalam	24	CHC Velinalloor
19+	PHC (multiple)	District-wide (53+ nos.)	—	Various CHC blocks

Major Industrial & Strategic Establishments

Establishment	Location	Nature / Sector	Pandemic / Disaster Relevance
Fertilisers and Chemicals Travancore (FACT)	Udyogamandal (FACT campus) / Chavara	Chemical fertilizer manufacturing	Large workforce; chemical hazard; migrant labour from TN & northern Kerala
Kerala Minerals & Metals Ltd (KMML)	Chavara	Titanium/mineral processing	Heavy industry workforce; respiratory hazard overlap; migrant workers
Hindustan Newsprint Ltd / Paper Mills	Punalur	Paper manufacturing	Concentrated labour; river-adjacent flooding; Punalur town surge risk
Cashew Processing Industries	Kollam City, Kundara belt	Cashew kernel processing (300+ units)	High female worker density; skin/respiratory occupational disease; seasonal labour migration
Neendakara Fishing Harbour (Major Port)	Neendakara, Sakthikulangara	Commercial fishing; mechanised boats; national ranking	Disease entry through marine labour; cholera/SARS hotspot; crowd aggregation
Kollam Port (Lighterage Port)	Kollam Corporation	Cargo handling, maritime trade	International goods movement; WHO PoE protocols applicable
Kollam Railway Station / KSRTC Bus Terminal	Kollam Corporation	Inter-state rail/bus connectivity	High-volume Points of Entry; screening site during outbreaks
Ashtamudi Tourist Zone / Backwater Resorts	Kollam Corporation, Munroe Island	Tourism and hospitality	Tourist influx; international visitors; seasonal aggregation; cholera risk
Sasthamkotta Fresh Water Lake	Kunnathur/Sasthamkotta area	Largest freshwater lake in Kerala; drinking water source for Kollam	Water-borne disease vulnerability; critical infrastructure protection

6.1 Occupational Groups — Profile & Health Risk

Kollam's diverse economic base creates distinct occupational risk groups. Understanding these groups is critical for targeted pandemic preparedness - particularly for disease transmission prevention, vaccine prioritization, and surge planning.

Occupational Group	Estimated Size	Geographic Distribution	Key Health Risks During Pandemic
Marine Fisherfolk	~1,08,584 (marine) 27 marine fishing villages	Neendakara, Sakthikulangara, Karunagappally coast, Thrikkadevapuram, Azheekal, Alappad, Panmana	Cholera, Hepatitis A, Leptospirosis, Dengue, COVID-like ILI; poor WASH at sea; crowded boat/harbour conditions; high mobility
Inland Fisherfolk	~43,372 26 inland fishing villages	Ashtamudi lake, Kallada river belt, Ithikkara river, backwater areas	Leptospirosis, water-borne diseases, malaria; wading in contaminated water
Cashew Industry Workers	~1–1.5 lakh (seasonal estimate); 300+ units	Kollam Corporation, Kundara, Chavara, Karunagappally	Skin diseases (CNSL contact), respiratory ailments, seasonal migrant influx from Tamil Nadu; crowded work sheds
Coir Industry Workers	~50,000+ (estimate); predominantly female	Karunagappally, Ochira, Mynagappally, Chavara belt	Skin infections from coir retting ponds (stagnant Clostridium/Leptospira risk); respiratory disease from dust
Plantation / Agriculture Workers	~56,640 agricultural labourers	Pathanapuram, Kottarakkara, Kunnathur rubber & coconut areas; paddy tracts	Leptospirosis (paddy harvest), Japanese Encephalitis, scrub typhus, pesticide poisoning
Industrial Workers (FACT/KMML/ Paper mills)	~10,000–20,000 (estimated formal sector)	Chavara Industrial Belt, Punalur, Udyogamandal	Chemical exposure, respiratory disease (TiO2 dust), COVID transmission in dormitories; migrant worker vulnerability
Construction Workers (Migrant Labour)	~30,000–50,000 (estimated, largely from	Kollam Corporation, Kottarakkara,	Multi-drug resistant TB, COVID-like ILI, poor WASH in labour camps; language barriers to health-seeking

	North India/Odisha/WB)	major construction sites	
Healthcare Workers	~5,000–8,000 (estimated district total, all cadres)	Across 71+ government health facilities, private hospitals, clinics	Highest exposure risk; PPE requirements; burnout during surge; priority vaccination
Teachers & Students	Kollam's 500+ schools, 60+ CBSE schools, 3 engineering colleges	District-wide	Superspreader events in educational institutions; school closure decisions; adolescent mental health during lockdown

Socio-Cultural Groups - Vulnerability Profile

Community Group	Size / Coverage	Key Characteristics	Pandemic Vulnerability & Preparedness Notes
Scheduled Caste (SC) Community	3,28,263 (Census 2011)	Coastal and midland settlements; often in labour-dependent livelihoods	BPL overlap; limited health-seeking capacity; community health worker (ASHA/AWW) reliance during lockdown
Scheduled Tribe (ST) Community	10,761 (Census 2011)	Forest-interior areas: Anchal, Kulathupuzha, Pathanapuram; Ullattu Kuruma, Mannan, Paniya communities	Remote access (limited road/telecom); language barrier; traditional healers first resort; malaria/scrub typhus endemic
Marine Fishing Community	~1.5 lakh+	Organized under fisheries cooperatives; distinct socio-cultural identity; strong community networks	Rapid community mobilization possible through fisheries cooperative structures; MSSF / KSMTF networks
Gulf Migrants / Return Emigrants	~50,000–80,000+ (estimated active Gulf workers from Kollam)	High Gulf remittance dependency; high return migration during Gulf crises (COVID: mass return 2020)	Re-entry quarantine logistics; airport surveillance; disease importation risk; mental health post-return

Elderly Population (>60 years)	Approximately 12–15% of population	High in areas with Gulf migration (feminized, ageing households)	Clinically vulnerable; higher CFR in COVID/influenza; care gap in emigrant-dominated GPs
Transgender Community	Data limited	Urban Kollam and coastal areas; social stigma	Health access barriers; discrimination at facilities; priority for inclusive outreach
Muslim Community (coastal Karunagappally belt)	Significant in Karunagappally, Ochira, Panmana area	Strong community and religious institution networks	Madrasa/mosque networks for community outreach; community kitchen potential in emergency
Christian Community (urban & midland)	Significant in Kollam Corporation, Kottarakkara, Pathanapuram	Church network for community outreach; strong voluntary organizations	Church-based mass gathering risk during festivals; strong volunteer mobilization capacity

Migration & Mobility Patterns

Internal Migration

Registered Migrants (Census 2011)	**1,26,346 (in Kollam district); 1,625,653 state total**
Dominant Inbound Migration Origin	Tamil Nadu (cashew, construction workers), North India states (Odisha, West Bengal, UP — construction labour)
Seasonal Migration Peak	October–March: cashew processing season; monsoon: reduced movement; post-harvest paddy season
Key Destination Nodes	Kollam city, Chavara industrial belt, Karunagappally, Kundara cashew belt

Emigration (Gulf / International)

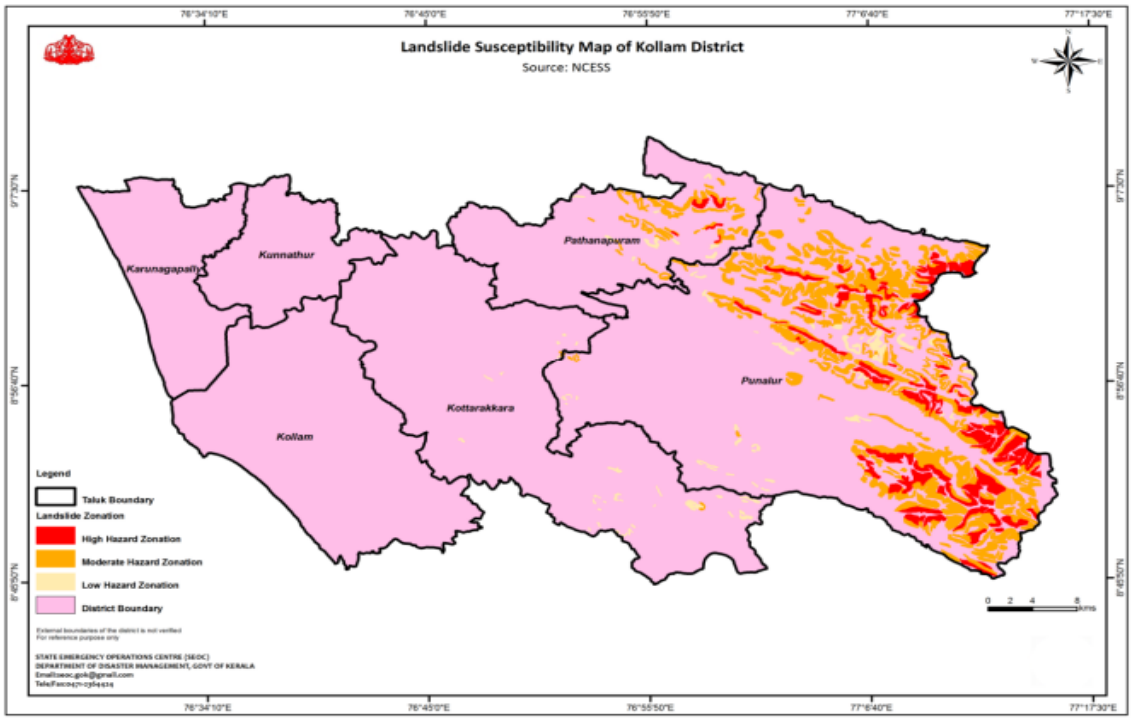
Nature	**High Gulf emigration from Kollam, particularly Karunagappally, Ochira, Mynagappally, Chavara, and Kollam urban areas**
Relevance to PPP	Return migrants during COVID-19 (2020): Norka Roots data showed significant return to Kollam;

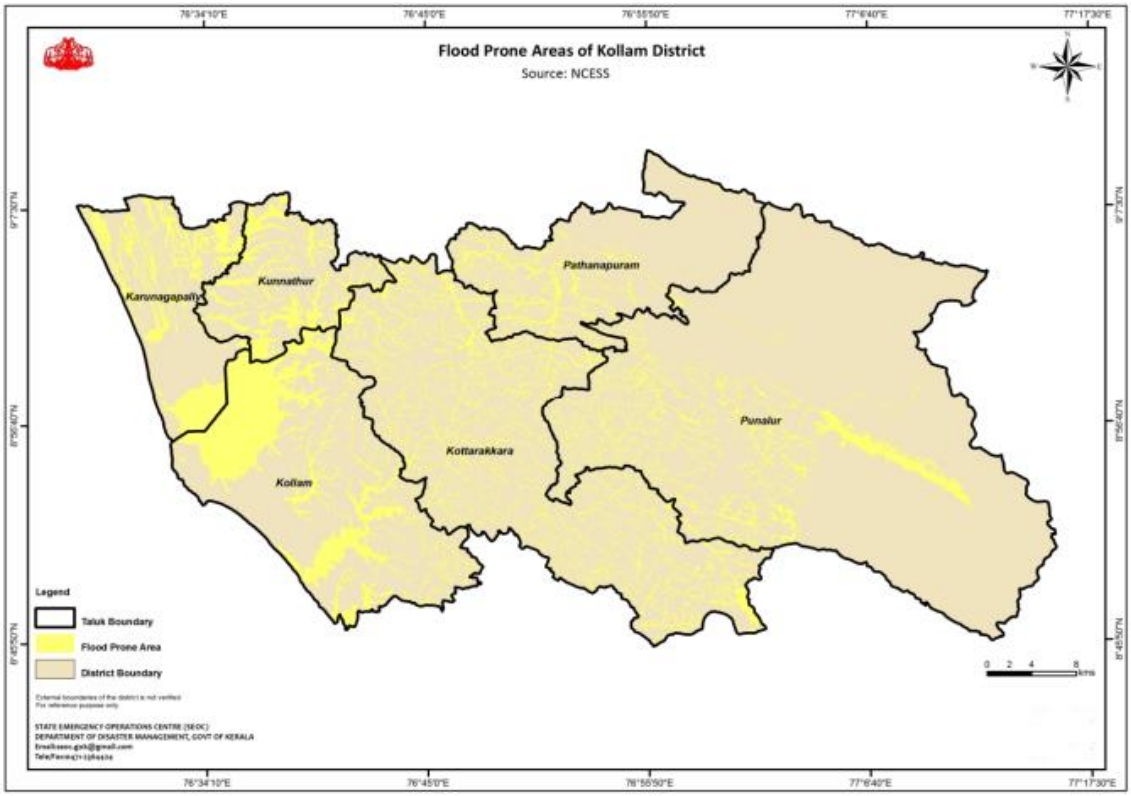
	quarantine facilities required at district and LSG level
Screening Points	Trivandrum International Airport (nearest), Kochi International Airport; KSRTC/railway stations for domestic returnees

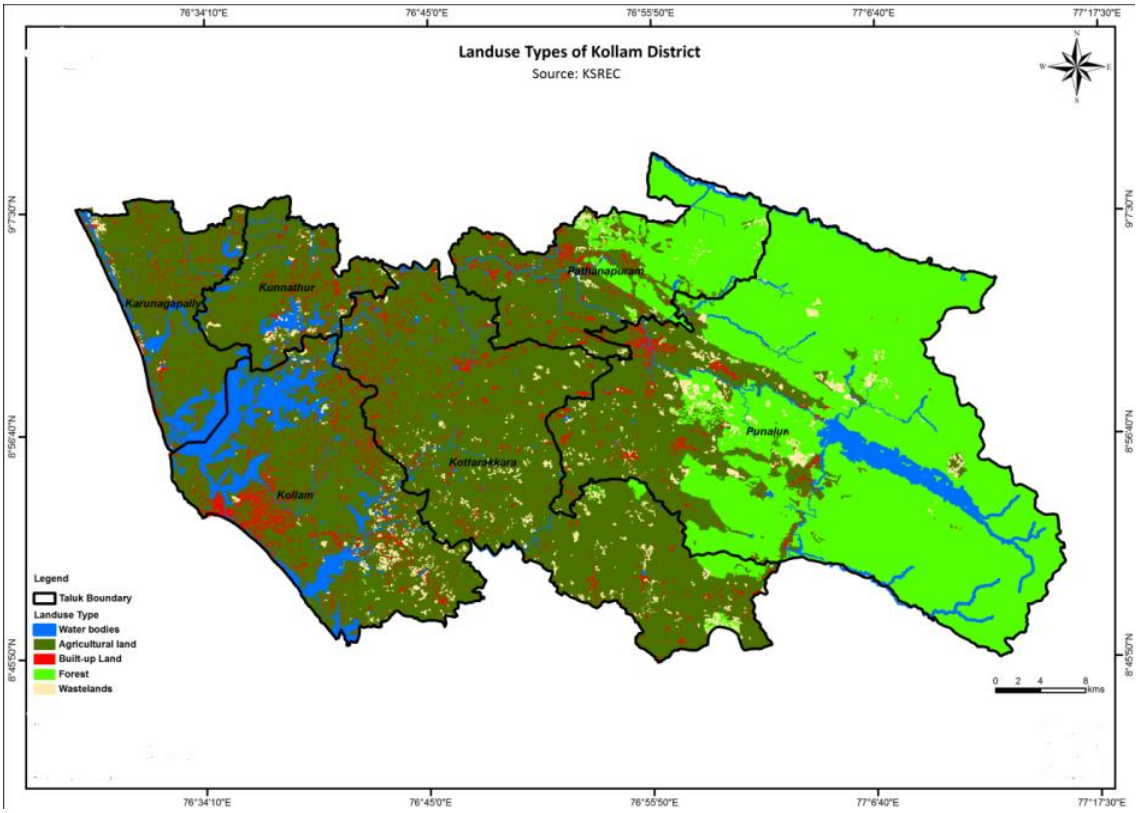
Key Mobility Corridors & Points of Entry (PoE)

PoE / Corridor	Type	Volume (estimated)	IHR Relevance
Kollam Railway Station	Domestic Rail PoE	25,000–40,000 passengers/day (pre-COVID)	Screening, thermal checks, surveillance during outbreaks
NH 744 (Tamil Nadu border crossing)	Inter-state Road PoE	High truck/labour mobility from TN	Cross-border worker surveillance; quarantine checkposts
Neendakara/Sakthikulangara Port	Marine PoE (domestic)	Fishing boats; crew movement	Cholera/SARS/COVID: crew screening; fish market surveillance
Kollam Port	Port / Cargo	Maritime cargo	IHR Article 35 notification for international cargo
KSRTC Kollam Bus Station	Bus Terminus	15,000–25,000/day (estimate)	Domestic travel surveillance; passenger tracking during outbreaks
NH 66 (Thiruvananthapuram border)	Road corridor south	High inter-district flow	Boundary screening during state-level lockdown

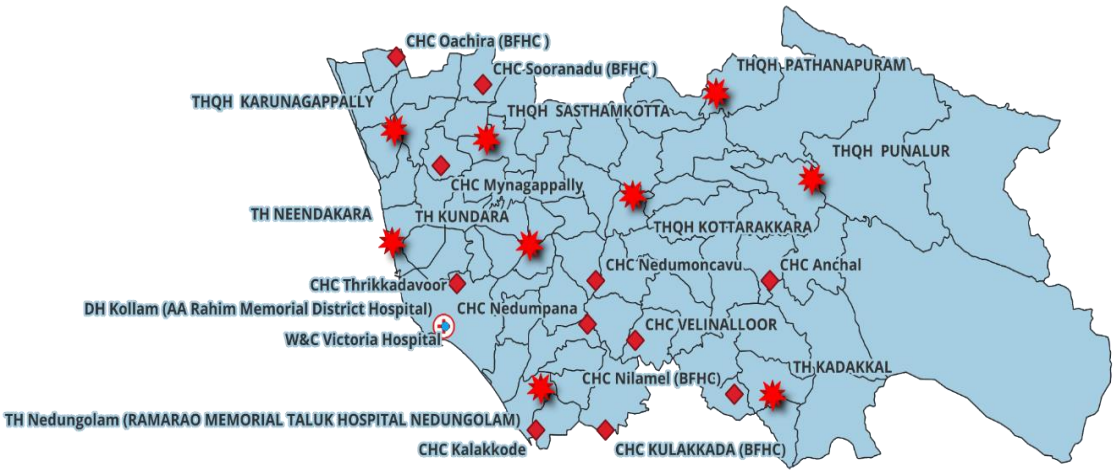
Disaster-prone areas (geographic vulnerability)







Health Infrastructure Map



Clinical Vulnerability

Certain population groups need priority healthcare & are at higher risk of severe illness, complications, and mortality during pandemics. Patients with chronic diseases, those requiring regular medical care, and individuals with mobility or functional limitations face challenges in accessing timely care during emergencies. Mapping these groups helps in prioritising continuity of treatment, medicine stock planning, oxygen support, referral transport, and targeted home-based care.

Description	Details in numbers
Pregnant women	13842
Lactating mothers	33324
Bedbound patients	10918
Patients under palliative care other than bedbound	17654
Patients on Haemodialysis	627
Patients on CAPD	36
Cancer patients (currently on treatment)	6488
Haemophilic patients	131
Mentally challenged	4801
Differently abled	9171
Diabetic patients	202,696
Hypertensive patients	272,360
TB patients	1214(2025)

Major Festivals & Events specific to the district

(with the possibility of a public gathering)

Sl. No.	Name of Festival	Month & Periodicity
1	President's Trophy Boat Race	January (Held on the second Saturday/Jan 10 in 2026)
2	Ashtamudi Craft and Art Festival	December – January (Annual, 15-day duration)
3	Thalavoor Pooram	February – March (Starts 24 Feb, ends 5 March 2026)

Sl. No.	Name of Festival	Month & Periodicity
4	Kottankulangara Chamayavilakku	March (10th and 11th of the Malayalam month Meenam)
5	Malanada Kettukazcha	March (Annual; usually 27th March)
6	Kollam Pooram	April (Held on April 15/16, during the Vishu season)
7	Oachira Kali	June (First two days of the Malayalam month Mithunam)
8	Kallada Boat Race	August – September (Held on the 28th day after Onam)
9	Panmana Pooram	March – April (Annual temple festival)
10	Sakthikulangara Temple Festival	January (Usually mid-January; Jan 14, 2026)
11	Anayadi Pazhayidam Temple Festival	January (Known for huge elephant parades; Jan 20, 2026)
12	Thazhuthala Temple Festival	January (Jan 20, 2026)
13	Chathannoor Kanjiramvila Temple Festival	January (Jan 27, 2026)
14	Thrikkadavur Mahadevar Temple Sivarathri	February (Kettukazhcha festival; Feb 15, 2026)
15	Kadakkal Thiruvathira	February (Grand cultural event; Feb 27, 2026)
16	Parippally Gajamela	March (Famous elephant pageant; March 8, 2026)
17	Puthiyakavu Pongala	March (Massive gathering of women; March 13, 2026)
18	Paravur Puttingal Temple Festival	March (Major local festival; March 21, 2026)
19	Kottarakkara Ganapathy Temple Festival	April (Usually ends on Vishu/April 15-22)
20	Mukhathala Murari Temple Festival	May (Annual Utsavam; May 8, 2026)
21	Vadayattukotta Ashtami Rohini	August – September (Celebrated for 5 days)

INFRASTRUCTURE & RESOURCE INVENTORY

Health Facility Directory & Basic Capacity in the District

This section provides an overview of the healthcare infrastructure available within the district area. It outlines the distribution and basic capacity of health facilities that form the backbone of service delivery during routine times and public health emergencies.

Family Health Centres (FHCs) and Community Health Centres (CHCs) generally function as the first point of contact for the community, providing essential outpatient and inpatient services. General Hospitals (GH) and Medical College Hospitals (MCH), where accessible, serve as the main referral centres for advanced diagnostics, specialist care, and critical services during public health emergencies. This inventory helps identify existing strengths, gaps, and potential surge capacity that can be mobilised during a pandemic or disaster

Sl.no.	Health Facility	Type of Facility (MCH/GH/CHC/ FHC/SC etc.)	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
1	MCH Paripally	MCH	549	45	314	43	ALS-1 BLS-1
2	District Hospital, Kollam	DH	537 total bed	37	78	10	2- BLS
3	Victoria Hospital, Kollam	Mother and Child	273, 218 fun	6 bed icu, sncu 16 bed incubated	23	-	BLS 1
4	Karunagappally Taluk Hospital	TH	203	10	45	7- micu	ALS-1, BLS-1
5	Punalur TH	TH	419	54	215	8	
6	Nedungolam TH	TH	150	3	50	3	BLS-1
7	Neendakara TH	TH	60	-	-	-	ALS-1
8	Kundara TH	TH	70	10	50	1 bed , not	BLS-1

Sl.no.	Health Facility	Type of Facility (MCH/GH/CHC/ FHC/SC etc.)	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
						functioning	
9	Shasthamkotta TH	TH	140	4	45	-	BLS-2
1	ESIC Model & Super Speciality Hospital, Asramam	GH	200	10	Yes	yes	2
2	Shankar's Institute Of Medical Science (SIMS), Kadappakada	GH	200	33	20	7	BLS-1
3	Upasana Hospital, Chinnakada	GH	300	8			3
4	Bishop Benziger Hospital, Beach Road	GH	600	20			4
5	Matha medical centre ,kadavoor	GH	80	10			2
6	P.N.N Memorial Hospital, Anchaloomoodu	GH	120				2

Sl.no.	Health Facility	Type of Facility (MCH/GH/CHC/ FHC/SC etc.)	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
7	K. Damodaran Memorial Hospital, Chinnakada	GH	20				1
8	The Lifeline Fertility and Well Woman Centre, Prathibha Jn, Kadappakkada	GH	85	70			Linked
9	Kumar Hospital, High School Jn.	GH					Linked
10	AGC Hospital,kollam	GH					Linked
11	NS Hospital , Ayathil	GH	400	70	327	34	ALS-2, BLS-3
12	Travancore Medical college Hospital	MCH	578	115	350	40	ALS-2, BLS-3
13	Meditrina Hospital, Ayathil	GH	200	30	75	10	BLS-1, ALS-1
14	Azeezia Medical	MCH	540	60	80	14	Bls-2 ALS-1

Sl.no.	Health Facility	Type of Facility (MCH/GH/CHC/ FHC/SC etc.)	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	College, Meeyannur						

Healthcare Education & Training Institutions

This section tracks the educational infrastructure available, which is vital for human resource planning in the health sector.

Category of Institution	Govt	Private	AYUSH	Total
Medical Colleges	1	2	2	5
Nursing Colleges	2	16	4	22
Dental Colleges	0	2	0	2
Para-medical / Allied Health	1	6	1	8
Pharmacy Colleges	0	2	1	3

Specialised Services & Emergency Inventory

This section provides a detailed view of the specialized medical resources available to the community, focusing on emergency response and critical care capabilities. This table tracks the vital assets required for managing severe illnesses and emergencies across the Government, Private, and AYUSH sectors.

Item	Govt	Private	AYUSH	Total
Hospital beds	2,401	3,323	N/A	5,724
Oxygen-generating systems (Y/N)	1	1	N/A	N/A
Oxygen-supported beds	820	852	N/A	1,672
Ventilator-supported beds	71	117	N/A	188
ICU beds	185	426	N/A	611
Burns units	N/A	N/A	N/A	N/A
Blood centres	1	1	N/A	2
BLS ambulances	9	12	N/A	21
ALS ambulances	3	6	N/A	9
Dialysis facilities	N/A	N/A	N/A	N/A

Item	Govt	Private	AYUSH	Total
Dispensaries	N/A	N/A	N/A	N/A
Medical store	N/A	N/A	N/A	N/A
Industrial establishments	N/A	N/A	N/A	N/A

Oxygen & Diagnostic Capacity

Monitoring oxygen and diagnostic capacity is a critical component of public health preparedness, ensuring that the district can handle both chronic care and sudden surges in respiratory or infectious diseases.

Diagnostics facility mapping at the district level

The diagnostic capacity of Kollam represents the "intelligence network" of our healthcare system. The speed and accuracy of disease identification depend entirely on the distribution and technical level of these facilities.

Item	Govt	Private	AYUSH	Total
General labs	93	363	0	456
Microbiology labs	1	13	0	14
RT-PCR labs	1	2	0	3
USG units	0	97	0	97
CT/MRI units	0	17	0	17
Research labs	0	0	0	0
Labs of other departments that can be repurposed	0	0	0	0

Social and Community Infrastructure for the surge plan

This table serves as our **logistics and shelter inventory.** By mapping these locations, we can quickly identify where to house displaced citizens, where to set up temporary medical clinics, and how to manage the deceased with dignity during a crisis.

Category	Total Count
Educational Institutions	
Anganwadis	2724
Schools	940
Colleges	42
Healthcare Educational Institutions	
Medical colleges (Govt/Private)	5
Nursing colleges (Govt/Private)	22
Dental colleges (Govt/Private)	2
Paramedical institutes (Govt/Private)	12
Community Gathering Spaces	
Community halls	146
Auditoriums	385
Religious buildings	2856
Vulnerable Group Support Facility	
Destitute homes	38
Elderly homes	46
DISTRICT owned other buildings	88
Mass Fatality Management (MFM) Infrastructure	
Mortuary	12
Crematorium	28

*refer annexure 1 for contact details

HUMAN RESOURCES

This section focuses on the human capital available within the DISTRICT. In any emergency-be it a pandemic, flood, or industrial accident infrastructure is only as effective as the people operating it.

Medical & Clinical Personnel

This table tracks the "Frontline" providers responsible for diagnosis, treatment, and clinical management. Narrative sentence: e.g., "Total health workforce: 450 personnel, with 60% in government facilities serving as primary surge capacity." A detailed directory with the contact numbers of all workers is maintained (**Annexure in 1**).

Cadre	Govt (No.)	Private (No.)	Total
Administrative Medical officer	16	22	38
Modern Medicine Doctors	389	1087	1476
AYUSH Doctors	134	153	287
Nursing Officers	542	2550	3092
Lab Technicians	141	665	806
Health Supervisors	17	0	17
Pharmacists	171	695	866
Public health nursing supervisor	15	0	15
Epidemiologist	16	0	16
Data Manager	16	0	16
JHI	289	0	289
JPHN	405	0	405
MLSP	423	0	423
ASHA	2861	0	2861
Community one health volunteers	1938	0	1938

Community Organizations

This section details the presence of community-based organisations (CBOs), non-governmental organisations (NGOs), faith-based organisations (FBOs), Kudumbashree Self-Help Groups (SHGs), and Ayalkootams within the Local Self-Government Institution (DISTRICT). These groups enhance grassroots mobilization, resource distribution, and support networks crucial for pandemic response and community resilience.

Administrative & Emergency Services

This section outlines the availability of key non-health emergency support services and infrastructure within the DISTRICT, which are essential for effective pandemic preparedness and response. These facilities support law enforcement, disaster response, water supply, logistics, mobility, and community-level interventions during public health emergencies.

Sl. No.	Category	Total Count
1	Police Stations	33
2	Fire & Rescue Stations	12
3	Water Pumping Points	11+
4	Public Distribution System (PDS)	1,384

Information regarding resources

The availability of essential transport and support resources plays a quiet but critical role in saving lives. Equipment such as ambulances, mobile mortuaries, amphibian ambulances, and motorized boats ensures that patients, samples, and healthcare teams can move swiftly-even in flooded, remote, or difficult terrains. Heavy vehicles like JCBs, cranes, tractors, and torus lorries support logistics, waste management, emergency infrastructure, and rapid conversion of spaces into care or isolation facilities. Taxis, four-wheel-drive vehicles, and trucks help maintain continuity of essential services, reach vulnerable populations, and support home-based care and supply delivery.

ONE HEALTH & ENVIRONMENTAL SURVEILLANCE

The One Health method integrates environmental, animal, and human health to enable proactive pandemic preparedness. Panchayat-level surveillance needs to be improved to detect and treat zoonotic and environmentally transmitted diseases early. Surveillance is strengthened through systematic assessment of animal populations, veterinary infrastructure, poultry and slaughter facilities, intersectoral coordination, and specialised tools, such as GIS-based avian influenza seasonality mapping from previous outbreaks to enable predictive alerts and ward-specific sampling to support effective pandemic preparedness in high-risk areas _.

Animal & Bird Population

Mapping animal and bird populations at the Panchayat level is essential for identifying and prioritising zoonotic disease hazards such as rabies, avian influenza (H5N1), leptospirosis, anthrax, and Nipah-like spillover events. Risk classification, targeted surveillance, vaccination planning, and early epidemic detection made feasible by comprehensive population mapping all enhance One Health-based pandemic preparedness.

Category	Item	Estimated Population
Animal Population	Livestock (Cattle/Goats/Buffalo)	TOTAL= **119,400**
	Pet Animals (Dogs/Cats)	
	Stray Dog Population	
	Pig Farms (Number of heads)	
	Small Units (Sheep / Goats – clustered)	
Bird Population	Poultry Units (Birds)	TOTAL= **240,400**
	Poultry- (FOWL)	
	Wild/Migratory Birds (Observed)	
	Crow Mortality Events (Reported)	

The main risk of zoonotic diseases in _____ is concentrated in **LSGs……..**, which is explained by the high density of pig farms, cattle congregation areas, and poultry units. The stray dog population in **market areas, fish landing sites, and bus stations** remains a substantial challenge for rabies surveillance and

bite prevention. There is a considerable risk of avian influenza introduction and amplification during **November - December** due to the seasonal presence of migratory and resident water birds near **ponds/canals/rivers/backwaters/paddy fields**. Clusters of pig farms and animal shelters vulnerable to flooding further raise the risk of leptospirosis and other zoonoses mediated by the environment, especially during monsoon floods.

Veterinary Infrastructure

Veterinary institutions are a core pillar of One Health surveillance, enabling early detection of zoonotic diseases through vaccination, investigation of unusual animal illnesses or deaths, sample collection, and timely outbreak reporting. A well-mapped and responsive veterinary network strengthens coordination with human health and DISTRICT systems, ensuring rapid response during zoonotic events and pandemics.

Veterinary Doctors & Workforce

Early detection, diagnosis, reporting, and reaction to animal illness epidemics depend on the availability and accessibility of qualified veterinary specialists. By identifying unusual animal morbidity or mortality promptly, collecting samples promptly, and coordinating efficiently with human health and district systems especially during zoonotic outbreaks and pandemic-prone situations a clearly defined veterinary workforce enhances One Health surveillance.

Category	Number Available	Type (Govt/Pvt)
Government Veterinary Doctors	78	govt
Private Veterinary Doctors	15	private
Livestock Inspectors	146	govt
Para-veterinary Staff / Attenders	249	
Contract / On-call Veterinary Support (if any)	35	

High-Risk Interface Points (Surveillance Sites)

High-risk interface points for zoonotic disease surveillance in kollam include *wetland–livestock–human contact zones, backyard poultry farms, cattle sheds near water bodies, fish markets, and areas of high human–animal interaction such as community slaughter points and migratory bird congregation sites*. These are the primary surveillance sites where zoonotic spillover risks are elevated.

Category	Total Count
Poultry Farms	45
Backyard / Clustered Poultry Units	1200
Duck Rearing Units (open water access)	15
Slaughterhouses/ Slaughter Points	35
Meat/Fish Markets	60
Live Bird Sale Points	85
Cattle Markets / Weekly Animal Fairs	4
Pet Shops / Breeders	25
Animal Shelters / Pet Homes	3
Waste Disposal Sites near Animal Units	20

Environmental Risk Mapping

Environmental risk mapping identifies monsoon- and flood-prone hotspots for vector-borne (dengue, chikungunya) and waterborne (leptospirosis, diarrhoea) diseases, as well as zoonotic diseases, in Kerala's wetlands. Systematic surveillance supports early warnings, targeted interventions, and Panchayat pandemic preparedness.

Waterborne exposure: Flood-prone areas and stagnant water bodies facilitate *leptospira survival*, raising leptospirosis risk.

Traditional practices: Informal slaughter and fish markets lack standardized hygiene, creating *spillover opportunities*.

Disease Seasonality Mapping

1, Flooding **& waterlogging** → amplifies leptospirosis, malaria, diarrheal diseases.

2, Migratory bird influx (Nov–Feb) → avian influenza risk.

3, Mosquito breeding cycles → vector-borne disease peaks in monsoon.

4, Agricultural practices → close human–animal contact in paddy fields.

Vulnerability Mapping

Vulnerability mapping pinpoints high-risk populations, occupations, and areas exposed via environment, livelihoods, socioeconomics, and poor service access. Paired with

environmental/seasonality mapping, it enables risk-based surveillance, targeted actions, and optimal resource use in One Health and pandemic planning.

EPIDEMIOLOGICAL TRENDS (2021–2025)

Disease surveillance is the systematic collection, analysis, and interpretation of health data for planning, implementation, and evaluation of public health practice. This section presents the disease surveillance profile of the DISTRICT based on routine reporting systems and outbreak investigations to identify priority diseases, seasonal patterns, and emerging public health threats.

Disease Burden among human beings (Last 5 Years)

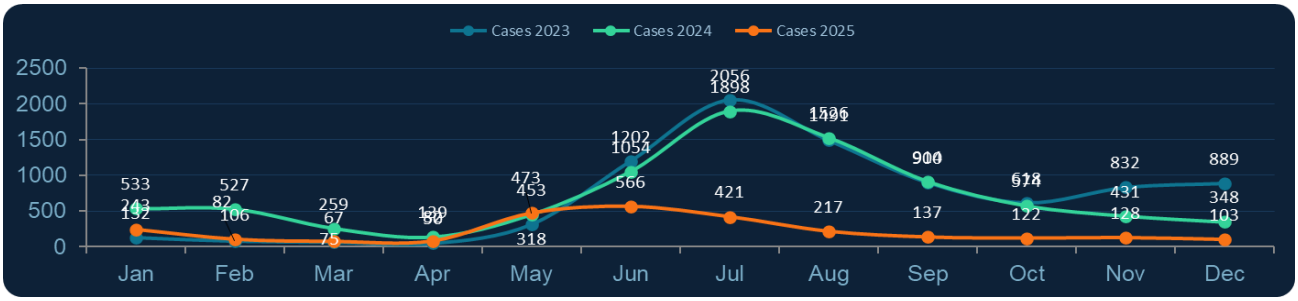
Analysis of disease-wise data for the last five years helps identify persistent public health problems, emerging diseases, and changes in disease burden. This information supports prioritisation of prevention, preparedness, and response activities at the Panchayat level.

Disease	2021	2022	2023	2024	2025	Trend
Dengue	345 (2)	2,513 (13)	8,637 (36)	8,656 (22)	2,673 (5)	Increasing (Peak in 2023-24)
Leptospirosis	93 (10)	227 (13)	320 (19)	392 (40)	287 (28)	Increasing
Hepatitis A	0 (0)	18 (0)	33 (0)	223 (1)	1,281 (8)	Increasing (Sharp rise)
Malaria	13 (0)	31 (0)	34 (0)	46 (0)	54 (0)	Increasing
Scrub Typhus	8 (1)	15 (0)	19 (0)	67 (0)	75 (1)	Increasing
Typhoid	14 (0)	62 (0)	50 (0)	142 (0)	134 (0)	Increasing
H1N1	0 (0)	8 (1)	120 (5)	183 (3)	65 (0)	Increasing
ADD	7,022 (0)	18,439 (0)	18,677 (0)	21,455 (0)	19,951 (0)	Increasing

Seasonal Trend Analysis

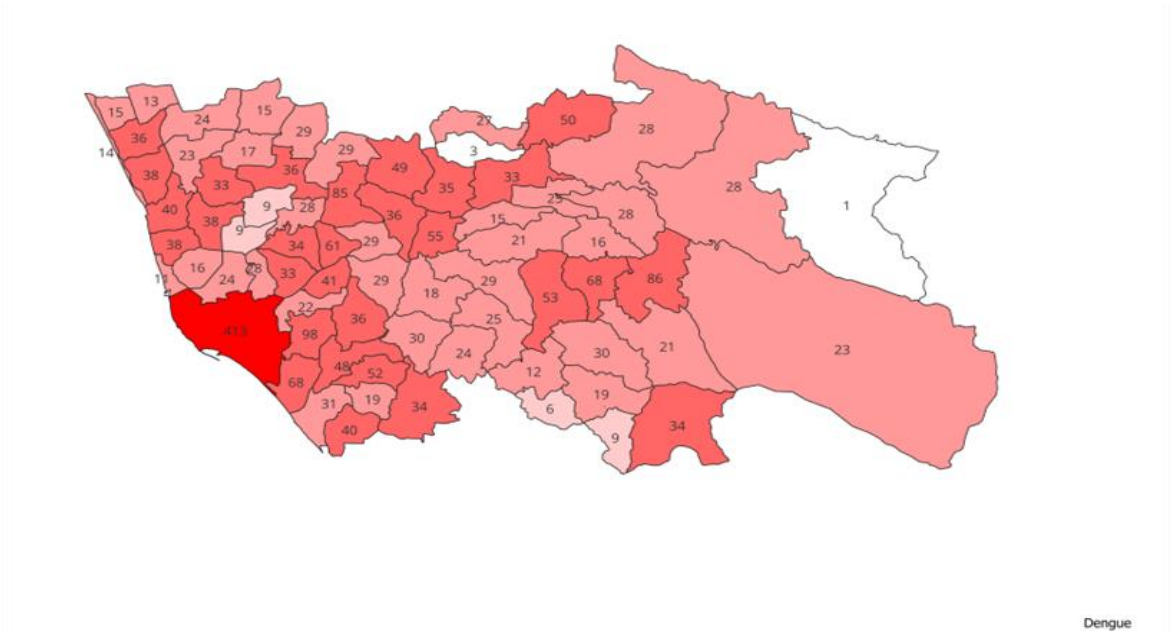
Seasonal analysis helps anticipate surges (e.g. dengue in monsoon, leptospirosis after floods, influenza in cooler months) and plan pre-emptive vector control, stockpiling of IV fluids, and awareness campaigns at Panchayat level.

DENGUE



Temporal Distribution & Seasonality

The epidemiological profile of the district exhibits a consistent cyclical **"Double-Peak"** annual pattern aligned with seasonal monsoon activities:



Primary Transmission Surge: Case volumes traditionally escalate in **May**, reaching peak annual intensity during **June or July**, correlating with the Southwest Monsoon onset.

Secondary Temporal Peak: A minor yet distinct elevation in transmission is recorded between **October and November**, mirroring the North-East Monsoon period.

Endemic Baseline Persistence: Morbidity levels never reach zero; a persistent baseline of **5 to 22 cases** remains during the pre-monsoon months (January–April), confirming year-round viral circulation.

Geographic Risk Profile & Spatial Hotspots

Spatial analysis indicates heavy concentrations of disease burden within specific administrative and topographical clusters:

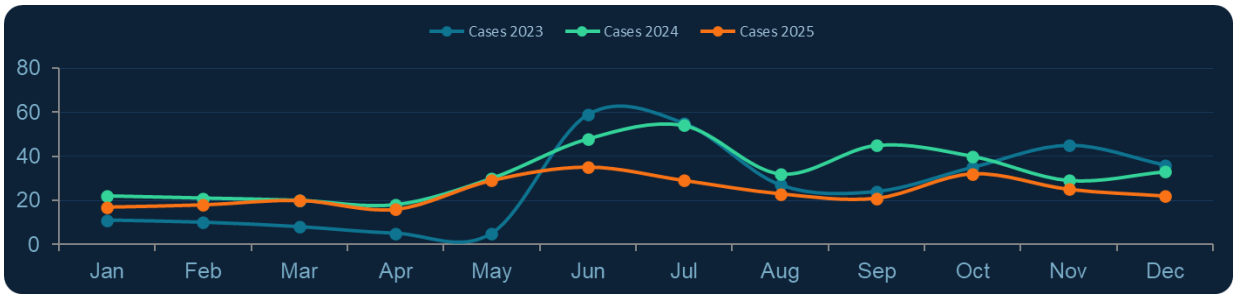
Urban Concentration: Kollam Municipal Corporation (413 cases) remains the primary epicenter, representing a dominant share of the district burden and highlighting high-intensity transmission in dense urban settings.

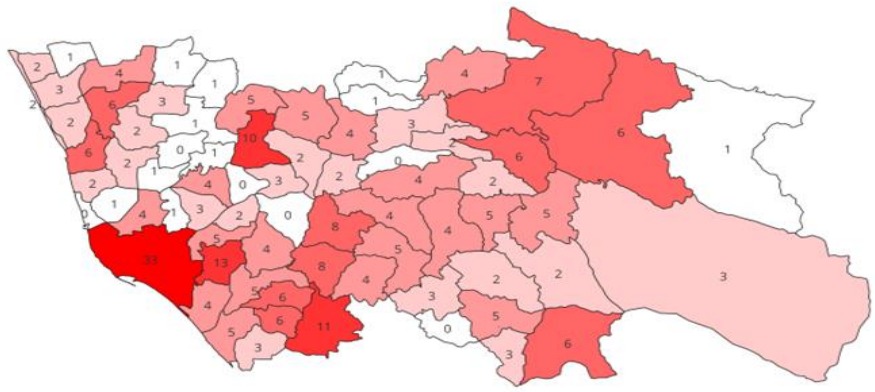
Urban-Periurban Periphery: Elevated case counts in **Thrikkovilvattom (98)** and **Mayyanad (68)** underscore increased risk levels in LSGs immediately bordering the urban hub.

Eastern Highland Hotspots: Significant clusters identified in **Yeroor (86)** and **Anchal (68)** signify high-risk zones in eastern forested regions, likely influenced by distinct environmental and occupational plantation factors.

District-Wide Distribution: Mapping confirmation shows that almost every pocket of the district recorded cases in 2025, verifying that no area is currently classified as "Dengue-free."

LEPTOSPIROSIS





Leptospirosis

Leptospirosis cases are closely linked to monsoon rains, flooding, and occupational exposure, particularly in low-lying and waterlogged areas.

Temporal Distribution & Seasonality

Epidemiological analysis identifies a decisive correlation between precipitation cycles and infection trajectories, although the transmission trend remains more volatile than that observed in Dengue outbreaks.

Primary Transmission Surge: Case volumes traditionally escalate in May or June, reaching peak annual intensity during July, coinciding with the Southwest Monsoon and associated environmental waterlogging.

Peak Intensity: 2024 recorded the highest mid-year peak with 54 cases in July, while the 2023 surge reached its zenith in June with 59 cases.

Secondary Temporal Peak: A significant secondary escalation is recorded between October and November, mirroring the North-East Monsoon showers and heightening transmission risks in both rural and urban sectors.

Endemic Baseline Persistence: Unlike highly seasonal diseases, Leptospirosis maintains a consistent monthly baseline of 10–20 cases during the pre-monsoon period (January–March), indicating continuous environmental exposure or occupational risk factors.

Geographic Risk Profile & Spatial Hotspots

The disease burden is heavily stratified within regions characterized by high-intensity human-animal interaction or compromised drainage infrastructure.

Primary Urban Epicenter: Kollam Municipal Corporation (33 cases) remains the dominant urban hub, where population density and drainage vulnerabilities amplify water-borne transmission risks, mirroring established Dengue patterns.

High-Risk Rural and Peri-Urban Clusters:

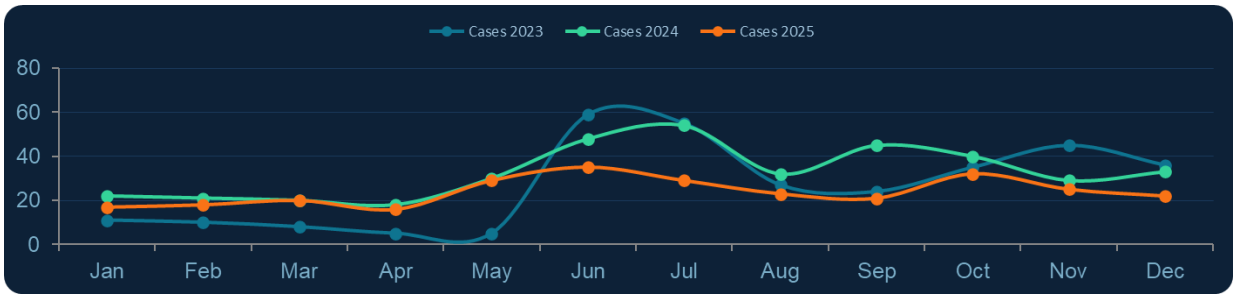
Thrikkovilvattom (13): This LSG exhibits the highest burden among Grama Panchayats, indicating significant localized environmental vulnerabilities.

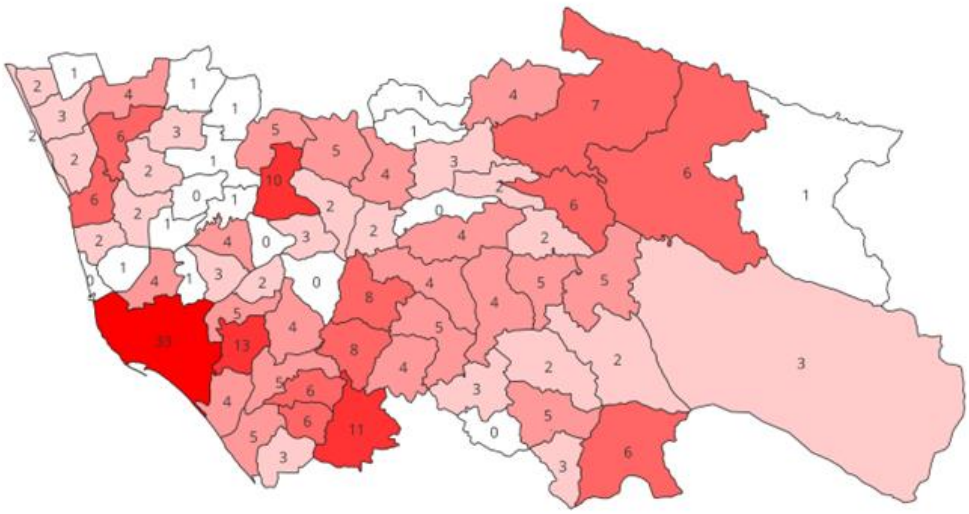
Kalluvaathukkal (11) and Pavithreswaram (10): These regions constitute the next tier of hotspots, representing critical rural clusters requiring targeted intervention.

Emerging Clusters: Localities such as Pooyappally (8), Veliyam (8), and Piravanthur (7) maintain moderate but consistent infection volumes.

Eastern and Central Spatial Spread: Mapping indicates a significant distribution across the eastern and central regions (e.g., Punalur, Thenmala), confirming that Leptospirosis risk is prevalent across diverse topographies, spanning urban centers to forested plantation sectors.

VIRAL HEPATITIS - A





Hepatitis A cases are commonly associated with unsafe drinking water, food contamination, and breakdowns in sanitation, often presenting as clusters or outbreaks.

Temporal Characteristics (Seasonal Trends)

Surveillance data indicates a significant transition from baseline endemicity to an expansive epidemic surge during the 2025 calendar year.

- **Primary Epidemic Surge —** In a marked departure from established seasonal norms, the year 2025 was characterized by a sustained and high-intensity outbreak. Caseloads escalated precipitously in February (76) and March (139), prior to typical monsoon-related triggers.
- **Peak Pre-Monsoon Morbidity —** Morbidity reached its absolute zenith in May (177 cases), indicating a primary transmission window during summer drought periods and early showers. This is frequently attributed to localized water scarcity and reliance on unverified environmental water sources.
- **Post-Peak Monsoon Persistence —** Although a decline followed the May peak, transmission levels remained elevated throughout the Southwest Monsoon (164 cases in June). A significant secondary surge occurred in October (119 cases), coinciding with the North-East monsoon period.
- **Threshold Evolution —** The district's endemic baseline shifted from approximately 3 monthly cases in 2023 to a threshold exceeding 100 cases in 2025, suggesting widespread environmental contamination or fundamental changes in population immunity.

Geographic Characteristics (Risk Spots)

Spatial distribution analysis identifies specific administrative zones and physiographic regions bearing the primary burden of the current outbreak.

- **Urban Epicenter —** Kollam Municipal Corporation (33 cases) represents the dominant risk zone. High population density coupled with complex urban water distribution systems create significant focal points for transmission.
- **Rural High-Risk Clusters —** Thrikkovilvattom Grama Panchayat (13 cases) constitutes the most affected rural LSG, indicating localized vulnerabilities in sanitation infrastructure or water safety protocols.
    - **Secondary Clusters —** Kalluvaathukkal (11 cases) and Pavithreswaram (10 cases) represent high-risk clusters where transmission intensity significantly exceeds the district average.
- **Regional Viral Seeding —** Epidemiological mapping confirms that viral seeding has occurred across nearly all LSGs, spanning the coastal strip to the eastern interior (e.g., Thenmala and Punalur), with south-central clusters remaining the current zones of highest intensity.

Outcome-Based Trend Analysis- 2025

Transmission Trend- 2025

For effective management of public health issues, it is important to track the trend of disease transmission mode. It helps identify the population or place at high risk that can be used to predict outbreaks and implement targeted interventions as quickly as possible. Understanding these kinds of trends enables authorities to allocate resources efficiently and change the strategies adequately based on the trend that follows.

Mode of Transmission	No. of Cases	No. of Deaths
Vector Borne Diseases	2,727	5
Water Borne Diseases	1,449	8
Air Borne Diseases	4,183	5
Food Borne Diseases	4	0

Vector-Borne Disease

Disease	No. of Cases	No. of Deaths
Dengue	2,673	5
Malaria	54	0
Chikungunya	0	0

Water Borne Disease

Disease	No. of Cases	No. of Deaths
Cholera	0	0
Typhoid	134	0
Hep- A	1,281	8
Dysentery	34	0
Amoebiasis	0	0
E- Coli infections	0	0

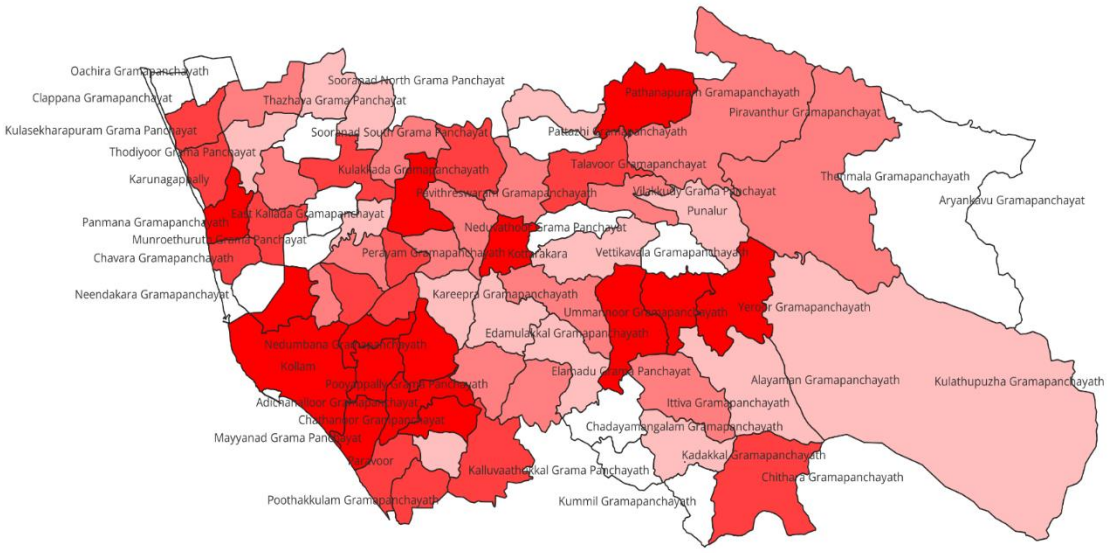
Air Borne Disease

Disease	No. of Cases	No. of Deaths
Influenza (Undiff/H3N2/B)	222	2
H1N1	47	0
TB	0	0
Chickenpox	2,211	0
Measles	8	0
Covid-19	4	3
Pertussis (Whooping Cough)	0	0
Mumps	1,691	0

Zoonotic Disease

Disease	No. of Cases	No. of Deaths
Rabies	5	5
Leptospirosis	287	28
Avian influenza	0	0
West Nile	0	0
Anthrax	0	0
Nipah	0	0
Scrub Typhus	75	1

Integrated Disease Hotspot Map (2025)



LSGD_Name	Dengue_Cases	Hep A_Cases	Leptospirosis_Cases	Dengue_Deaths	Hep A_Deaths	Leptospirosis_Deaths	AME	Total
Kollam	413	217	33	1	1	4	4	673
Thrikkovilvattom Gramapanchayat	98	269	13	0	3	4	1	388
Mayyanad Grama Panchayat	68	169	4	0	2	1	0	244
Pavithreswaram Gramapanchayath	85	8	10	0	0	0	0	103
Yeroor Gramapanchayath	86	4	5	0	0	0	1	96
Edamulakkal Gramapanchayath	53	38	4	1	0	0	0	96
Anchal Gramapanchayath	68	8	5	0	1	0	1	83
Adichanalloor Gramapanchayat	48	24	5	0	0	0	0	77
Kottamkara Grama Panchayat	22	49	5	0	0	0	0	76
Chathanoor Grampanchayat	52	14	6	0	0	1	0	73
Kottarakara	55	12	2	0	0	0	0	69
Pathanapuram Gramapanchayath	50	13	4	0	0	0	0	67
Panmana Gramapanchayath	40	17	6	0	0	1	1	65

Thrikkaruva Gramapanchayath	24	36	4	0	0	0	1	65
Nedumbana Gramapanchayath	36	24	4	0	1	0	0	65
Kundara Gramapanchayath	61	2	0	0	0	0	0	63
Kalluvaathukkal Grama Panchayath	34	16	11	0	0	0	0	61
Kulakkada Gramapanchayath	49	5	5	0	0	0	0	59
Chavara Gramapanchayath	38	19	2	0	0	0	0	59
Poothakkulam Gramapanchayath	40	12	3	1	0	0	0	56
Elampalloor Grama Panchayat	41	13	2	0	0	0	0	56
Paravoor	31	17	5	0	0	1	1	55
Thevalakkara Gramapanchayat	38	14	2	0	0	0	0	54
Talavoor Gramapanchayat	33	12	3	0	1	1	1	51
Karunagappally	38	9	2	0	0	0	1	50
Chithara Gramapanchayath	34	7	6	0	0	0	2	49
Perinad Gramapanchayath	33	11	3	0	0	1	1	49
Kulasekharapuram Grama Panchayat	36	10	3	0	0	0	0	49

Sasthamcotta Gramapanchayath	36	10	1	0	0	0	1	48
Perayam Gramapanchayath	34	8	4	0	0	0	1	47
Pooyappally Grama Panchayath	30	7	8	0	0	2	0	47
Mynagappally Grama Panchayat	33	6	2	0	0	2	1	44
Mylom Gramapanchayath	35	5	4	0	0	0	0	44
Velinalloor Grama Panchayat	24	11	4	0	0	1	3	43
Vilakkudy Grama Panchayat	25	14	2	0	0	0	2	43
Thazhava Grama Panchayat	24	14	4	0	0	1	0	43
Neduvathoor Grama Panchayat	36	3	2	0	0	1	0	42
Panayam Gramapanchayath	28	13	1	0	0	0	0	42
Piravanthur Gramapanchayat	28	6	7	0	0	0	0	41
Thenmala Gramapanchayath	28	2	6	1	0	2	0	39
Ummannoor Gramapanchayath	29	4	4	0	0	0	1	38
Kunnathoor Gramapanchayat	29	4	5	0	0	0	0	38

Ezhukone Gramapanchayath	29	6	3	0	0	0	0	38
Ittiva Gramapanchayath	30	6	2	0	0	0	0	38
Punalur	28	2	6	0	0	1	0	37
Thodiyoor Grama Panchayat	23	6	6	0	0	0	1	36
Poruvazhi Gramapanchayath	29	6	1	0	0	0	0	36
Chirakkara Gramapanchayath	19	7	6	0	0	1	2	35
Elamadu Grama Panchayat	25	4	5	0	0	0	0	34
East Kallada Gramapanchayat	28	5	1	0	0	0	0	34
Veliyam Gramapanchayath	18	5	8	0	0	2	0	33
Vettikavala Gramapanchayath	21	5	4	0	0	0	2	32
Kareepra Gramapanchayath	29	2	0	1	0	0	0	32
Kadakkal Gramapanchayath	19	4	5	0	0	0	2	30
Kulathupuzha Gramapanchayath	23	2	3	0	0	0	1	29
Alayaman Gramapanchayath	21	4	2	0	0	1	1	29

Pattazhi Vadakkekara Gramapanchayath	27	1	1	0	0	0	0	29
Sooranad North Grama Panchayat	15	12	1	0	0	0	0	28
Sooranad South Grama Panchayat	17	5	3	0	0	0	0	25
Karavaloor Gramapanchayath	16	6	2	0	0	0	0	24
Melila Gramapanchayath	15	8	0	0	0	0	0	23
Clappana Gramapanchayat	15	5	2	0	0	0	0	22
Chadayamangalam Gramapanchayath	12	4	3	0	0	0	2	21
Oachira Gramapanchayath	13	5	1	0	0	0	0	19
Thekkumbhagam Gramapanchayath	16	0	1	0	0	0	0	17
Alappad Grama Panchayat	14	0	2	0	0	0	0	16
Kummil Gramapanchayath	9	3	3	0	0	0	0	15
Munroethuruth Grama Panchayat	9	3	1	0	0	0	1	14
West Kallada Gramapanchayat	9	3	0	0	0	0	0	12

Neendakara Gramapanchayat	11	0	0	0	0	0	0	11
Pattazhi Gramapanchayath	3	2	1	0	0	2	1	9
Nilamel Gramapanchayat	6	2	0	0	0	0	0	8
Aryankavu Gramapanchayat	1	2	1	0	0	0	0	4

By overlaying five years of data, we have identified **12** 'Red Zone' LSGDs. These are areas where at least two different categories of diseases (specifically **Dengue and Hepatitis A/Leptospirosis**) recurred in consecutive years with high case volumes.

While **Kollam** and **Thrikkovilvattom** show the highest absolute case numbers (673 and 388 respectively), **Thrikkovilvattom** is categorized as the **Highest Priority Hotspot**. This is due to its critical combination of:

- **High Co-morbidity:** Significant spikes in both Dengue (98 cases) and Hep A (269 cases).
- **Mortality Risk:** It recorded the highest specific mortality in the dataset, with **3 Hep A deaths** and **4 Leptospirosis deaths**.

ASSESSING CORE CAPACITIES

Key Points:

- **Core Capacities:**
    - Surveillance
    - Laboratory access
    - Clinical surge (beds, oxygen, ventilators, triage)
    - Supply chain
    - Risk communication
    - Logistics
    - Social support (volunteers, NGOs, welfare schemes)

Mapping of existing plans and committees

- **Committee Harmonization:** A table mapping the members of the LSG Disaster Management Committee (LDMC) to their specific roles in the Pandemic Task Force.
- **HEOC Integration:** A clear flow-chart showing how a local signal (at the Ward level) is communicated up to the District Health Emergency Operations Centre.
- **IDSP Liaison:** Identification of the specific "Reporting Officer" responsible for sending daily data to the Integrated Disease Surveillance Programme.
- **SOP Adaptation:** A list of COVID-19 protocols (e.g., dead body management, quarantine rules) that have been formally adopted and simplified for local language use.
- **Resource Sharing Agreements:** Signed MOUs or documented protocols for sharing ambulances or equipment with neighboring LSGs during a surge.

Assessment of Core capacities

- **Clinical Triage Plan:** A mapped pathway for how a patient moves from "Home Isolation" to a "Primary Health Centre" to a "District Hospital."
- **Oxygen & Life Support Log:** A verified list of local oxygen cylinder suppliers, refilling stations, and the number of oxygen-supported beds available within 10km.
- **Laboratory Logistics:** A schedule for sample collection and transport, including the contact details of the nearest designated testing lab and courier.
- **Supply Chain Buffer:** A 30-day "Minimum Stock Level" (MSL) defined for essential medicines, masks, and sanitizers.

- **Volunteer Force (Kudumbashree/Arogyasena/NDRF):** A registered database of "Trained Volunteers" categorized by skill (e.g., nursing, food preparation, data entry, driving)

Build & Organise critical capacities

- Surveillance and data
- Strengthen IDSP and event-based surveillance with clear reporting from PHCs, private facilities, labs, and LSGs.
- Regular IDSP meetings
- Monitor routing of IDSP meetings
- Line list of non-reporting institutions public and private, labs, LSGD
- Lab turnover time
- **Define simple ward-level indicators (e.g., ILI clusters, mortality alerts) and SOPs for field verification and response.**
- ILI cluster and mortality alerts
- Development of SOPs
- Strengthen IDSP
- Community-based surveillance
- Vaccination coverage
- Cold chain integrity
- Risk communication
- Community engagement-RRT, Kudumbhashree, one health
- Community level meetings-neighbourhood, WHSNC, JAS, MASI .

- **Vulnerable Groups:**
  - High-density settlements
  - Migrant clusters
  - Major workplaces
  - Institutions
  - High-risk panchayats (based on past outbreaks/hazard mapping) **Visual:**
- Use a two-column table or infographic: one side for capacities, one for vulnerable groups.

Governance & Structure

Key Points:

- **Defining Roles:**
    - From District Collector to ward-level volunteer
    - Use existing disaster management and LSG structures
- **District Level:**
    - Public Health Emergency & Pandemic Task Force under DDMA
    - Integrates health, revenue, LSG, police, animal husbandry, ICDS, education, transport
    - Incident management: trigger points, activation, reporting lines, decision authority
- **Panchayat Level:**
    - Formalize health vigilance committees (Arogya Jagratha Samithis)
    - Micro-define responsibilities: home isolation, surveillance, IEC, quarantine, essential services
      Visual:
- Hierarchical flowchart showing governance from district to ward level
- Responsibility matrix for panchayat committees.

Planning Principles & Legal Considerations

Key Points:

- **Principles:**
    - Equity, gender, human rights, inclusiveness, coherence
    - Balancing rights, setting priorities, equitable access to life-saving measures
- **Legal/Policy:**
    - Legislative frameworks for health emergency preparedness
    - Roles and responsibilities (including technical advisory groups)
    - Compliance with International Health Regulations (2005)
    - Data sharing, research, and innovation policies
      Visual:
- List with icons for each principle
- Policy framework diagram.

Plan Development & Approach

Key Points:

- **Development Methods:**

    - Planning committee terms of reference
    - Multisector/multilevel consultations
    - Analysis of existing systems
- **Approach:**
    - Needs-based, scalable, integrated, regularly updated
    - Indicators and milestones for preparedness
- **Operational Stages:**
    - Planning assumptions, funding, national/subnational considerations **Visual:**
- Flow diagram of plan development steps
- Timeline or Gantt chart for operational stages.

State Systems & Emergency Coordination

Key Points:

- **Emergency Coordination:**
    - Integration with other emergency plans
    - Roles at all levels
    - Command-and-control structures
    - Multi-agency coordination
    - Emergency funding triggers and mechanisms
- **Exercises & HR Surge:**
    - Plans for cross-sector exercises
    - Methods to address skills shortages
    - Use of emergency medical teams **Visual:**
- Organizational chart for emergency coordination
- **Table for HR surge strategies.**

Surveillance & Laboratory Systems

Key Points:

- **Collaborative Surveillance:**
    - One Health mechanisms, verification, alert teams
    - Data synthesis for action
- **Laboratory Access:**
    - Networks, specimen transport, biosafety, data integration

- **Multi-source Data:**
    - Hospital capacity, supply chain, infodemic monitoring, disaster risk data
      Visual:
- Process flow for surveillance and lab systems
- Data integration diagram.

Community Protection & Communication

Key Points:

- **Protection Mechanisms:**
    - Infection prevention, vaccination, PPE, social welfare, essential services
- **Communication:**
    - Two-way mechanisms, community engagement, media outreach, language adaptation
- **Misinformation:**
    - Monitoring, resilience, scientific literacy
- **Travel & Trade:**
    - Risk communication for travellers, screening, quarantine, and essential travel management
      Visual:
- Infographic for community protection strategies
- Communication flowchart.

Clinical Care & Essential Services

Key Points:

- **Clinical Care:**
    - Scaling facilities, diagnostics, case management, telemedicine, safe burials, waste management
- **Essential Services:**
    - Maintenance, workforce supplementation, monitoring, recovery
- **Protection:**
    - Infection control, WASH, health worker safety, sectoral roles
      Visual:
- Table for clinical care pathways
- Diagram for essential services maintenance.

Access to Countermeasures

Key Points:

- **Supplies & Stockpiles:**
    - Essential supplies lists, rapid scaling, national/international stockpiles
- **Regulatory & Supply Chains:**
    - Regulatory frameworks, liability, upstream/downstream supply chains, R\&D environment
      Visual:
- Supply chain flowchart
- Checklist for countermeasure access.

Plan Activation & Operational Triggers

Key Points:

- **Activation:**
    - Decision-making bodies, stakeholder roles, communication protocols
- **Operational Stages:**
    - Prevent & prepare, respond (contain, control, mitigate), recover (scale down,sustain)

Visual:

- Decision tree for plan activation
- Timeline for operational stages.

Health system surge

Gap analysis for beds, oxygen, critical care, paediatric/obstetric care, and referral transport; pre-plan “expansion beds” using existing infrastructure.

- Specialized Care Audit: Identify the specific number of functional neonatal ventilators, pediatric ICU beds, and labor rooms that can be isolated for infectious obstetric cases.
- Oxygen Autonomy Calculation: Calculate the total "litres-per-minute" (LPM) capacity of local plants/concentrators versus a peak-load projection (e.g., if 5% of active cases need oxygen).
- Secondary Infrastructure Mapping: Create a floor plan for "Expansion Beds" in non-health facilities (hostels, auditoriums), ensuring they have separate entry/exit points for ambulances.

- Referral Transport Matrix: Categorize available vehicles into "Type A" (Basic) and "Type B" (Advanced Life Support/Oxygen), with pre-negotiated fuel-credit lines at local petrol pumps.
- Staff-to-Bed Ratio Analysis: Determine the "Surge Staffing" gap—how many extra nurses and respiratory therapists are needed to manage the expansion beds identified above.

1. **Standardize triage, cohorting, and IPC practices across levels using concise checklists and on-site mentoring**

This ensures that the care provided is safe, standardized, and doesn't lead to "Super-Spreader" events within hospitals.

- Physical Cohorting Zones: Clearly demarcate healthcare facilities into "Green" (Non-COVID/Clean), "Yellow" (Suspected/Triage), and "Red" (Confirmed Infectious) zones.
- Triage "Door-to-Bed" Protocols: A concise 5-point checklist for the "Entry Gate" staff to sort patients by respiratory rate and oxygen saturation (SpO_2) within 3 minutes of arrival.
- On-Site Mentoring Roster: A schedule for "Shadow Training," where specialists from the District Hospital visit LSG clinics to provide hands-on training for ventilator use and PPE donning.
- IPC Compliance Checklists: A daily "Safety Walk" tool for supervisors to verify hand-hygiene stations, waste segregation, and environmental surface cleaning.
- Healthcare Worker Prophylaxis: A formal system to monitor the health, vaccination status, and mental well-being of the medical staff to prevent "burnout-induced" IPC lapses.

Supplies and logistics

- Pre-position essential PPE, diagnostics, and medicines based on realistic consumption norms; include local production options where feasible (e.g., masks, sanitizers).
- Consolidated Consumption Norms: Establish a "Per-Patient, Per-Day" consumption rate for PPE, oxygen, and antibiotics to prevent over-stocking or under-stocking.
- Local MSME/Self-Help Group (SHG) Registry: Pre-certify local tailoring units (like Kudumbashree) and chemical units to produce standardized masks and WHO-grade hand sanitizer.
- Diagnostics "Cold-Chain" Audit: Verify the storage capacity (refrigerators/freezers) for diagnostic kits at the LSG level to ensure reagents remain viable.
- Kit-Based Distribution: Create pre-packed "Home-Care Kits" (basic meds, masks, instructions) that can be dispatched immediately to households with positive cases.

- Emergency Procurement Bylaws: Formalize the legal framework that allows the local body to purchase supplies from local vendors during a "State of Emergency" without traditional 30-day tenders.

Map and formalize supply chains with contingency routes, framework agreements, and a simple inventory tracking format.

- Contingency Routing Maps: Identify "Plan B" transport routes for medical supplies in case primary roads are blocked by lockdowns, floods, or protests.
- Framework Agreements (Rate Contracts): Sign pre-fixed price agreements with vendors for the next 12–24 months to prevent "Price Gouging" during the height of a pandemic.
- Simplified Digital Ledger: Implement a "One-Page" inventory tracker (mobile-friendly) where local staff can log incoming and outgoing stock with a single click.
- Buffer Stock Trigger Points: Set "Re-Order Levels" (e.g., when stock hits 25% of capacity) that automatically alert the District Health Emergency Operations Centre.
- Last-Mile Volunteer Network: Identify a "Bicycle/Two-Wheeler Brigade" capable of delivering life-saving medicines to remote or high-density areas where ambulances cannot enter.

PREPAREDNESS AND RESPONSE PROTOCOL AT DISTRICT LEVEL

This section describes the operational framework for the DISTRICT once a pandemic is declared. It explains how the DISTRICT and health system will move from routine data collection to active response, using a One Health approach.

Constitution of One Health Committee

The DISTRICT shall constitute a One Health Committee comprising the DISTRICT collector, Medical Officers (Modern Medicine, AYUSH, and Veterinary), the Health Inspector, and the Veterinary Surgeon.

Objective: The One Health Committee coordinates human, animal, and environmental health to prevent and control pandemics.

Sl No	Name	Designation	Department/Institution	Role in Committee
1		District collector	District	Chairperson
2		District Medical Officer (Health)	Health Dept	Member Secretary

3		District Animal Husbandry Officer	Animal Husbandry	Member
4		Deputy Director, Panchayats	LSGD	Member
5		District Agriculture Officer		Member
6		District Fisheries Officer		Member
7		District Forest Officer		Member
8		District Food Safety Officer		Member
9		District Surveillance Officer		Member
10		District NKKP2 Nodal Officer (Convener)		Member
11		Civil society Representative		
12		Line Department representations		

Key Responsibilities:

- Review disease surveillance data (human + animal)
- Conduct ward-wise risk assessment and vulnerability mapping
- Approve quarantine/isolation centre locations
- Coordinate with district for resources (PPE, oxygen, ambulances)
- Periodically review health system surge capacity, including beds, oxygen, human resources, and ambulances.
- Approve and monitor risk communication and community engagement strategies, including rumour management.

- Ensure protection and service continuity for vulnerable groups (elderly, persons with disabilities, dialysis patients, coastal populations).
- Conduct quarterly mock drills
- Monitor equity measures for vulnerable groups

Meeting Schedule:
Quarterly (normal times) | Weekly (outbreak alert) | Daily (pandemic phase)

Pandemic Response Workforce

To ensure a coordinated and timely response during a pandemic, a dedicated Pandemic Response Workforce shall be constituted at the LSG level. The workforce will function under the overall supervision of the One Health Committee and in close coordination with the health authorities. Team-based deployment will enable efficient surveillance, case management, quarantine and isolation management, logistics support, and risk communication. Each team shall have a clearly designated team leader, defined roles, and an identified pool of personnel to allow rapid activation, rotation of duties, and continuity of services during prolonged emergencies.

Total Response Workforce Available: persons

Team Name	Composition (District & Local)	Key Responsibilities	Team Leader (District/Nodal Level)
Surveillance & Contact Tracing	Health Inspector (HI), JHI, JPHN, ASHAs, Volunteers, and IDSP District Unit	Case detection, high-risk contact listing, home visit monitoring, and daily reporting to the District Surveillance Unit.	District Surveillance Officer (DSO)
Case Management & Clinical Care	Doctors, Nurses, MLSP, Palliative Nurses, and Specialists from DH/MCH	Patient care, hospital surge capacity management, triage protocols, and managing referrals from PHCs to tertiary centres.	District Medical Officer (DMO-Health)
Quarantine & Isolation Management	LSG/District staff, Facility Managers, and Volunteers	Repurposing community facilities (schools/hostels), managing	Deputy Director of Panchayats / LSGD Nodal

Team Name	Composition (District & Local)	Key Responsibilities	Team Leader (District/Nodal Level)
		admission/discharge, and ensuring WASH and food services.	
One Health & Zoonotic Surveillance	Veterinary Surgeons, Livestock Inspectors, Forest Officers, and Health Inspectors	Monitoring unusual animal deaths, poultry/bird flu signals, and environmental risk mapping for Leptospirosis.	District Animal Husbandry Officer
Logistics & Supply Chain	Storekeepers, Drivers, KMSCL representatives, and Nodal Officer for Logistics	Pre-positioning PPE, oxygen cylinders, and medicines; managing "Minimum Stock Levels" and contingency transport routes.	
Communication & Media Surveillance	PRD staff, IT Volunteers, Ward Members, and Media Management Team	Two-way risk communication, rumor tracking on social media, issuing daily health bulletins, and press briefings.	District Information Officer / PRD
Psychosocial Support	Mental Health Professionals, Counsellors, and DISHA helpline staff	Managing post-traumatic stress, tele-counselling for quarantined individuals, and mental health follow-ups.	District Mental Health Program (DMHP) Nodal officer
Transportation & Ambulance Management	KSRTC, Ambulance Drivers (108/Private), and Education Dept. bus coordinators	Maintaining 24/7 vehicle availability, inter-facility transfers, and ensuring post-trip sanitization protocols.	Technical assistant

Team Name	Composition (District & Local)	Key Responsibilities	Team Leader (District/Nodal Level)
Intersectoral Coordination	Revenue, Police, LSG, Agriculture, and Fisheries representatives	Resource mobilization, enforcing containment zones/lockdowns, and ensuring essential service continuity.	District Collector / Incident Commander

All teams shall be activated immediately upon outbreak alert or pandemic declaration and shall report daily to the LSG Incident Commander/Medical Officer, with consolidated reporting to the Block PHC. Duty rosters and alternate personnel shall be maintained to ensure uninterrupted services during staff shortages or prolonged response periods. Team composition and numbers may be revised based on the magnitude of the outbreak and availability of human resources.

- Define governance, roles and structure
    - Clarify who leads what, from the district collector to the ward level volunteer, using existing disaster management and LSG structures.
- District level:
    - Notify/strengthen a District Public Health Emergency & Pandemic Task Force under DDMA, integrating health, revenue, LSG, police, animal husbandry, ICDS, education and transport.
    - Define incident management: trigger points, activation of HEOC/control room, reporting lines, decision-making authority, and linkages to state IRT/HEOC.
    - Panchayat/ULB level:
    - Re activate or formalise Arogya Jagratha Samithis/health vigilance committees as the local pandemic committee, chaired by the LSG president, with the MO PHC as convenor.
    - Micro define responsibilities: home isolation support, community surveillance, IEC, quarantine support, and essential services continuity.

ACTIVITIES AND MEASURES BEFORE AND DURING PANDEMIC

PHASE 1 - Alert / Preparation

Surveillance and Reporting-Enhanced syndromic surveillance:

1. **Data sources for surveillance:**
2. **Event-based triggers (to be monitored and reported):**
3. **Zoonotic and animal health surveillance**
4. Logistics and Stock Preparedness

- Identify and empanel local vendors and define emergency procurement mechanisms in accordance with existing DISTRICT and Health Department norms.
- Prepare and maintain an essential logistics checklist covering medical supplies, consumables, and support equipment.
- Pre-identify secure storage locations for emergency stocks and ensure maintenance of stock registers with regular updating.
- Finalise emergency transport arrangements, including availability of vehicles and identified drivers for rapid deployment during alerts.
- Designate a Nodal Officer for Logistics to enable prompt decision-making, coordination, and communication during emergencies.
- Conduct rapid stock verification and ensure availability of minimum buffer stock, including:

    - PPE kits – numbers
    - Pulse oximeters – ___ numbers
    - Hand sanitizers – ___ litres
    - Masks, gloves, disinfectants – adequate quantity

Identify critical logistics gaps and immediately communicate requirements to the Block and District authorities to ensure timely replenishment and support. Monitor expiry dates and stock rotation.

Identification of Quarantine and Isolation Facilities

- Identify and list suitable buildings for quarantine and isolation (schools, hostels, community halls, etc.).
- Categorise cases as per the severity and allocate to appropriate facilities (for instance, severe cases to classrooms, mild cases to an assembly hall in case of a school).
- Facility readiness checklist needed (beds, toilets, ventilation, etc.
- Find an alternate site if the primary sites are not available or not in use.
- Identify facility managers and support staff
- Prepare basic SOPs for:
  - Admission and discharge
  - Food, water, and sanitation
  - Infection prevention and waste disposal
- Ensure availability of basic amenities: water, sanitation, electricity, ventilation, and waste disposal. Prepare a rapid activation plan for these facilities if case numbers increase.

Risk Communication and Community Preparedness

- Disseminate **e**arly warning messages on symptoms, preventive measures, and reporting mechanisms. Display IEC materials both in English and the local language in public places and ensure ward-level awareness.
- Sensitize elected representatives and community leaders on preparedness measures.
- Establish a rumour tracking and misinformation response mechanism to identify, verify, and promptly counter false or misleading information.
- Engage trusted local persons (ward members, ASHA workers, religious leaders, teachers, community volunteers) to communicate official public health messages and reinforce correct practices.
- Develop and deploy targeted IEC materials for:
  - Schools and educational institutions
  - Markets and commercial areas
  - Work sites and labour settings
- Conduct community sensitisation meetings at the ward level to promote preventive behaviours, address concerns, and strengthen community participation in preparedness and response.

Protection of Vulnerable Groups

Vulnerable populations require priority protection through targeted line-listing, service continuity, and delivery mechanisms.

- Prepare and regularly update **line-lists** of vulnerable populations, including:
    - Elderly persons living alone
    - Persons with disabilities
    - Pregnant women
    - Migrant workers
    - Dialysis patients

  The detailed line-lists shall be maintained as **Annexure ___** and updated periodically.

Clinical Dependency Mapping

Develop ward-wise dependency and vulnerability maps to identify households requiring regular support during emergencies. Ensure continuity of essential health services for vulnerable groups, including

- Dialysis services (facility mapping, transport arrangements, and scheduling)
- Continuity of treatment for TB, HIV, and other chronic conditions requiring uninterrupted medication
- Mental health and psychosocial support services

Establish **delivery mechanisms** for food, essential commodities, and medicines to vulnerable households through coordinated action involving ASHAs, JPHNs, Kudumbashree, volunteers, and local administration.

PHASE 2 - Active Response

Case Identification and Contact Tracing

Case detection and contact tracing activities will be carried out in coordination with the Health authorities, in accordance with disease-specific SOPs and IDSP guidelines.

Field Staff Involved

- Health Inspector (HI)
- Junior Health Inspector (JHI)
- Junior Public Health Nurse (JPHN)
- ASHAs and ASHA Supervisors
- Ward-level volunteers and Kudumbashree members (as required)

Screening Checkpoints

Screening checkpoints at high-traffic locations (transport hubs, markets, religious gatherings) for early detection of symptomatic travellers and crowd screening during outbreaks. Potential locations include bus stands, market entry points, and boat jetties, based on local context and risk assessment.

Screening activities will be carried out by trained personnel such as ASHAs, ward members, and volunteers, with support from Health Department staff. Necessary equipment, including non-contact thermometers and appropriate PPE, shall be ensured prior to activation.

Location	Type (Bus stand/Jetty/Market/Railway)	Staff Deployed (ASHAs/Volunteers)	Screening Method	Reporting authority
Bus stand	Transport hub	One JHI One ASHA One health Mentors	1.Swab Collection. 2. Blood smears collection (RDT) 3.Thermal Scanners	Surveillance Nodal Officer in control room
Market entry	Market	One JHI One ASHA Male health volunteers	1.Swab Collection. 2. Blood smears collection (RDT) 3.Thermal Scanners	Surveillance Nodal Officer in control room
Boat jetty	Water transport	One JHI One ASHA Male health volunteers	1.Swab Collection. 2. Blood smears collection (RDT)	Surveillance Nodal Officer in control room

			3.Thermal Scanners	

Standard Screening Protocol

The screening protocol shall include temperature screening, observation for visible symptoms, and inquiry regarding recent travel or exposure history. Individuals identified as suspects during screening shall be immediately referred to the nearest PHC/FHC for further evaluation, testing, and appropriate action as per prevailing guidelines.

Pandemic Control Room

The Pandemic Control Room (PCR) serves as the central nerve center for real-time coordination, data aggregation, decision support, and communication during outbreaks. It consolidates information from all DISTRICT teams, health facilities, and community sources to enable rapid decision-making.

Control Room Infrastructure and Location

Primary Location: _____ Panchayath Office.

Backup Location: Community Hall in _____ G.P.

Health System Control Room Framework

The PCR is organised into **seven functional pillars** to ensure no aspect of the response is overlooked:

Rapid Response Team (RRT)

Provides immediate intervention during emergencies, clusters, and field alerts.

Coordinates urgent actions such as case investigation, contact tracing, isolation, and inter-facility referrals.

Data Management & Analytics Team

Human Resource Deployment Team

Laboratory Surveillance Team

Vaccination Cell (If Required)

Infrastructure & Patient Occupancy Team

BMWM

Communication team

- **Logistics and supply chain**
- **Transportation (interfacility & emergency transport)**
- **Media surveillance Call centre**
- **Management of the deceased**
- **Intersectoral coordination and convergence**
- **Surveillance committee**
- **Sample transportation, testing,result management**
- **Contact tracing, line list management**
- **Patient transport management**
- **Materials and logistics management**
- **IEC, media management**
- **Data analysis**
- **Psychological support team**
- **Intersectoral coordination**
- **Field level activity monitoring**
- **Infection control and training**
- **Private hospital coordination**
- **Welfare committee**
- **Animal surveillance**
- **Wildlife surveillance**
- **Telemedicine**
- **IT support**

Key Control Room Team

The Control Room Team coordinates all pandemic response activities within the DISTRICT and serves as the single command and communication hub during activation. It integrates information, field actions, logistics, and policy execution across all participating departments and health facilities.

SOP for alert escalation/trigger point with mapping of responsibilities.

- The Control Room shall be staffed with a designated In-Charge, data entry personnel, and communication staff with clearly defined roles and shift arrangements.

- It shall maintain updated records on daily monitoring indicators including new cases, persons under active quarantine, and hospital bed occupancy.

- All reports and situation updates shall be shared daily with the Block and District Surveillance Unit.

- The Control Room shall act as a single point of contact for coordination with response teams, health institutions, and other departments.

- Contact details of the Control Room shall be widely communicated to field staff and stakeholders during activation.

CONTROL ROOM MANDATES

- Control room will be operational 24*7 managed by floor managers in rotation
- Control room access is authorised only to those engaged in control room activities
- Identity proof is mandatory
- In and out movement is written in log logbook
- Food items are not permitted inside the control room
- Team members of different groups have to work in their assigned areas
- Review meetings will be held in the mornings and evenings
- Minimum two members from all groups will participate in review meetings
- Critical appraisal of group activity will be done in the meetings
- The documentation team will record minutes of all meetings
- Decisions taken in the meeting will be communicated to the respective groups
- Implementation status of the decisions taken will be monitored
- Emergency meetings will be informed by phone to the respective teams by the documentation team
- The single window communication system will be operated by the documentation team
- All sub-teams communicate with the control room via their own email ID.
- All communications between the teams were coordinated through the control room.
- All communications are well documented.
- Advances in information technology are well utilised for communication
- Communication to the media will be done only through the media management team
- Health bulletin release at 6 pm
- A departmental coordination meeting at 6 pm
- Press briefing at 7 pm

ACTIVITIES OF VARIOUS TEAMS

Surveillance team

HOSPITAL SURVEILLANCE

- The condition of the Symptomatic patients admitted at isolation wards of hospitals will be closely scrutinized, and reports will be updated to surveillance team
- Analysis of the reports

FIELD SURVEILLANCE

- Those patients discharged from hospitals will be monitored by field workers in their corresponding PHC area
- Those asymptomatic travellers/contacts in home isolation will also be monitored for 28 days by field workers, and reports will be sent to the DSO

LAB SURVEILLANCE

- The DSO and District nodal officers entrusted for sample collection will inform to the lab surveillance team before sample collection
- Sample requisition forms will be scrutinised before sending to National Institute of Virology Pune/Alappuzha/designated labs
- Liaison with districts and sample collection point
- Support and supervise Surveillance activities at district level
- Establishing a support system with SMO (WHO), a mechanism for strengthening the IDSP disease surveillance system.
- Daily LSG-wise monitoring from state level
- Detailed data monitoring at IDSP district unit.
- Identifying areas for inter-sectoral action & steps for the same.

24 X 7 Call Centre management team

- **To Set-Up**
- A control room call centre should be set up in the state as well as the district. The call centre is set up with 3 laptops and 3 mobile/landline telephone facilities. Each Call Centre Operator is assigned both a telephone and a computer. One outgoing mobile facility also available for answering pending calls. Two WhatsApp numbers are also available in the disaster control management room. Depending on the configuration of the call center, each workstation has the following items:
- Headset for hands-free answering.
- Reference materials (issued upon activation of call center operations).
- Item to be used to request assistance from the supervisor (Paper and pen/pencil, register etc)

- All phone/computer banks are set up in close proximity to power, telephone, and data sockets/ports.
- Call Center Supervisors are to utilize a sign-in/sign-out sheet to keep track of Call Center Operators.

MANDATES FOR CALL CENTRE

- Maintenance of discipline
- Time management
- Call centre will be operational 24*7
- Documentation of all the activities happening in call centre
- Daily consolidation report at 4.30 pm.
- Establishing call centre with sufficient connectivity
- Linkage with DISHA system
- To answer medical queries, logistics and administrative issues regarding health and health related problems
- Daily maintenance of second and third level call referral.
- Compilation format

HR management

- Human resource management mostly happens at the district level but at any point if district needs any additional support the needs can be communicated to state.
- The team should have a thorough knowledge of all district HR distribution.
- The team should also communicate with the district regarding the optimum redistribution policies according to the needs.
- HR details of the isolation facilities should be managed and timely decisions at state level if necessary, should be taken from the control room.
- The HR data of isolation facilities/nodal centres should be compiled on daily basis and ensure there is no shortage in any category.

Training and awareness generation

- The district should train all the necessary cohorts in a timely manner, and the data should be compiled at the state level. State team has the responsibility for preparing the training materials according to the daily needs being discussed in the control room meetings. These training materials should be vetted by a group of experts and should be disseminated via control room mail id to all concerned (districts, agencies, groups, IMA, IAP etc)
- Identify the segments in the Government and Private sectors
- Prepare segment-specific relevant modules

- Preparation of training manuals
- Dissemination of the prepared IEC materials including audio-visual aids/training materials to health workers/volunteers/public/media
- Preparation of FAQ'S and its answers
- Online / Telephonic trainings for district level officers/health workers/volunteers as and when required
- Training to call centre duty staff
- Team of Master trainers
- Conduct of training and demonstration sessions

Material management team

- Material management should be done at the institution level using all possible resources under the control of the superintendent; however, there might be a higher degree of needs arising in certain situations. The district and state has a mechanism of supporting these institutions according to the arising needs. The needs and activities should be compiled in the districts and coordinated with state team/KMSCL. The state team is expected to compile the activities and challenges on a day-to-day basis and present at the control cell meeting, including the following details.

- The primary responsibilities of the material management team are:
- Prepare the list of items required at the Hospital for providing health care
- Monitor inventory position institution-wise wise
- Ensure the supply chain management of healthcare and other items requirement

Infrastructure (isolation ward and facilities) management team

- Identify an isolation place in each district for at least for 50 patients
- Ensure all the required things in the isolation ward of these facilities
- Set up a dedicated team in each district
- Train the dedicated team and other health functionaries
- Ensure that strict protocol of infection control is followed in each district
- Identify spatially all the field units fever clinics arrangements done in all districts
- Ensure and compile the referral of contacts from field/call centres /DISHA to isolation facilities in the district
- Verify and compile the needs of additional isolation place if the number is increasing in each district
- The data should be collected in the following format at the district level and compiled at the state level

Media Surveillance team

- Print, visual and social media surveillance with the support of State and District team.
- Collection of information regarding demand and supply of logistics, Human resources etc. circulated in the media, and addressing the needs by bridging the gaps after validating the information.
- Surveillance of issues regarding 2019-nCoV disease circulating in the media.
- Validating the information collected from the media for negative outcomes and execute timely preventive and control measures.
- Reply queries to the public regarding health-related events and information through phone numbers circulated at the state level.
- District level compilation of media surveillance data should also happen timely

Sample tracing team

- The team should keep a watch on sample sent to each lab(NIV pune/Alappuzha) from all districts and answer all queries regarding the sending of samples in coordination with the PH lab.
- The team should hand hold the district in transportation of samples, filling formats, collecting reports and intimate the authorities regarding the status of results Monitor sample collection and facilitate
- All sample test results to be reported to the respective Superintendent of MCH, District Collector, DHS, DME and Prl Secretary on daily basis

IEC/BCC and Media Management team

- Preparation of IEC materials related to the preventive and promotive activities to be done at the field level for the management of 2019-nCov disease spread, decrease the anxiety of the general public and to disseminate factual information regarding the disease
- Dissemination of same in PRD, TV channels, AIR , social media etc
- Timely updating of website with regard to IEC
- Preparation of daily reports for media
- Arrangements of press conferences as per direction
- To act as media spokesperson for DHS
- Review format

Documentation team

- Document all meetings related to 2019-nCov disease management at Minister, Principal Secretary and DHS level
- Ensure proper communication of all decisions to district's and Public health institutions for implementation of the decisions made in meetings
- Proper communication to various teams of the control room regarding meetings, guidelines, SOPs, etc.
- Communication to the concerned teams for website and social media updates.
- Daily compilation of activity reports by various teams

Private hospital surveillance team

- Team should compile the data regarding the general public visiting private hospitals from all districts and suspect and identify any missed-out contacts of contacts reaching the facilities.
- Good rapport should be ensured with the private hospitals/associations

Expert study coordination team

- They should work with NHM admin and arrange and facilitate the visits of expert agencies provided they are coming with
- Approval from the head of the institution
- Letter to the principal secretary, health and family welfare for the sanction of the same
- Their own logistical support
- Should be ready to give their input regarding the present scenario and work with the current state and district team
- The team should brief the principal secretary health and family welfare regarding the feasibility, pros and cons of approval in each case after studying their back grounds.

Transportation and ambulance management team

- The teams should compile data on ambulance driver training, availability, and spacing, as well as on vehicles carrying patients from home isolation to hospital isolation facilities and back. It should be ensured that there should be continuous availability of vehicles 24 x 7 in all districts. The data should be compiled in the following format in all districts. All possible challenges at the district should be addressed there itself, and decisions taken at the state could be compiled and addressed during the control room presentation.

Inter departmental and coordination team

- There should be regular connections with all line departments like LSGD, Animal husbandry, tourism, police, kudumbasree, Suchitwa mission etc

Community level volunteer coordination team

- The field level activity monitoring should be done by this team.
- Grass route level support including food kit management when more people are at quarantine should also be done with the help of kudumbasree , and senior consultant ASHA program in NHM should review these activities and gaps on daily basis and present it on control room meeting .
- Collect information of Contacts and addresses
- Prepare the food kits to provide to the Contacts in Home Quarantine
- Reporting format

Psychological support team

- The team should arrange a district /field team for managing posttraumatic stress-related events and stress during quarantine. The field-level activities should be compiled and presented during daily control room meeting

Data management

- Stat wing should utilise all Google tools to compile all the above data formats and assist the presentation of teams in the daily control room meeting.
- The technical support of MIS manager NHM should be utilized in the same.
- For all these parameters district district-specific sheets with auto-consolidated compilation sheets should be made
- The sheets should be dynamic, and compilation should be given access to all state team leaders, SMD and the principal secretary.
- Districts should be supported for a timely update in the sheet in the specified format

Finance and budgeting team

- The state team for finance should discuss and forsee various areas of fund requirement and pool resources for all possible needs arising from time to time.
- The decision regarding fund expenditure and necessary AS should be prepared timely so as not hinder any processes happening in the state and districts

Sl no	Name of team
	Overall coordination
1	Surveillance team
2	Call Centre management team
3	HR management
4	Training and awareness generation
5	Material management team
6	Infrastructure (isolation ward and facilities) management team
7	Sample Tracing team
8	Media Surveillance team
9	IEC/BCC and Media Management team
10	Documentation team
11	Private hospital surveillance team
12	Expert study coordination team
13	Transportation and ambulance management team
14	Inter departmental and coordination team
15	Community level volunteer coordination team
16	Psychological support team
17	Data Compilation
18	Budget and financing

Daily Monitoring Indicators

To ensure timely decision-making and effective response, the following key indicators shall be monitored and updated on a daily basis by the Pandemic Control Room:

1. **Epidemiological Indicators:**
   New cases reported today, Total active cases, Test Positivity Rate (TPR), Case Fatality Rate (CFR)
2. **Surveillance Indicators:**
   Persons under home quarantine, High-risk contacts identified, Fever, ILI, SARI or other symptoms (syndromic surges), Travellers (symptomatic or high-risk arrivals),Animal husbandry surveillance (zoonotic alerts, unusual animal deaths, poultry/bird flu signals), Mortality surveillance (excess deaths, unexplained fatalities, verbal autopsy reports)
3. **Logistics and Infrastructure Indicators:**
   Hospital / CFLTC beds occupied, Oxygen cylinders/concentrators available, Ambulances on standby
4. **Alert Findings**
   The following table outlines category-specific **trigger points (red flags)** from surveillance indicators and corresponding immediate actions for the Pandemic Control Room. These enable rapid response to alert findings like testing anomalies, positive cases exceeding thresholds, clusters, and WGS reports.

Category	Trigger Point (Red Flag)	Immediate Action
Clusters	Geographical or facility-based: 5+ cases linked to one location (office, school, street).	Declare a micro-containment zone; perimeter control and active case finding.
Testing	Sudden drop in testing volume / delay in reporting / unusual testing trends	Review the sample collection process, address lab bottlenecks, deploy additional testing teams, and notify the District Lab.
Lab	Test Positivity rate increases	Increase testing sites in that ward.
Hospital	>80% Oxygen bed occupancy	Activate backup/CFLTC beds.

Travel	Cluster of cases from a single flight/train or high-risk arrival group.	Trace all passengers in adjacent seats; implement mandatory institutional quarantine.
Animal	Mass poultry/wildlife death or unusual sickness	Notify Animal Husbandry, sample the area, and dispatch RRT for environmental sampling and zoonotic check.
Mortality	Sudden spike in home deaths or brought-in-dead (BID) cases	Audit the deaths and Active Case Search drive
Additional investigations like Whole Genome Sequencing (WGS)	Detection of a Variant of Concern (VOC) or Variant of Interest (VOI)	Implement strict micro-containment; update clinical protocols to match variant severity.

1. **Communication of Public Health Information**

   A Community Communication Hub shall be established to ensure the timely, accurate, and consistent dissemination of information during a pandemic. The Hub will operate under the coordination of the control room's Nodal officers and serve as the nodal point for public communication, risk messaging, and community engagement. It will support the dissemination of official advisories, promote preventive behaviours, address rumours and misinformation, and ensure that messages reach all sections of the population through trusted local channels and leaders.

Key communicators

Channel
LSG-level announcements
Social media
Local Cable TV/Radio

- All messages disseminated through the Hub shall align with advisories issued by the Health Department and District authorities.
- Community leaders shall be sensitized to support behaviour change, reduce stigma, and counter misinformation.
- Special efforts shall be made to reach vulnerable and hard-to-reach populations using locally appropriate communication methods.

Rumor Tracking: A designated volunteer will monitor local social media/WhatsApp groups daily to identify misinformation and issue official clarifications via the Communication Hub.

2. **Coordination with District/State Authorities & Other Organisations**

Effective coordination with Block, District, and State authorities is essential to ensure timely reporting, technical guidance, and uninterrupted supply of essential resources during a pandemic. The LSG shall establish clear communication channels, designate responsible officers, and adhere to prescribed reporting timelines to support coordinated public health action and efficient resource mobilisation.

Key Details:

- **Nodal Officer for Reporting:**
- **Contact Number:**

Reporting Schedule and Protocols:

To Whom	What to Report
Block PHC	Complete Situation Report (Cases, Quarantine, Beds, Screening, Deaths)
District IDSP Unit	Outbreaks/Clusters/Unusual Events (>5 cases same ward)
Veterinary Officer	Animal health events/Zoonotic alerts
State Cell	Zoonotic cross-sector events

Supply Chain Coordination

The LSG shall coordinate closely with Block, District, and State authorities (KMSCL) to ensure uninterrupted availability of essential goods, medical supplies, and logistics during a pandemic. Supply requirements shall be assessed regularly based on case load and communicated promptly to the appropriate authorities for timely replenishment.

Key Points:

- Maintain updated contact details of District and Block nodal officers for health logistics, oxygen supply, ambulances, and essential medicines.
- Submit timely indent requests for PPE, testing kits, medicines, oxygen, and other critical supplies through prescribed channels.
- Monitor stock levels at DISTRICT facilities, quarantine/isolation centres, and field teams through daily stock registers and dispensing logs to prevent shortages.
- Coordinate with District authorities, Karunya/Neethi medical shops, and local purchase committees for funds allocation and emergency procurement.
- Ensure regular monitoring of dispensing registers at all facilities to track usage, expiry, and pilferage—shortages being a perennial issue requiring proactive weekly audits.
- Activate surge procurement protocols during high caseloads, leveraging local purchase powers under DISTRICT funds alongside state supplies.

Resource Inventory and Contacts

Resource Category	Source (District/State/Private)
PPE Kits/Masks/Gloves	KMSCL
PPE Kits/Masks/Gloves	Local Vendors
Oxygen **Cylinders/Concentrators**	KMSCL
Medicines/Antivirals	KMSCL
Medicines/Antivirals	Neethi Shops
Test Kits (RTPCR/Rapid)	KMSCL

Collaboration with NGOs, PPP, and CSR

To augment government efforts during a pandemic, the LSG shall collaborate with NGOs, voluntary organisations, and private sector partners through public–private partnerships and Corporate Social Responsibility (CSR) initiatives, in coordination with District authorities.

Key Points:

- Engage NGOs and community-based organisations for community outreach, awareness, and support to vulnerable populations.
- Leverage CSR support for procurement of medical equipment, PPE, oxygen concentrators, food kits, and sanitation materials, as permitted.
- Ensure all collaborations align with government guidelines and are routed through approved administrative and financial procedures.
- Maintain transparency and documentation for all external support received and utilised.

Interdepartmental Coordination

Coordination among departments during a pandemic shall be ensured through regular review meetings convened by the DISTRICT President. These meetings will provide a structured platform for sharing situational updates, assessing resource availability, resolving operational gaps, and taking joint decisions to ensure a coordinated and timely response.

Department	Representative	Key Role
Health (PHC)	Staff Nurse :	Case management
Veterinary	Veterinary Surgeon:	Animal surveillance
ICDS	Supervisor: Sindhu	Nutrition support
Education	Head Teacher:	School coordination
Police		Containment enforcement
Water Authority	_____	Water supply
DISTRICT Engineering	_____	Quarantine infrastructure

PHASE 3 - Surge Capacity

Phase 3 is activated when there is a rapid increase in cases, high test positivity rates, or when existing health facilities and quarantine arrangements approach saturation. The focus of this phase is to expand isolation capacity, augment clinical care services, and mobilise additional resources through district and state support mechanisms.

Conversion of Community Facilities

To manage increased case load, the DISTRICT shall activate additional isolation facilities by repurposing identified community infrastructure such as community halls, auditoriums, schools, hostels, or other suitable buildings.

Recovery and rehabilitation phase

- **Recovery**
    - Damage & impact assessment
    - Restoration of health services
    - Rehabilitation of affected population
    - Psychosocial & mental health support
    - Disease surveillance during recovery phase
    - Environmental cleanup & sanitation
    - Livelihood restoration
    - Community engagement & confidence building
    - Documentation & after-action review
    - Lessons learned & best practices
    - Health system strengthening
    - Policy revision & preparedness enhancement
    - Research

CONCLUSION

Additional points

- tech support
- relief based commodities
- ham reading operators
- hazard vulnerability mapping
- KSEB & other power source
- HR specific responsibility

RECOMMENDATIONS

1. **Strengthening Healthcare Infrastructure**

- Establish a primary health response unit within the Panchayat with trained staff.
- Ensure availability of basic medical supplies (masks, sanitizers, PPE kits, oxygen cylinders).
- Create tie-ups with nearby hospitals in Kollam for emergency referral and transport.

Community Awareness & Education

- Conduct regular awareness campaigns on hygiene, vaccination, and preventive measures.
- Use local communication channels (community radio, WhatsApp groups, notice boards) to spread verified information.
- Train volunteers to act as health ambassadors in each ward.

Emergency Response & Coordination

- Form a Pandemic Preparedness Committee at Panchayat level including health workers, ward members, and NGOs.
- Develop a clear action plan for lockdowns, quarantine, and distribution of essentials.
- Maintain a database of vulnerable groups (elderly, differently abled, chronically ill) for targeted support.

Supply Chain & Food Security

- Identify and support local suppliers and farmers to ensure uninterrupted food supply.
- Create community kitchens during emergencies to serve vulnerable populations.
- Stockpile essential commodities in Panchayat-run outlets for crisis periods.

Digital Preparedness

- Promote digital platforms for telemedicine consultations.
- Use Panchayat's website/social media for real-time updates on health advisories.
- Encourage online grievance redressal to reduce crowding in offices.

Training & Capacity Building

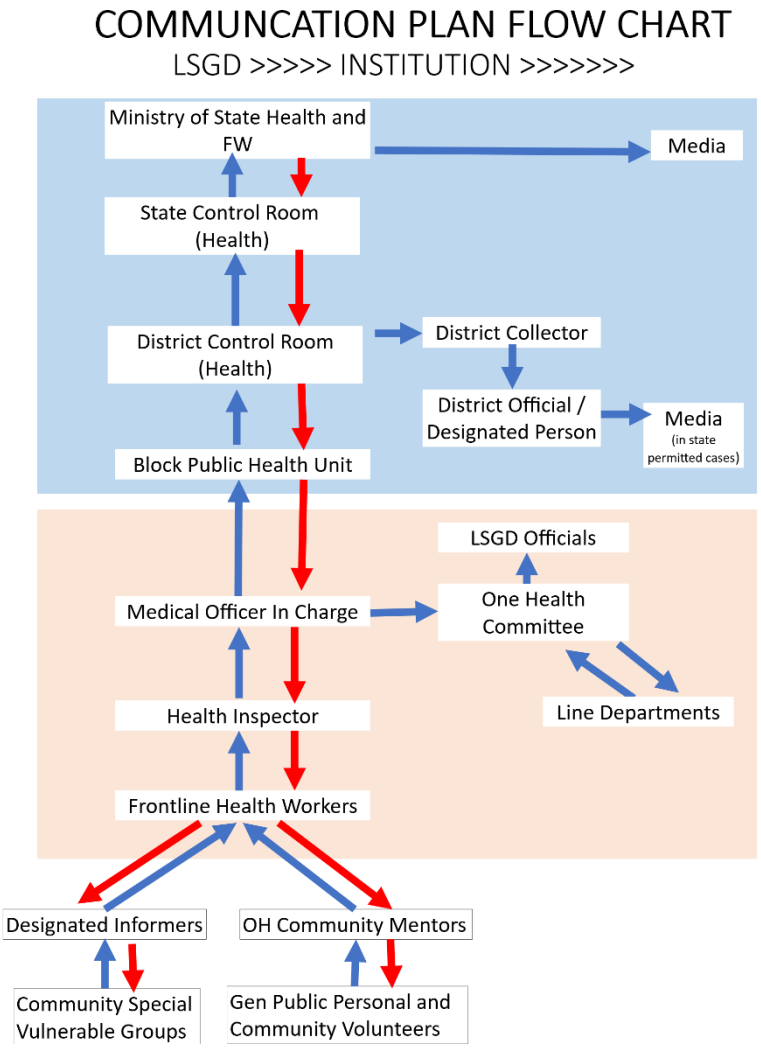
- Organize mock drills for pandemic response in schools, offices, and public spaces.
- Train Panchayat staff and volunteers in first aid, infection control, and crowd management.
- Collaborate with NGOs and health departments for capacity-building workshops.

Long-Term Resilience

- Integrate pandemic preparedness into the Panchayat Development Plan.
- Allocate a dedicated budget for health emergencies.
- Encourage community participation in planning and monitoring preparedness measures.

MOCKDRILL SCENARIOS

COMMUNICATION



Communication strategies

- **Ward level RRTs, Grama sabhas and Vulnerability groups** have active participation in preparing and executing the pandemic plan (to identify unique issues, prevention, preparedness, response, recovery).
- Local community leader's involvement
- **Special trained informers** in Vulnerability groups

- **multilingual workers**
- NGOs and Resident Associations
- Simple **reporting system for public** – IHIP or other application – a snap pic reporting, messages
- Home Isolation **Monitoring members from the public**
- Ward level RRTs, Grama sabhas and Vulnerability groups have active participation in preparing and executing the pandemic plan (to identify unique issues, prevention, preparedness, response, recovery).
- Local community leaders involvement
- Special trained informers in Vulnerability groups
- multilingual workers
- NGOs and Resident Associations
- Simple reporting system for public – IHIP or other application – a snap pic reporting, messages
- Home Isolation Monitoring members from public

Benefits

- **Sustainability:** Solutions are more likely to last because they are locally owned. Faster
- **Response:** Local networks provide quicker initial responses.
- **Trust & Collaboration:** Builds bridges between communities and external agencies.

PANDEMIC PREPAREDNESS CAPACITY BUILDING & TRAINING PLAN

Background & Rationale

- Pandemics pose serious threats to public health, safety, and livelihoods.
- Preparedness requires skilled human resources across sectors.
- Capacity building ensures coordinated, timely, and effective response.
- District-level preparedness is critical for early containment.

Objectives of Capacity Building

- Strengthen readiness of health and allied sectors.
- Improve early detection, reporting, and response.
- Ensure inter-departmental coordination.
- Protect frontline workers and the community.

- Maintain essential services during pandemics.

Target Groups for Training

Health Sector (Government & Private)

- Doctors (all specialties)
- Nurses & paramedical staff
- Laboratory technicians
- Public health staff
- ASHA workers & JPHNs
- Private hospital staff

Police & Emergency Services

- Kerala Police & Traffic Police
- Home Guards
- Fire & Rescue Services
- Ambulance drivers & EMTs
- Roles: crowd control, quarantine enforcement, emergency response

Local Administration & Governance

- District administration
- Municipalities & Panchayats
- Revenue Department
- Public Works Department
- Roles: logistics, containment zones, essential services

Education & Community Groups

- School & college teachers
- Students & NSS/NCC volunteers
- Kudumbashree units
- Community-based organizations
- Religious & community leaders

Modes and Methods of Training

Modes of Training

- Classroom/workshop-based training
- On-site/hands-on training
- Online & virtual training modules

- Simulation exercises & mock drills
- Peer learning & cascade training
- Awareness campaigns
- Online media and social groups

Training Methods

- Lectures & interactive sessions
- Demonstrations & skill stations
- Case studies & role plays
- Table-top exercises
- IEC material & SOP dissemination

Key Training Topics

General Topics

- Disease surveillance & reporting
- Infection prevention & control (IPC)
- Use of personal protective equipment (PPE)
- Sample collection & transport
- Risk communication & community engagement

Advanced & Sector-Specific Topics

- Hospital surge capacity management
- Quarantine & isolation management
- Psychosocial care & stress management
- Waste management during pandemics
- Law & order and ethical issues

Institutional & Resource Support

- District Medical Office
- Kerala Health Services
- State Disaster Management Authority
- Medical colleges & training institutes
- Police Training College

Monitoring & Evaluation

- Pre- and post-training assessment

- Feedback mechanisms
- Periodic refresher trainings
- Mock drill evaluations
- Documentation & reporting

Training Schedule (by Quarter)

- The schedule aligns training and preparedness activities with seasonal climate and disease patterns.

Expected Outcomes

- Improved district-level preparedness
- Skilled and confident workforce
- Effective inter-sectoral coordination
- Reduced morbidity and mortality

13. Conclusion

A comprehensive communication and capacity-building plan is vital for effective pandemic preparedness and response. Community engagement, targeted training, and continuous evaluation ensure resilience and sustainability in managing public health emergencies.

ANNEXURE

1.1. Details of LSGs

Sl.No	Name of the LSG	Name of the President	Contact number
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

1.2. Other important phone numbers of grama panchayat/municipality/corporation area

Sl. No.	Name	Contact number
1.		
2.		
3.		
4.		
5.		
6.		
7.	Excise department	

8.	Forest department	

1.3. Important offices of grama panchayat/municipality/ corporation

Sl.No	Name of the office	Contact person	Contact number
1.	Village Office	Village Officer	
2.	Agriculture Office	Agriculture Officer	
3.	Animal Husbandry Office	Animal Husbandry Doctor	
4.	Police Station	Police Officer	
5.	BSNL Office	Officer	
6.	Block Office	Officer	
7.	KSEB Office	Officer	
8.	Fisheries Office	Officer	
9.	Fire and Rescue	Officer	

1.4. Health Services

Sl. No	Name of the hospital/institution	Location	Phone number
1.	Government hospitals/PHC		
2.	Private hospitals		
3.	Clinical laboratories		
4.	Chemist/pharmacy		
5.	Blood donors		
6.	Other language experts (Bihari, Hindi, Bengali, Asamees ……)		

1.5. Veterinary Services

Sl. No	Name of the Clinic	Name of the Surgeon/Doctor	Place/ location	Phone number

1	Govt.Veterinary Hospital			

1.6. Helpline numbers

Helpline	Phone number
Police	
Fire and Rescue	
KSEB	

1.7. Public and Private Schools Contact details

S.No	Name of School	Institution type	Phone number
1		Aided	
2		Aided	
3		Private	
4		Govt	
5		Private	
6		Private	
7		Private	
8		Govt	
9		Govt	
10			

1.9. Anganwadi Contact Details

Ward No	Name of Anganwadi Teachers	Phone number
6		
1		
5		
4		

2		
3		

Ward No	Anganwadi No and Name of Teacher	Phone number
7	1.	
	2.	
8		
9	1.	
	2.	
	3.	

1.12. Information regarding resources

Means of transportation	Name of Owner	Phone Number
Heavy Trucks		
Tractor		
Ambulances		
Boats		
Taxi service		

ANNEXURE 1: LSG BASELINE DATA COLLECTION FORMAT

A. Baseline data

Sl. No.	Indicator / Field	Baseline Data	Source / Remarks
1	Name of LSG		
2	District		
3	Block / Taluk		
4	Type of LSG (Gram Panchayat / Municipality / Corporation)		
5	Area (sq. km)		
6	No. of wards		
7	GIS boundary file available	(Yes/No)	
8	Key contact person & phone		

B. Demography

Indicator / Field	Baseline Data	Source / Remarks
Total population		
Males		
Females		
Transgender population		
Age distribution (<5, 5–14, 15–59, ≥60)		
No. of households		
Population density (persons/sq.km)		
No. of migrant workers		
Major occupational groups		

C. Vulnerable Populations & Social Risks

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks

1	No. of elderly (≥60)		
2	No. of persons with disability		
3	No. of bedridden persons		
4	No. of chronic disease cases (DM/HTN/COPD/CKD etc.)		
5	Pregnant women (current estimate)		
6	Children <5 years		
7	Tribal population (if any)		
8	Fisherfolk / coastal vulnerable groups (if any)		
9	Urban slums / unnotified settlements (if any)		
10	Homeless population		
11	Orphanages / old age homes (number & capacity)		
12	Hostels / prisons / shelters (number & capacity)		
13	Poverty / BPL estimate		
14	Food insecurity hotspots		
15	Any history of stigma/discrimination issues (Yes/No)		

D. Health System & Service Readiness

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	No. of health facilities in LSG (PHC/CHC/TH/DH/Private)		
2	PHC/Family Health Centre details (name, location)		
3	Subcentres / Health & Wellness Centres (number)		

4	Private clinics / hospitals (number)		
5	Labs available (public/private)		
6	Availability of ambulance services (Yes/No, number)		
7	Availability of isolation/quarantine facilities (Yes/No, details)		
8	Cold chain facilities (Yes/No, details)		
9	Stockpile space available (Yes/No)		
10	PPE / mask / sanitizer availability plan (Yes/No)		
11	Surveillance staff available (JHI/JPHN/ASHA count)		
12	Existing emergency referral pathways (Yes/No)		

E. Points of Entry & Mobility

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Bus stands / depots (number)		
2	Railway stations (number)		
3	Boat jetties / fishing harbours (number)		
4	Ports / airports nearby (specify distance)		
5	Major highways/roads passing through		
6	Border crossings (state/district)		
7	Major markets / weekly markets		
8	Tourism hubs / major event venues		
9	Schools/colleges with hostels (number)		

10	Factories / large workplaces (number)		

F. Water, Sanitation & Hygiene (WASH)

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Major drinking water sources (piped / wells / borewells / springs)		
2	No. of public wells		
3	No. of households with piped water connection		
4	Water quality testing routine (Yes/No)		
5	Common contamination risks (flooding, salinity, industrial waste)		
6	Open defecation free status (Yes/No)		
7	Solid waste management system (Yes/No)		
8	Bio-medical waste disposal mechanism (Yes/No)		
9	No. of public toilets		
10	Handwashing stations in public places (Yes/No)		

G. Zoonotic Risks & One Health

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Livestock population (cattle/goats/pigs/poultry) – estimates		

2	No. of dairy farms / poultry farms / pig farms		
3	Slaughterhouses / meat shops (number)		
4	Animal markets (Yes/No, details)		
5	Veterinary dispensaries (number)		
6	History of zoonotic outbreaks (rabies, leptospirosis, avian flu etc.)		
7	Stray dog population management measures (Yes/No)		
8	Rodent infestation hotspots (Yes/No)		
9	Wetlands / waterlogged areas prone to leptospirosis		
10	Bat roosting areas / caves / fruit orchards (if any)		
11	Human-animal interface hotspots (farms near residences)		

H. Climate & Disaster Risks (Pandemic Amplifiers)

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Flood-prone wards (list)		
2	Landslide-prone wards (list)		
3	Cyclone/sea surge risk (Yes/No)		
4	Heatwave risk zones (Yes/No)		
5	Waterlogging areas (list)		
6	Shelter homes / relief camps (number, capacity)		
7	Past disaster displacement history		
8	Disruption to water supply/transport common (Yes/No)		

I. Critical Infrastructure & Logistics

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Schools (number)		
2	Anganwadis (number)		
3	Colleges (number)		
4	Community halls (number)		
5	Places of worship with large gatherings (number)		
6	Large markets / shopping areas (number)		
7	Warehouses / cold storages (number)		
8	Telecom/mobile network coverage gaps (Yes/No)		
9	Power outage frequency (high/medium/low)		
10	Availability of generators in key facilities		

J. Risk Communication & Community Networks

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Ward-level rapid response teams (Yes/No)		
2	Jagratha samithis / committees active (Yes/No)		
3	Kudumbashree presence and strength (number of units)		
4	Volunteer network (number, coverage)		
5	Community-based surveillance mechanisms (Yes/No)		

6	IEC dissemination channels (WhatsApp groups, community radio, PA systems)		
7	Rumour tracking mechanisms (Yes/No)		
8	Languages spoken / literacy considerations		
9	Vulnerable groups communication strategy available (Yes/No)		

K. Preparedness Planning & Governance

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	LSG emergency plan available (Yes/No)		
2	Pandemic preparedness plan available (Yes/No)		
3	Incident Command System identified (Yes/No)		
4	Rapid procurement mechanism available (Yes/No)		
5	Emergency fund available (Yes/No, amount)		
6	Past outbreak response experience (Yes/No, details)		
7	Intersectoral coordination mechanism (Health, Police, LSG, Veterinary, Education)		
8	Mock drills conducted in last 12 months (Yes/No)		
9	Training coverage for staff/volunteers (Yes/No)		

L. Surveillance & Data Systems

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Digital reporting tools used (e.g., DHIS2, portals)		
2	Availability of line-listing format (Yes/No)		
3	Contact tracing team identified (Yes/No)		
4	Mapping of high-risk households available (Yes/No)		
5	Testing sample transport mechanism (Yes/No)		
6	Reporting timeline adherence (good/average/poor)		
7	Data sharing between departments (Yes/No)		
8	Availability of dashboard for monitoring (Yes/No)		

M. Additional Notes & Observations

Sl. No.	Indicator / Field	Baseline Data (Value / Description)	Source / Remarks
1	Key challenges perceived by LSG		
2	Top 5 high-risk wards (reason)		
3	Any unique local risks (industrial pollution, refugee camps, etc.)		
4	Recommendations for preparedness strengthening		

Contact Points

District	DMO Office	Collectorate Control Room	DISHA
Kollam	0474 2799299 0474 2795017	**0474 2794002** **0474 2794004** **1077 – (Toll Free)**	1056