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PANDEMIC MANAGEMENT PLAN



MALAPPURAM

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 Kerala 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 upto 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

the



Kerala Health has been taking efforts to strengthen the 'Health System'. The outbreak of diseases is common across 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 by 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

Addl Chief Secretary

Health and Family Welfare Dept.

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 inflexion 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 learned 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.

Director of Health Services

Date: 4/6/2026

EXECUTIVE SUMMARY

District Overview

Malappuram district, situated in the northern part of Kerala, is the most populous district in the state and one of the most densely populated in India. With a total population of approximately 41.1 lakh as per the 2011 Census of India, the district accounts for around 13 per cent of Kerala's total population. The district was formed on 16 June 1969 and spans an area of approximately 3,554 sq. km, making it the third largest district in Kerala by area.

For administrative purposes, the district is organised into two revenue divisions — Tirur and Perinthalmanna — and seven taluks: Eranad, Kondotty, Nilambur, Perinthalmanna, Ponnani, Tirur, and Tirurangadi. The rural areas are divided into 94 Grama Panchayaths grouped under 15 development blocks. The district also has 12 municipalities. The district is bounded by Kozhikode and Wayanad districts to the north, Palakkad district to the east, Thrissur district to the south, and the Arabian Sea to the west, with a coastline of approximately 70 km.

The district's varied terrain spans coastal lowlands, central midlands, and forested highlands — a physiographic diversity that presents logistical and epidemiological challenges in healthcare delivery. Malappuram has a significant emigrant population, particularly to Gulf countries, with the local economy depending substantially on remittances. This demographic feature, combined with the district's high population density and inter-district movement corridors, adds distinct layers to its public health vulnerability profile.

Health Infrastructure and Service Delivery

The public health infrastructure of Malappuram district spans multiple tiers of care. At the apex of secondary care, the Government Medical College Hospital, Manjeri, serves as the district referral centre with all speciality services. Taluk-level hospitals function at Tirur, Ponnani, and Perinthalmanna, and government hospitals are operational at Malappuram, Nilambur, Areacode, and Tirurangadi. Primary care is delivered through a network of Community Health Centres (CHCs) and Primary Health Centres (PHCs) spread across all 15 blocks, supported by sub-centres at the village level.

The District Medical Office (Health) coordinates all public health activities in alignment with the National Health Mission (NHM) and state health policy directives. A dedicated network of ASHA workers, Junior Public Health Nurses

(JPHNs), and field health staff ensures last-mile connectivity, particularly in interior and geographically

challenging areas. Coordinated efforts with Anganwadi centres, schools, and local self-government institutions (LSGIs) strengthen outreach and health promotion. In addition to allopathy services, the district has a substantial network of government Ayurveda and Homoeopathy institutions, including the Kottakkal Arya Vaidya Sala, a world-renowned centre for Ayurvedic research and treatment.

Public Health Programmes and Disease Surveillance

Malappuram district actively implements a broad range of national and state health programmes. These include maternal and child health services under the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A) framework, routine immunisation and the Universal Immunisation Programme (UIP), and adolescent health initiatives under the RKSK programme. The district has also prioritised HPV vaccination coverage and cervical cancer screening through VIA/VILI, under the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS).

Disease surveillance is conducted through the Integrated Disease Surveillance Programme (IDSP), with active block-level and district-level sentinel surveillance. The district also implements the National Tuberculosis Elimination Programme (NTEP) and vector control programmes targeting malaria, dengue, and other vector-borne diseases, which remain endemic in parts of the district. Malappuram bears a documented and recurring burden of zoonotic disease events, which has necessitated sustained investment in rapid response capacity and multi-sectoral coordination.

Vulnerability Profile and Risk Context

Malappuram district presents a complex vulnerability profile that calls for a robust pandemic preparedness framework. Socioeconomic factors — including a large population of return migrants from Gulf countries, communities in low-lying and landslide-prone areas, and significant internal mobility — create overlapping layers of health risk. The district's high population density and active movement corridors elevate its susceptibility to emerging and re-emerging infectious disease events.

The district has direct experience of multiple high-impact public health emergencies. It was affected during the 2018 Nipah virus outbreak, which originated in Kozhikode and spread to parts of Malappuram. More significantly,

two independent Nipah spillover events were recorded in Malappuram district itself in July and September 2024, with no secondary transmission detected. In 2025, Malappuram was again placed on high alert following further NiV cases in the state. These recurrent events firmly establish

Malappuram as a high-risk zone for Nipah virus. The district has also faced major natural disasters, including the Kavalapara landslide (2019) and was in the vicinity of the Karipur air crash (2020), both of which tested the district's emergency response capacity. Environmental factors — proximity to forest interfaces, a network of rivers and wetlands, and seasonal flooding — add to the risk of waterborne illness and vector-borne infections.

Pandemic Preparedness and Response Capacity

The Pandemic Preparedness Plan for Malappuram District has been developed in response to lessons from past public health emergencies and in alignment with the Kerala State Disaster Management Authority (KSDMA) guidelines and the National Disaster Management Plan. The plan provides a structured framework for early warning, rapid response, resource mobilisation, inter-sectoral coordination, and risk communication across all administrative tiers.

Key preparedness components include the operationalisation of Rapid Response Teams (RRTs) at district and block levels, establishment of isolation and quarantine facilities, stockpiling of essential medicines and personal protective equipment, activation of emergency communication systems, and strengthening of laboratory diagnostic capacity through linkage with the Government Medical College, Manjeri and the network of Virus Research and Diagnostic Laboratories (VRDLs). The District Health Society coordinates preparedness activities with the Revenue Department, Police, Local Self-Government Department, and NGO partners to ensure a whole-of-government response.

Regular simulation exercises, tabletop drills, and inter-departmental review meetings are integral to preparedness planning. Training of health workers in infection prevention and control, case investigation, and outbreak management is prioritised at all levels. Kerala's established Nipah virus Standard Operating Procedures, developed iteratively since 2018, serve as a key reference for containment protocols in the district.

Gaps Identified and Way Forward

Despite significant progress, the district faces persistent challenges including gaps in specialised human resources, variable infrastructure across facilities, and uneven integration of digital health systems. Surveillance data quality and timeliness, particularly at the sub-centre level, remain areas requiring focused improvement. Community-level health-seeking behaviour, especially in tribal and remote areas, continues to pose challenges for early detection and containment of disease events.

Going forward, the district health administration is committed to strengthening facility readiness, enhancing health information systems, and deepening community participation in health planning. Expanding preventive health services, investing in digital surveillance tools, and building a resilient, well-trained, and adequately equipped health workforce are the strategic priorities guiding the district's pandemic preparedness agenda.

Conclusion

Malappuram District sits at the intersection of demographic, environmental, and epidemiological dynamics that demand a proactive and sustained public health response. The Pandemic Preparedness Plan for Malappuram District provides a comprehensive roadmap to strengthen systemic resilience, reduce vulnerability, and ensure coordinated and effective action in the face of health emergencies. Through sustained investment in people, infrastructure, and preparedness systems, the district health machinery remains committed to safeguarding the health and well-being of all residents of Malappuram.

LIST OF ABBREVIATIONS

LSGI/LSGD	LOCAL SELF GOVERNMENT DEPARTMENT/ LOCAL SELF GOVERNMENT INSTITUTIONS
IDSP	INTEGRATED DISEASE SURVEILLANCE PROGRAMME
CHC	COMMUNITY HEALTH CENTER
PHC	PRIMARY HEALTH CENTRE
FHC	FAMILY HEALTH CENTRE
GMCH	GOVERNMENT MEDICAL COLLEGE HOSPITAL
THQH	TALUK HEAD QUARTERS HOSPITAL
NHM	NATIONAL HEALTH MISSION
CD	COMMUNICABLE DISEASES
NCD	NON COMMUNICABLE DISEASE
BLS	BASIC LIFE SUPPORT
ALS	ADVANCED LIFE SUPPORT

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TABLE OF CONTENTS

INTRODUCTION	9
Background of the PPP	9
District AT A GLANCE	9
Maps - LSG-based (Mention source also)	10
INTEGRATED HEALTH INFRASTRUCTURE MAP OF MALAPPURAM District	11
Health Infrastructure Map	12
GENERAL PROFILE OF THE District	15
Background of the District	15
Demographic and Vulnerable Population	16
Clinical Vulnerability	17
INFRASTRUCTURE & RESOURCE INVENTORY	19
Health Facility Directory & Basic Capacity in the DISTRICT	19
Private Clinics	20
Healthcare Education & Training Institutions	20
Specialised Services & Emergency Inventory	21
Oxygen & Diagnostic Capacity	21
Diagnostics facility mapping at the DISTRICT level	22
Laboratory Identification & Basic Details	22
Social and Community Infrastructure for the surge plan	23
Human resources	25
Medical & Clinical Personnel	25
Public Health & Field-Level Workforce	25
Community & Support Cadre	26
Community Organizations	27
Administrative & Emergency Services	28
Information regarding resources	28
ONE HEALTH & ENVIRONMENTAL SURVEILLANCE	29
Animal & Bird Population	29
Veterinary Infrastructure	30
Veterinary Doctors & Workforce	31
High-Risk Interface Points (Surveillance Sites)	32

Environmental Risk Mapping	33
Disease Seasonality Mapping	34
Vulnerability Mapping	35
EPIDEMIOLOGICAL TRENDS (2021–2025)	36
Disease Burden among human beings(Last 5 Years)	36
Seasonal Trend Analysis	38
Outcome-Based Trend Analysis- 2025	40
Transmission Trend- 2025	41
Integrated Disease Hotspot Map (2021–2025)	43
Assessing Core Capacities	46
Mapping of existing plans and committees	46
Assessment of Core capacities	46
Build & Organise critical capacities	47
Governance & Structure	48
Planning Principles & Legal Considerations	48
Plan Development & Approach	49
State Systems & Emergency Coordination	49
Surveillance & Laboratory Systems	49
Community Protection & Communication	50
Clinical Care & Essential Services	50
Access to Countermeasures	51
10. Plan Activation & Operational Triggers	51
Health system surge	51
Supplies and logistics	52
Map and formalize supply chains with contingency routes, framework agreements, and a simple inventory tracking format.	53
Preparedness and Response Protocol at District Level	53
Constitution of One Health Committee	54
Pandemic Response Workforce	56
Activities and Measures before and during Pandemic	58
PHASE 1 - Alert / Preparation	58
Identification of Quarantine and Isolation Facilities	60
Risk Communication and Community Preparedness	60
Protection of Vulnerable Groups	61

Clinical Dependency Mapping	62
PHASE 2 - Active Response	62
Standard Screening Protocol	64
CONTROL ROOM MANDATES	66
PHASE 3 - Surge Capacity	91
Conversion of Community Facilities	91
Recovery and rehabilitation phase	92
CONCLUSION	92
RECOMMENDATIONS	94
MOCKDRILL SCENARIOS	95
Communication	96
Communication strategies	97
Pandemic Preparedness Capacity Building & Training Plan	98
ANNEXURE	102
1. 221	
Annexure 1: LSG Baseline Data Collection Format	108
A. Baseline data	108
B. Demography	108
C. Vulnerable Populations & Social Risks	109
D. Health System & Service Readiness	109
E. Points of Entry & Mobility	110
F. Water, Sanitation & Hygiene (WASH)	110
G. Zoonotic Risks & One Health	111
H. Climate & Disaster Risks (Pandemic Amplifiers)	111
I. Critical Infrastructure & Logistics	112
J. Risk Communication & Community Networks	112
K. Preparedness Planning & Governance	113
L. Surveillance & Data Systems	114
M. Additional Notes & Observations	114

INTRODUCTION

Kerala, located on the Malabar Coast of southern India, was formed on 1 November 1956 under the States Reorganisation Act, which unified the Malayalam-speaking regions of the country into a single state. It is the 13th most populous state in India, divided into 14 districts, with Thiruvananthapuram as the state capital. Malayalam is the most widely spoken language and, along with English, serves as an official language of the state.

Malappuram is the most populous district in Kerala, home to approximately 13% of the state's total population, and is the third-largest district by area. Formed on 16 June 1969 and spanning 3,554 sq. km, the district is bounded by the Western Ghats to the east and the Arabian Sea to the west. It has a coastline of 70 km and is administratively divided into seven taluks — Eranad, Kondotty, Nilambur, Perinthalmanna, Ponnani, Tirur, and Tirurangadi. The district headquarters is located at Malappuram city, and the name itself — derived from Malayalam — means "terraced place atop the hills," reflecting the characteristic terrain of the headquarters area.

No Home care Vehicles :261

No of active Volunteers: 12200

Brief History of the district Malappuram district

Malappuram district is composed of portions of the erstwhile Palakkad and Kozhikode districts. It was carved out of Ernad taluk and portions of Tirur taluk of Kozhikode district and portions of Perinthalmanna and Ponnani taluks of Palakkad district. The ancient history of the places comprising the district is obscure. However, there are some pre-historic relics found in some parts of the district, particularly Dolmens, Menhirs and Rock-cut caves. In Manjeri town and in Nilambur village, these relics are found. Rockcut caves are also seen in Trumbuli, Puliykkode, Trikkulam, Urakam, Melmuri, Ponmala, Vallikunnu and Vengara. The ancient archaeological relics include the fortified palace of the eastern branch of the Zamorin's family known as Kizhakke Kovilakom. Malappuram was the headquarters of British troops and later it became the headquarters of the Malabar Special Police formed in 1921. The Zamorins of

Calicut had also their sway over this place and had stationed a part of their militia here. The century-old Haig barracks situated on the top of the hill overlooking the Kadalundi river, founded by British rulers, is now the Headquarters of the district administration. This place still has the ruins of an ancient fort built by Tippu Sulthan. Malappuram was also the scene of the Malabar Rebellion of 1921 which was suppressed by Malabar special police. Geologists and Anthropologists claim that Arabian sea once washed its waves on the foot of the Western Ghats and the strip of land west of the Ghats, which we call the —land of the Perumals— emerged out of the sea bit by bit spreading over a period of many centuries. Therefore Malappuram district can proudly claim its antiquity much more than the coastal districts of Kerala. It is presumed that the first eruption of the volcanic convulsion of the Arabian Sea that left a small strip of land on the Western side of the Ghats was in the fourth Millenium B.C. Except the coastal area of the Ponnani Taluk, Malappuram district comes under the first wave of land formation and therefore its prehistory dates back to the 4th millennium B.C.

The district encompasses three distinct physiographic zones. The coastal lowlands stretch as a narrow belt from Kadalundi Nagaram in the north to Ponnani in the south. The midlands, characterised by flat-topped hillocks and steep valleys, form the dominant and most expansive physiographic unit. The highlands to the east, bordering the Nilgiris, are covered with dense evergreen forests, rivers, and ravines. Four major rivers — Chaliyar, Kadalundi, Tirurpuzha, and Bharathapuzha — drain the district, supporting both agriculture and a significant inland population. The district has 1,03,417 hectares of forest cover and 54,255.99 hectares of wetland area, underscoring its ecological significance alongside its public health relevance.

DEMOGRAPHY (as per 2011 status)

The total population of the district is 41.129 lakhs. The population of the district has increased from 36,25,471 in 2001 to 41,12,920 in 2011, with 1960328 males and 2152592 females. The district with 9.15 per cent of the total geographical area of the state accommodates 12.31 per cent of the population.

The highlights of the 2011 census are as follows:

- Malappuram is the most populous District in the State with a population of 4,112,920 persons.

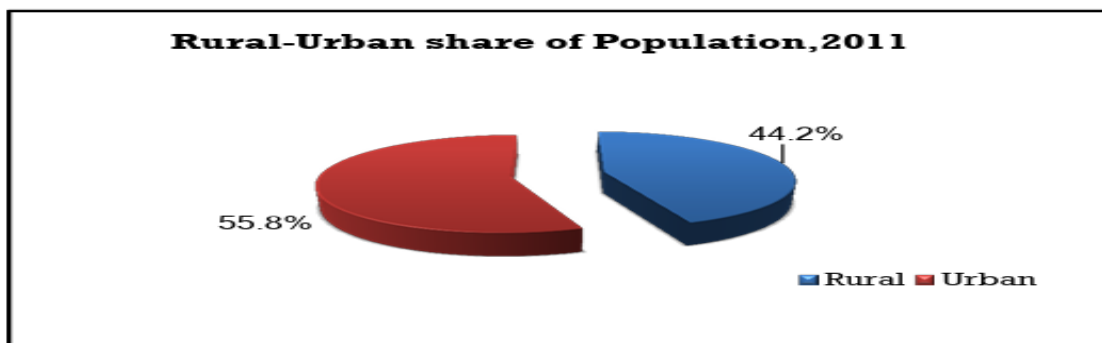
- In terms of density of population, Malappuram is the 4th dense (1157 persons per sq km) district and the 2nd urban dense district in the State.
- The district has recorded the lowest (14th) rank in total, male, female work participation rates (25.8%, 45.8 % and 7.6 %) and in urban and rural work participation rate (24.7 % and 26.7 %) in the State.
- The district has the highest percentage of non-workers (74.14) in the State.
- Malappuram district is reported to have the highest decadal growth rate of population (13.45 %) in the state during 2001-11.
- The district occupies the 9th position in literacy rate (93.57 per cent).
- The district has the 7th position in sex ratio (1098). In the child sex ratio, the district has the 6th rank with 965 female children per 1000 male children.
- The district has the 10th rank in percentage of Scheduled Caste and 9th rank in Scheduled Tribe population to total population (7.50 per cent and 0.56 per cent) of the district.
- The district holds the top position in average household size (5.2 persons per household).
- In the 2011 census, the district had a population of 4,112,920. Malappuram is the 50th-most-populous of India's 640 districts, with a population density of 1,158 inhabitants per square kilometre (3,000/sq mi).
- Its population-growth rate from 2001 to 2011 was 13.39 per cent. Malappuram has a sex ratio of 1098 women to 1000 men, and its literacy rate is 93.55 per cent.

Distribution of population in Rural and Urban Areas

Rural-Urban Distribution classification is necessary for understanding the process of urbanisation in the district. The urban population of the district has increased from 356170 in 2001 to 1817211 in 2011 i.e. 9.82 per cent of the total population in 2001 to 44.18 per cent in 2011. In accordance with the 2011 census, the rural population of the district with 2295709 accounting for 55.81 per cent of the total population is distributed in 83 villages of 6 taluks. Ernad taluk with 22 villages (26.51%) accommodates 594599 rural population, forming 25.90 percent of the total rural population of the district. Nilambur taluk with 18 villages (21.69%) accommodates 527693 rural population, forming 22.99 per cent of the rural population.

Perinthalmanna taluk with 20 villages (24.09%) accommodates 474612 rural population forming 20.67 per cent of the rural population. Tirur taluk with 16 villages (19.28%) accommodates 476158 rural population, forming 20.74 percent of the rural population. Tirurangadi taluk with 2 villages (2.4%) accommodates 60691 rural population, forming 2.64 percent of the rural population. Ponnani taluk with 5 villages (6%) accommodates 161956 rural population forming 7.05 percent of the rural population. As per 2011 census urban area is present in all taluks and Tirurangadi (652326) is the most urbanized taluk followed by Tirur (452514). During 2011, in Ernad Taluk the proportion of urban population to the Taluk population is 34.73 percent and proportion to the district urban population is 17.4 percent. These figures are respectively 8.08 and 2.55 percent for Nilambur, 21.73 and 7.25 for Perinthalmanna, 48.73 and 24.9 for Tirur, 91.49 and 35.90 percent for Tirurangadi and 57.36 and 11.99 percent for Ponnani Taluk. In 2011 census, the urban population of the district is distributed in five municipalities, one outgrowth and thirty nine Census Towns. Total population of the Statutory Towns and its out growth is 394760 and that of Census Towns is 1422451. Malappuram municipality (M+OG) with 101386 persons is the most populous statutory town in the District. The next populous towns are Manjeri (97102), Ponnani (90,491), Tirur Municipality (56058) and Perinthalmanna (49723). The urban areas of Ernad taluk includes Manjeri (M), Malappuram (M) and Anakkayam (OG). Perinthalmanna, Tirur and Ponnani municipalities lie in the urban areas of Perinthalmanna, Tirur and Ponnani taluks respectively. All the municipalities in the district have above 50,000 population except Perinthalmanna (M). The average size of a town in the district works out to 41300. Graph I-1 shows the rural urban share of the population as per 2011 census.

Graph I - shows the rural urban share of the population as per 2011 census



Graph I-1 Rural -Urban share of population

BACKGROUND OF THE PPP

Relevance of Pandemic Preparedness Plan in Malappuram

Malappuram's history reflects a district that has faced multiple, diverse, and serious public health and disaster events — each of which has tested the limits of local response systems and left important lessons for preparedness planning.

The **Nipah virus outbreaks** in Kerala, with the first occurring in Kozhikode and Malappuram districts in May–June 2018, remain among the most significant zoonotic disease events in India's recent public health history. The 2018 outbreak resulted in 17 deaths and prompted a major emergency response involving state and central health authorities, the WHO, and international partners. A subsequent Nipah case was reported in Malappuram district in 2024 and 2025, confirming that the zoonotic risk from fruit bats in the region remains active. These outbreaks demonstrated how quickly a novel pathogen can cause mortality and panic, and how essential early detection, contact tracing, and coordinated response are in containing spillover events.

The **Air India Express Flight crash at Calicut International Airport, Karipur**, on 7 August 2020, was one of the deadliest aviation disasters in India in recent decades. The aircraft overran the tabletop runway and fell into a valley, killing 21 people and injuring over 100. The disaster occurred during the COVID-19 pandemic, placing additional strain on already stretched health and emergency response systems in the district. It exposed gaps in mass casualty management, inter-agency coordination between health, police, fire, and airport authorities, and the capacity to manage a large-scale emergency simultaneously with an ongoing public health crisis.

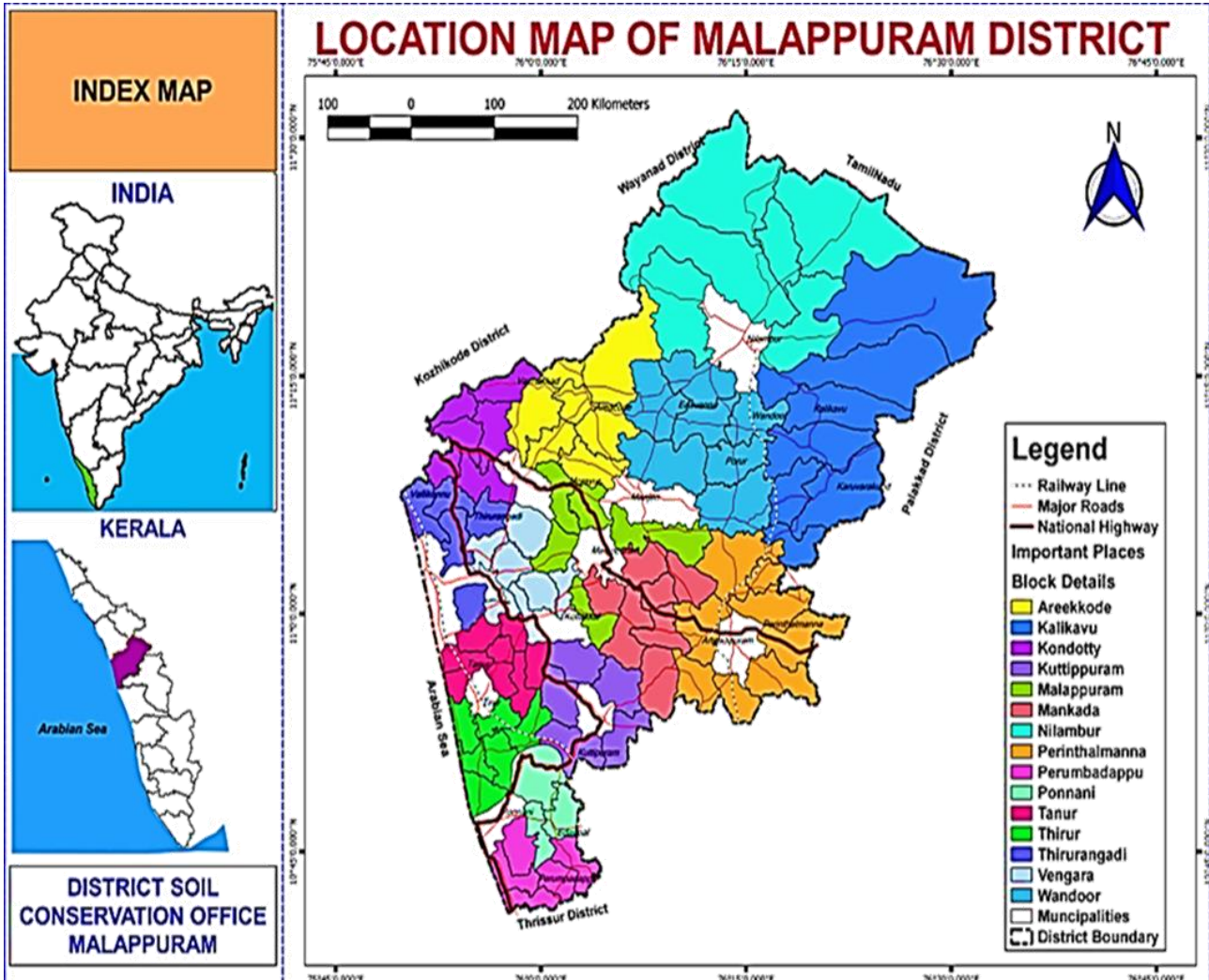
The **Kavalapara landslide** in Malappuram district on 8 August 2019 was a devastating natural disaster in which a major landslide struck the Kavalapara village in Nilambur taluk following extremely heavy rainfall. Entire settlements were buried, and over 50 lives were lost. The remoteness of the area, difficult terrain, and limited access roads severely hampered rescue and relief operations. The disaster highlighted the district's significant vulnerability to

climate-related hazards and the need for integrated disaster and health emergency planning, particularly for highland and geographically isolated communities.

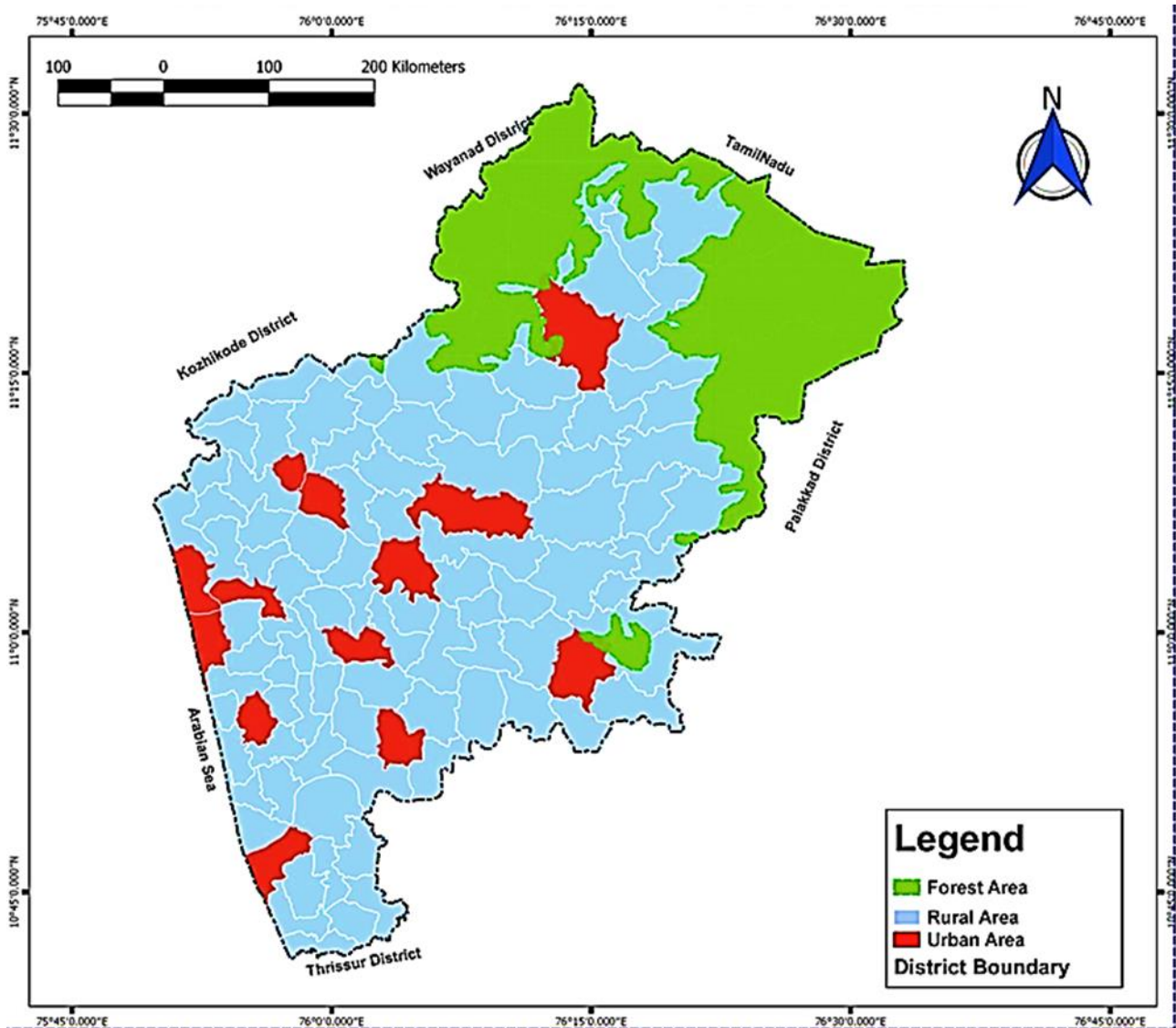
Collectively, these events — a zoonotic disease outbreak, a mass-casualty aviation disaster, and a large-scale natural calamity — illustrate that Malappuram faces a broad, overlapping spectrum of hazard risks. The recurrence of these events within a short span of years, and the compounding effect of responding to multiple emergencies simultaneously, as seen during COVID-19, make a comprehensive, multi-hazard pandemic and disaster preparedness plan not just useful but essential for this district.

DISTRICT AT A GLANCE

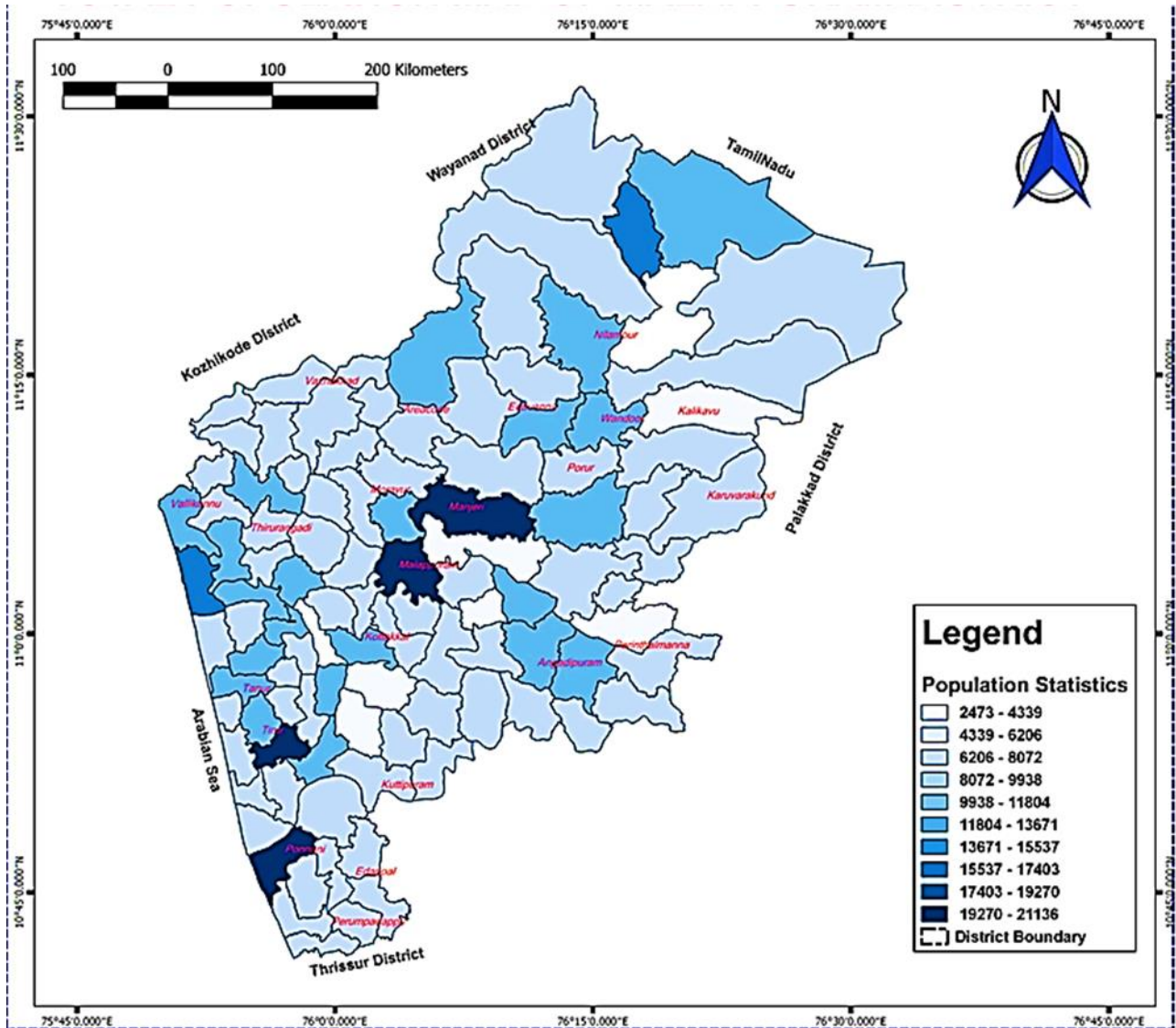
MAP SHOWING GEOGRAPHICAL BOUNDARIES - ADMINISTRATIVE SUBDIVISIONS OF MALAPPURAM DISTRICT



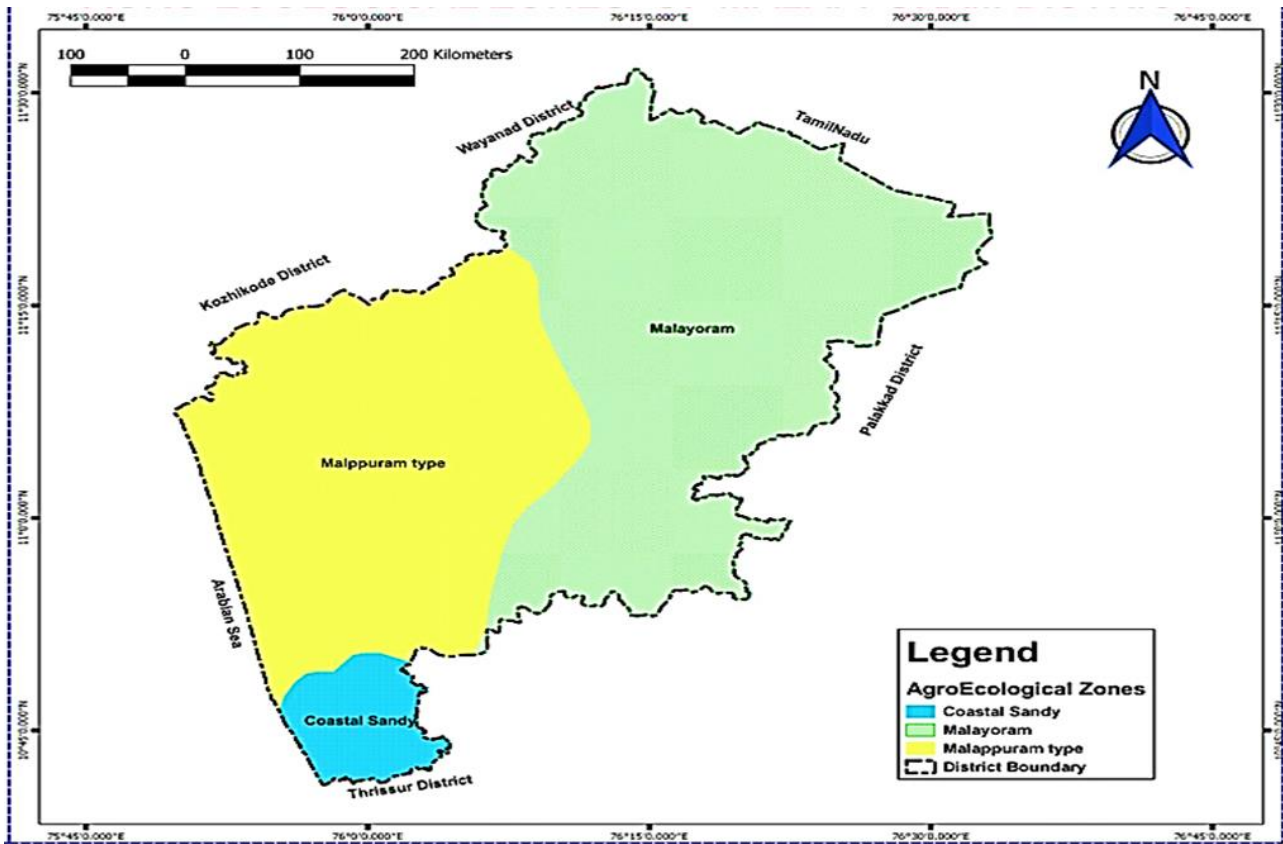
MAP SHOWING RURAL -URBAN DIVISION OF MALAPPURAM DISTRICT



MAP SHOWING TOTAL POULATION DISTRIBUTION OF MALAPPURAM DISTRICT



MAP SHOWING AGRO ECOLOGICAL ZONES OF MALAPPURAM DISTRICT

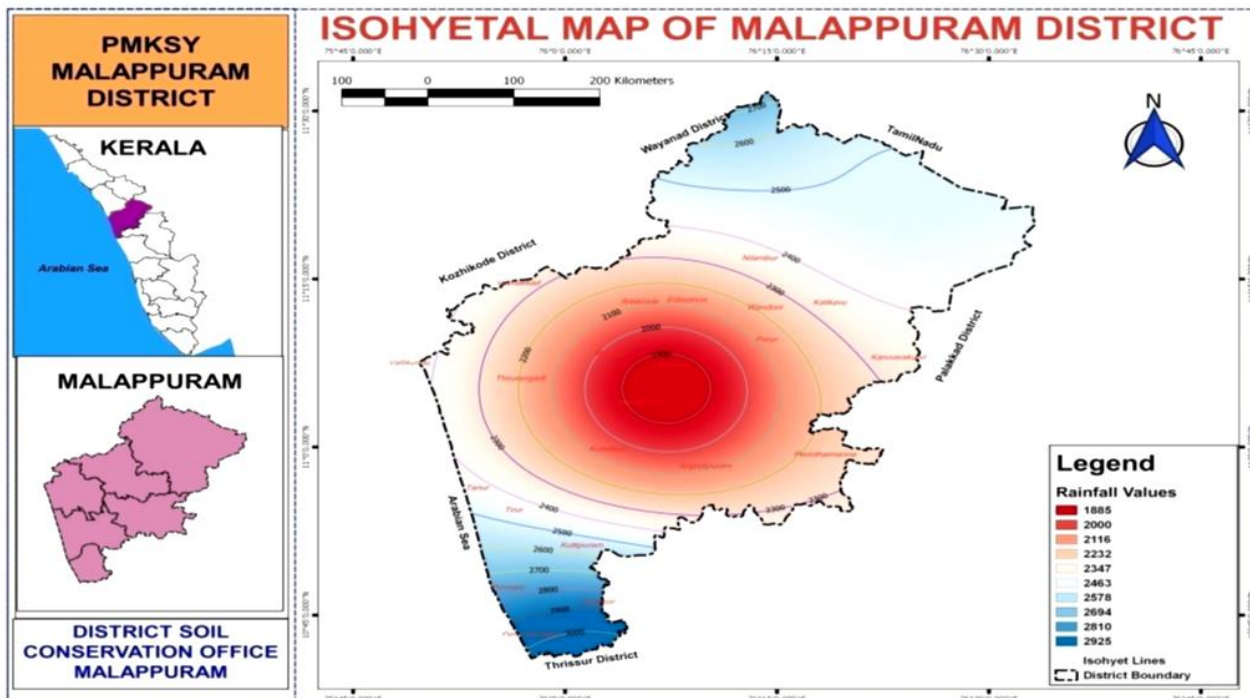


Sl.No	Agro Ecological Zone	Altitude	Rainfall	Topography	Soil type
1	Costal Sandy	Altitude up to 500m above MSL (Low altitude zone-hot lumind tropies, spread over the entire state	Both the South West and North East monsoons are active and moderately distributed.South west monsoon with june maximum (South of 11° N altitudes)	Extensive valleys with level but raised garden land	Sandy loam
2	Malappuram type	Altitude up to 500m above MSL(Low altitude zone-hot lumind tropies, spread over the entire state	Poorly distributed rainfall, South est monsoon with July Maximum and Concentrated in 3-4 months. North east monsoon relatively weak (North of 11° N latitude)	Valleys less Extensive. Hills with table tops steep slopes	Laterite
3	Malayoram	Altitude up to 500m above MSL (Low altitude zone-hot lumind tropies, spread over the entire state	Both the south west and North East monsoons are acke and moderately distributed.South west monsoon with june maximum (South of 11°N altitudes)	Narrow valleys.Hills with steep gradinels steep slopes	Laterite without B- Horizon

Climate

The climate of Malappuram district is tropical climate. The district has more or less the same climatic conditions prevalent elsewhere in the state viz. dry season from December to February and hot season from March to May, the South-West monsoon from June to September and the North East monsoon from October to December. The South West monsoon is usually very heavy and nearly 73.5% of the rainfall is received during this season. The climate is generally hot and humid. The maximum temperatures ranges from 28.9 to 36.2°C and the minimum temperatures range from 17.0 to 23.4°C. The temperature starts rising from January and reaches the peak in the month of March and April and then decreases during the monsoon month and again rising from September onwards. The relative humidity ranges from 84 to 94 % during morning hours. The humidity is more during the peak monsoon months from June to September. The wind is predominant from east as well as west during morning and evening hours. The wind speed is more during December to February months. It ranges from 2.9 to 7.2 km per hour.

MAP SHOWING DISTRIBUTION OF RAINFALL ACROSS MALAPPURAM DISTRICT

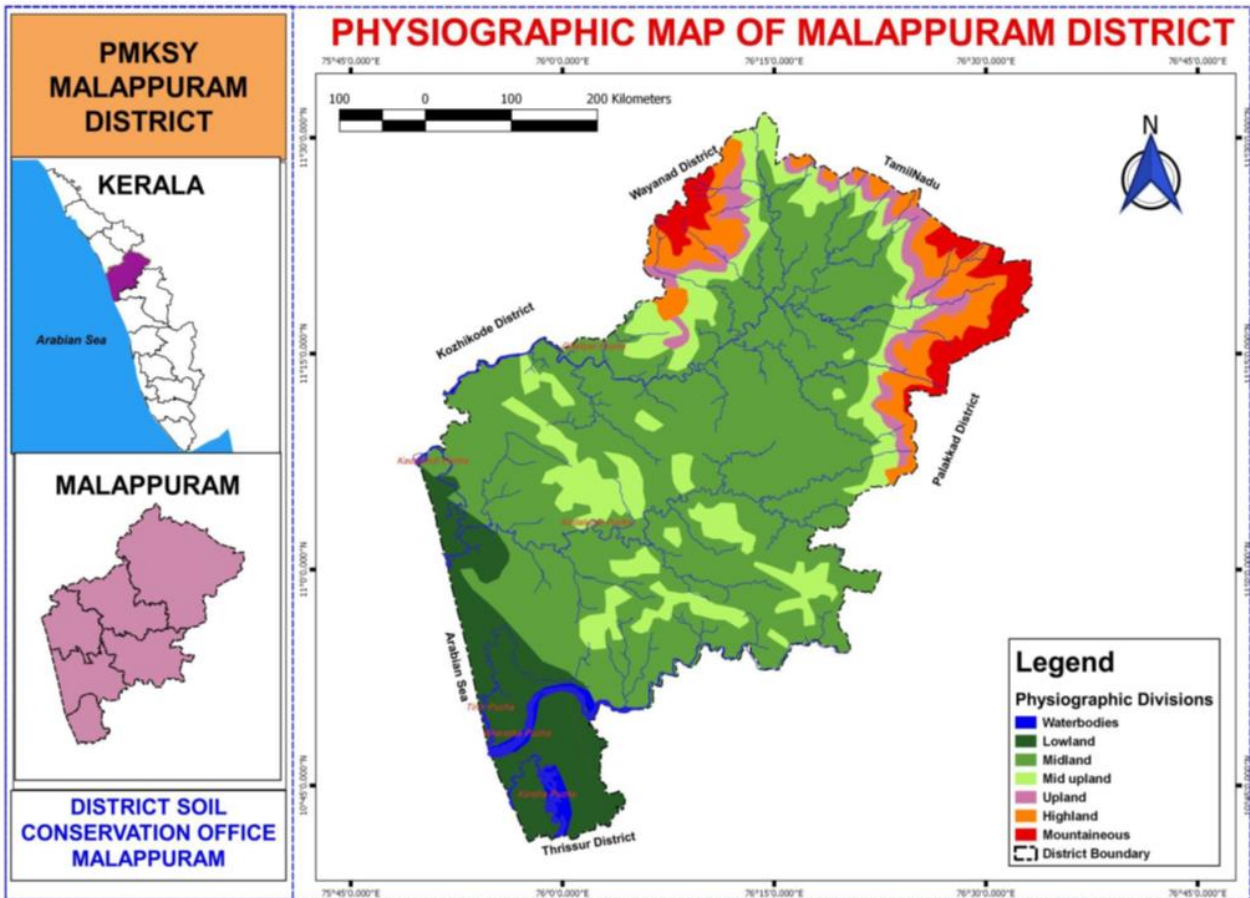


Topography

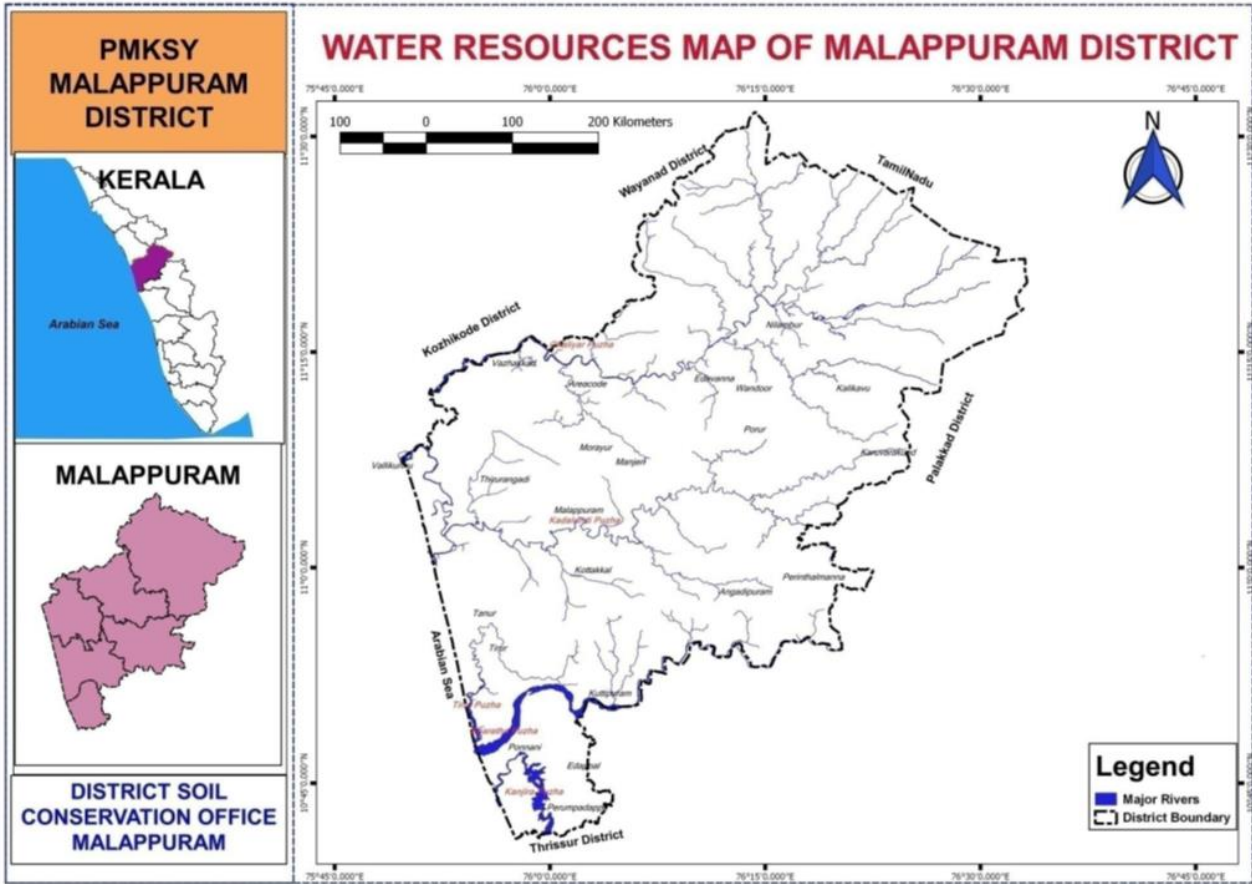
Topographically like most of the other districts of the state, Malappuram too consists of three natural divisions- lowland, midland and highland. The district can be divided into three geographical regions viz. coastal plain /Low land (less than 7.5 m above mean sea level) mid land (7.5 – 75 m above mean sea level l) and highland (above 75 m above mean sea level). The coastal plains extend as a narrow stretch of land lying along the coast from Kadalundi Nagaram in the north to Ponnani in the south. It becomes very narrow towards north of Tirur and the maximum width is seen along Chauravallam - Tirurangadi area. The area lying between the coastal plain in the west and the high ranges in the east is occupied by midlands. This is the most prominent physiographic unit of the district. This is characterized by flat topped hillock with steep ‘U’ shaped valleys and ridges.

In General, the topography of the district is highly undulating; starting from the hilltops covered with thick forests on the east along the Nilgiris which gradually slopes down to the valleys and the small hills before ending on sandy flat of luxuriant coconut-grooves in the west. The elevation of the land increases from the sea level as it goes east and the highest elevation is attained at the north eastern boundary lying along the Western Ghats. The lowest elevation is noticed towards the western coastal area and the highest elevation of 2476m is at Nilgiri peak bordering Tamil Nadu.

MAP SHOWING PHYSIOGRAPHIC DIVISIONS OF MALAPPURAM DISTRICT



MAP SHOWING DISTRIBUTION OF WATER SOURCES OF MALAPPURAM DISTRICT



Taluk	Name of LSGD	Ward	Houses	Population	Migrants	Wells	Hot spots	Ed. Institutions	Hosp pvt/govt .
Health Blocks									
Nilambur - Chungathara, Thiruvally	Chungathara	22	10583	44905	283	7650	5	29	3
	Nilambur Municipality	10	3840	36279	238	2690	4	25	6
	Amarambalam	19	10588	43773	434	7867	0	25	5
	Edakkara	19	9181	38450	297	6909	1	16	5
	Moothedam	18	7145	30217	236	4296	3	10	0
	Pothukal	19	7562	31984	184	5892	8	11	4
	Vazhikadavu	23	13701	59857	253	10136	8	24	2
	Karulai	17	6544	28460	226	4259	Nil	12	7
	Wandoor Gramapanchayath	23	13730	59617	712	11086	15	26	3
	Mampad	22	10384	42964	380	6707	11	27	9
	Thiruvally	16	8247	34875	698	6170	3	12	7
	Chokkad	20	8161	40572	276	6703	2	15	3
	Kalikavu	22	9645	44572	70	6982	1	16	5
	Karuvarakundu	24	10412	47575	196	6458	2	21	9
	Tuvvur	19	8217	38023	233	5764	8	11	4
Porur	19	7033	37297	233	6144	3	17	3	
Eranad-Edavanna	Edavanna	24	12201	42535	1035	7314	11	24	4

	Chaliyar	16	5585	22947	94	3614	1	14	3
	Urangattiri	24	10600	24890	310	4970	8	18	3
	Kuzhimanna	21	9034	43406	391	5865	3	17	4
	Keezhuparambu	14	5822	28818	214	2679	4	14	1
	Areekode	20	7961	37967	206	4046	4	19	2
	Kavannur	23	10048	46786	235	1514	2	14	4
	Thrikkalangoode	24	14469	65512	425	11629	7	40	3
	Pandikkad	23	15125	69773	540	13773	13	23	3
	Manjery Municipality	53	26056	117539	2376	13435	6	39	7
	Keezhattur	22	9748	44083	307	5812	3	21	1
	Edapatta	15	6026	29205	113	3637	0	11	2
	Morayur	21	9100	45290	437	5201	1	20	1
	Malappuram Municipality	45	18020	82007	1047	7826	2	122	5
	Anakkayam	24	13386	63707	344	9619	2	26	1
	Kodur	23	9475	48079	261	6064	0	20	1
	Pulpatta	24	11162	54787	379	8087	4	24	22
Perinthalmanna	Thazhekkode	24	11213	53499	328	6186	5	25	6
	Vettathur	19	7324	34552	273	3641			
	Melattur	18	7214	34338	269	6914	9	18	1

	Mankada	21	9591	41126	300	6598	2	20	1
	Makkaraparamba	15	5543	24419	428	3194	1	17	1
	Koottilangadi	22	9991	47208	322	4699	3	21	1
	Moorkkanad	22	1033	46743	327	5828	5	14	2
	Kuruva	24	12298	60888	822		26	19	9
	Puzhakkattiri	19	8612	41206	639	4647	3	16	3
	Perinthalmanna Municipality	37	13945	61417	1833	6311	5	34	6 Govt/ 14 pvt
	Angadipuram	24	15927	68953	443	12547	4	35	1
	Pulamanthol	23	10034	49120	399	4175	2	16	4
	Aliparamba	24	11363	54156	155	4550	11	22	
	Elamkulam	18	7159	30875	348	3581	1	15	6
Thirurangadi	Tirurangadi Municipality	40	12947	74411	1253	11020	5	19	
	Nannambra	24	10055	54888	294	8252	3	20	4
	Perumankkari	18	7148	37175	184	5226	3	37	
	Othukungal	23	9793	50161	503	7070	0	23	3
	Edarikkode	16	7491	37408	652	5552	7	12	4
	Parappur	19	9161	49001	230	6765	5	18	2
	Kannamangal	24	10839	55857	584	8155	1	20	1

	am								
	Oorakam	17	7419	38096	520	5320	1	17	1
	Thennala	19	7117	37734	332	6258	2	11	5
	A R Nagar	21	10477	54504	410	7343	0	13	1
	Thenhipalam	20	9831	40037	346	7359	0	16	1
	Vallikkunnu	24	13225	48006	313	11321	1	27	2
	Parappananga di Municipality	46	17894	87606	787	12495	3	103	12
	Mooniyur	24	14033	72663	578	10598	1	27	7
	Vengara	23	11977	63502	873	9638	9	18	4
Ponnani	Mangalam	21	8460	39784	449	4466	1	22	2
	Triprangode	24	11456	55302	467	9198	yes	21	3
	Kaladi	18	7133	33052	430	5614	0	14	14
	Vattamkulam	22	10301	47606	675	8782	6	23	7
	Edappal	21	9023	40790	430	7816	5	21	18
	Purathur	20	8688	40190	142	5705	10	14	3
	Ponnani Municipality	53	20140	102828	718	5929	6	31	4
	Manjery Municipality	53	26056	117539	237 6	13435	6	39	7
	Aalamkode	21	8083	42602	595	7011	5	30	2

	Nannamukk	17	8017	36453	400	6840	2	14	3
	Peumpadapp	19	7563	5056	0	6138	4	14	6
	Veliyamkode	21	7723	42502	336	5753	1	18	7
	Thavanur	21	10339	44585	232	6843	1	17	1
Tirur	Valavannur	21	8549	45653	346	7146		28	1
	Kalpakancheery	19	8523	43350	392	7621	1	17	6
	Tirur Municipality	40	12260	66691	2297	11284	2	26	12
	Vettom	17	9256	46328	87	7214	13	15	3
	Thalakkad	22	9831	49705	222	9053	4	17	6
	Thirunavaya	23	11,456	62828	374	8961	5,12,1	24	5
	Athavanad	22	11239	56069	606	6231	1	18	2
	Kottakkal Municipality	35	10580	50849	546	9356	2	18	9
	Ponmala	21	9574	46218	394	7541	2	20	3
	Marakkara	24	11334	53085	742	7897	2	18	7
	Edayur	22	9309	48558	255	5913	4	19	2
	Valancheri Municipality	34	10867	33945	1239	8200	1	22	12
	Irimbilyam	20	7917	38621	106	5843	5	18	1
Kuttippuram	24	12591	61005	270	8786	8	26	4	
Tanur	uphc Tanur	45	17462	81817	237	12642	6	31	1

	Ozhur	21	9322	47856	121	7516	0	14	6
	Ponmundam	21	9322	47856	121	7516	0	14	6
	Thanalur	23	12628	68383	342	10602	3	20	2
	Neermaruth	19	8167	40187	59	4056	2	12	1
	Cheriyamunda	18	7723	40601	88	6785	5	17	2
Kondotty	Vazhayur	20	8340	35681	94	5610	1	16	1
	Pallikkal	24	13339	63946	136 3	10235	2	20	4
	Chelembra	21	10176	44611	507	7927	1	15	1
	Cherukavu	22	9825	43271	695	6925	1	18	2
	Muthuvallur Vilayil	18	7125	34660	205	4446	1	12	3
	Vazhakkad	22	9972	33090	779	4678	7	25	2
	Pulikkal	24	10827	54254	687	7500	1	25	6
	Cheekode	21	9114	41126	210	4890	0	16	1
	Kondotty Municipality	40	6881	32964	512	3154	4	19	4

Baseline data

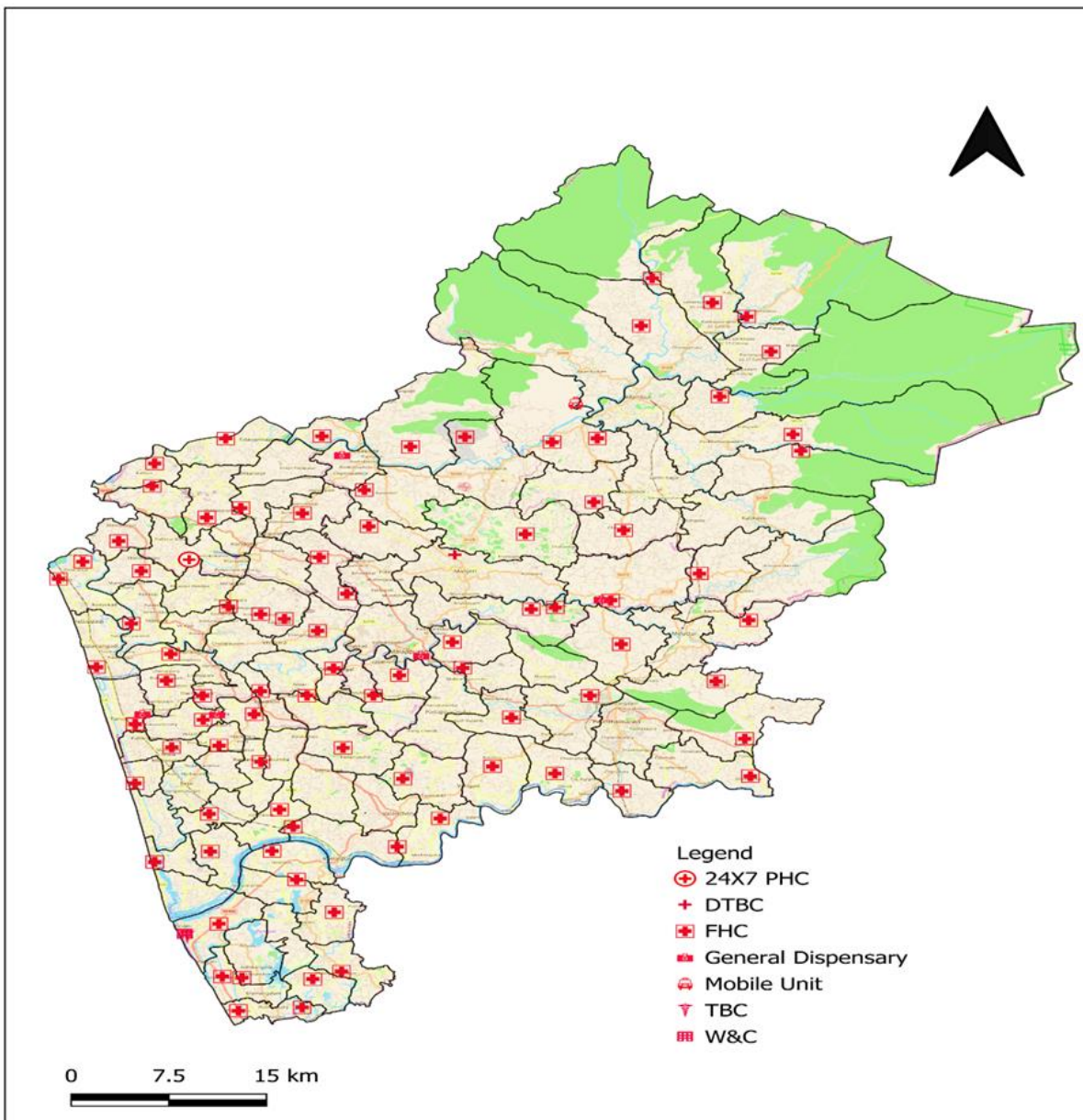
- Risk stratification among LSGs in the context of Communicable diseases and hazards
- Major Roads/rivers
- Major establishments with geospatial mapping
- occupational groups, socio-cultural groups, migration & mobility patterns
- *Vulnerability mapping*
- Disaster-prone areas (geographic vulnerability)

MAPS - LSG-BASED (MENTION SOURCE ALSO)

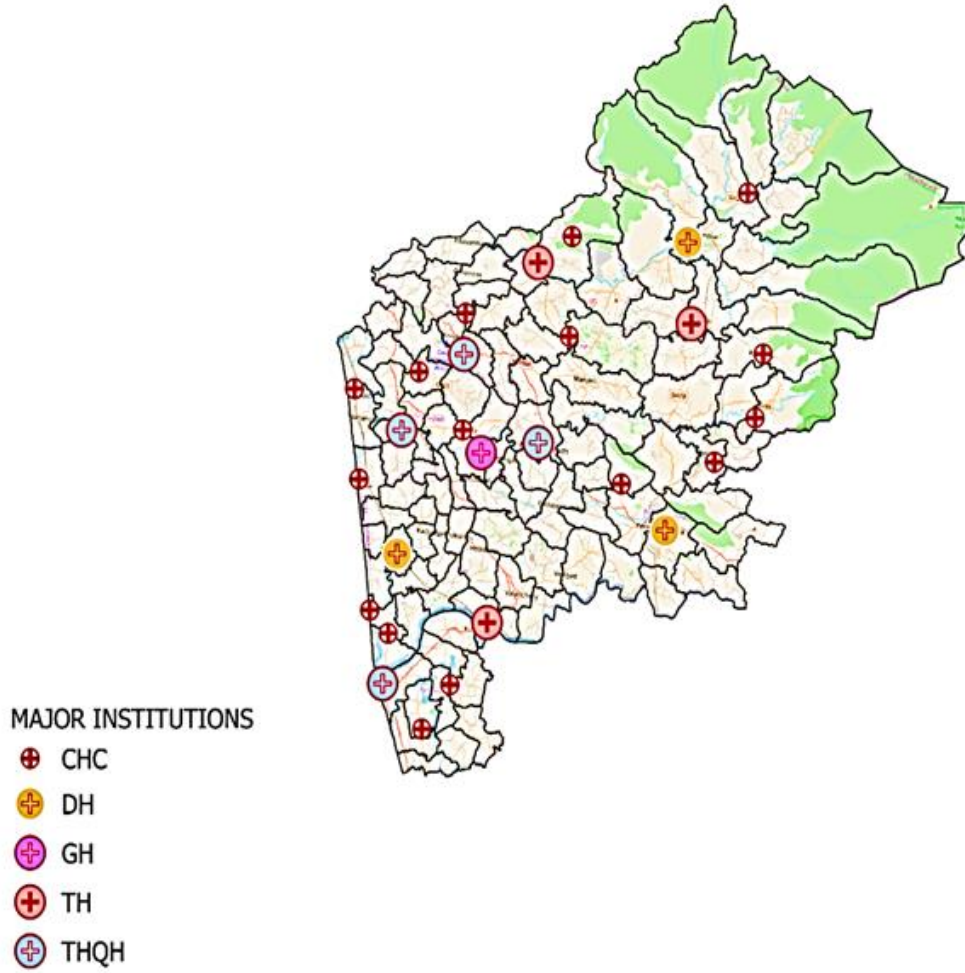
1. Geographical boundaries - ward boundaries map
2. Health infrastructure map
3. roads and rivers map
4. major establishments map
5. disaster-prone areas map
6. hotspot map - CD & disasters

HEALTH INFRASTRUCTURE MAP

**PUBLIC HEALTH INFRASTRUCTURE MAP OF MALAPPURAM DISTRICT-
PERIPHERAL PUBLIC HEALTH INSTITUTIONS -2026**



**PUBLIC HEALTH INFRASTRUCTURE MAP OF MALAPPURAM DISTRICT-
MAJOR PUBLIC HEALTH INSTITUTIONS -2026**



GENERAL PROFILE OF THE DISTRICT

BACKGROUND OF THE DISTRICT

TABLE 1: BACKGROUND OF DISTRICT	
Description	Details
Name of DISTRICT	Malappuram
Number of LSGs	106 (Grama panchayats - 94 , Municipalities- 12)
Total area (sq. km)	3554 sq.km
Population(Projected)	5,221,119
Population density	1469.08 persons/sq km
Terrain (coastal/low-lying/backwaters/foothills, etc.)	Coastal - Valavannur, Marancherry, Edappal, Vettom, Peruvallur Chaliyar river basin - Edavanna, Pallikkal, Chungathara Foothills - Edavanna, Chungathara, Melattur, Kalikavu (East-side)
Number of rivers passing through DISTRICT	Major rivers - 4 (Chaliyar, Bharathapuzha, Kadalundippuzha, Tirur puzha)

TABLE 1: BACKGROUND OF DISTRICT	
Description	Details
Number of water bodies in the DISTRICT	<p>Four estuaries - Canolly Canal, Padinjarekara Azhimukham, Purappuzha Azhimukham, Kadalundi Nagaram Azhimukham</p> <p>Backwaters- Biyyam, Veliyankode, Manur, and Kodinhi, Noor lake (privately owned-12 acres)</p> <p>Ponnani Canal</p> <p>Waterfalls - Adyampara (Niambur), Keralamkundu (Karuvarakundu-Nilambur forest range), Paloor kotta, Kadungapuram (Malappurm), Valamthodu (Areekode-Mukkam road), Kollamkoli (Urangattiri)</p> <p>Ponds - Chalippadam, Malmuri, Anjeenikulam, Attakkulam</p>
Number of educational institutions	
Factories / small-scale industries	<p>11,700 registered micro and small enterprises,</p> <p>Major sectors include garments, wood products, Awaiting email response from engineering/metal fabrication, paper products, and agro-based industries; 1 Focal Industrial Estate at</p>

TABLE 1: BACKGROUND OF DISTRICT	
Description	Details
	Manjeri ifbmlpm.fab@kerala.gov.in & aimmlpm.fab@kerala.gov.in

<p>Flood-prone wards and LSGs</p>	<p>Chungathara- 2,3,5,7,8,10,11,12,13,16,17, 18, Chaliyar- 2,5,6,16,Nilambur- 1,2,4,5,6,7,13,18,14,15,16,2 0,28,8,9,12,25,27</p> <p>Mampad- 2,3,4,5,8,9,11,12,13,17,18,1 9</p> <p>Manjeri-34, Porur- 5,6,10,11,12,13,14,15,16, Pandikkad-14,22,23</p> <p>Vattamkulam– 5,6,7,8,9, Edappal- 7, Ponnani- 31,Kaladi-13, Thavanur - 5,6,9,16,19,18</p> <p>Thalakkad- 2,,3,9,10,11,12,Tirunnavaya -1,10,12,17,19, Vettom-6, Triprangod-1,15,21, Koottai- 15,14,13,3,2,11,6,5Purathur -7,8,9,10,11,12,13</p> <p>Mankada-4 (koottilangadi) Makkaraparamb-2, Moorkkanad- 12,14,17,13,Pang-1,2, Puzhakkattiri-19 , 6 , 7 , 12</p> <p>Pookkottur-9, Anakkayam - 5,7,16,18, Kodur-1,2,3,4,5,6, Kottakkal- 5,15, Othukkungal-2, Ponmala- 1,2, Malappuram -37</p> <p>Vallikkunnu- 7,8,11,12,13,4,24</p>
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	<p>Parappanangadi- 3,4,5,6,8,34,36,37</p> <p>Kalikavu: 2;Chokkad: 6 ;Edapatta :2 (Low),Karulai: 4(Med), Karuvarakundu : 7(Med), Tuvvur: 14(Low)</p> <p>Elamkulam 5, Melattur-4 pulamathole Chemmalasseri-11</p> <p>Areecode: 5 ,6 ,7 ,16 ,18 ; Keezhuparamba-1,14 ; Cheecode-4; Kavanur- 18,6,8,9; Edavanna- 4,5,6,7,10,21,22,23,24; Kuzhimanna: 4,6,7,12,13,14,15,21,1; Pulpatta:3,4,19,8,12,10; Urangattiri:15,16,17</p>
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TABLE 1: BACKGROUND OF DISTRICT	
Description	Details
Landslide-prone wards and LSGs	<p>Chungathara-3,4,10,11 Nilambur-4, Chaliyar-1,2 Edakkara-9, Moothedam-1 Pothukal-14,17 Vazhikkadavu-7</p> <p>Mampad-14, Porur-3, Vattamkulam – 1,2,4,8,16,19,20,21, Mankada-9,10, Koottilangadi- 1,Puzhakkattiri-13,12</p> <p>Anakkayam-1, Kottakkal - 19,20, Morayur-14, Malappuram-16</p> <p>Edavanna:2,4,18,9,20,7,10, 19,5,22; Kuzhimanna:3,7,8; Pulpatta:1,2,3,4;</p> <p>Vattamkulam – 1,2,4,8,16,19,20,21</p> <p>Anakkayam-1, Kottakkal - 19,20; Morayur- 14; Malappuram -16</p> <p>Aliparamba:3; Melattur:1; Chemmalasser:2; Keezhattur:1; Thazhekkode:1</p>
Death Management and Disposal Facilities (mortuaries/crematorium, including electric)	73 (From block-wise PPP)

TABLE 1: BACKGROUND OF DISTRICT	
Description	Details
Auditoriums/Marriage halls/convention centres/community halls	530

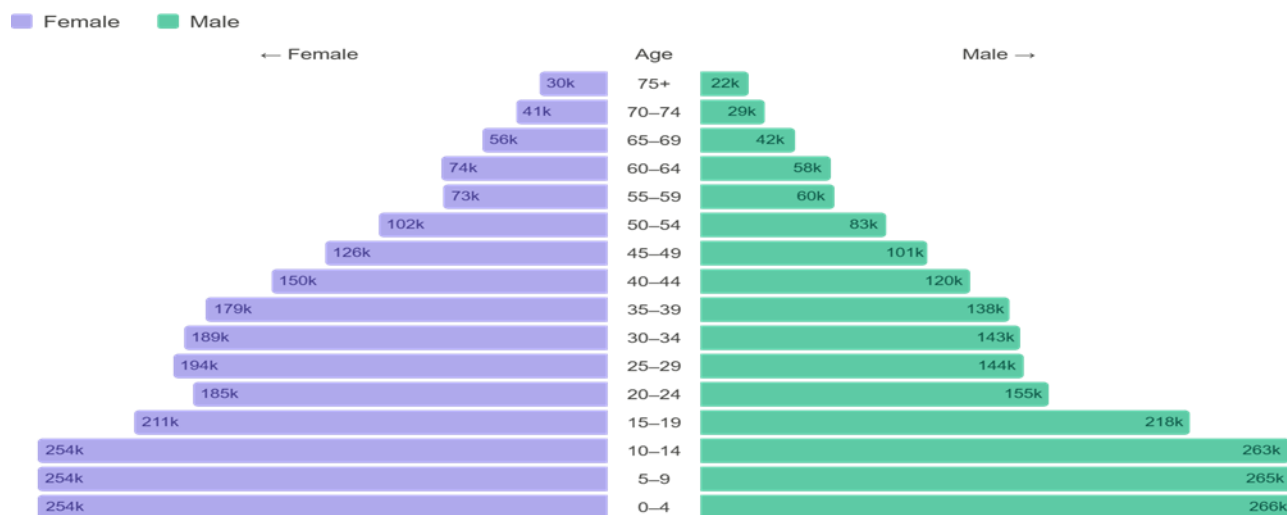
DEMOGRAPHIC AND VULNERABLE POPULATION

Understanding the demographic composition and vulnerable population groups is essential for pandemic preparedness. Children, elderly, economically deprived families, migrant workers, and socially vulnerable groups are at increased risk during public health emergencies due to higher exposure, limited access to services, and dependency on public systems..

Description	Details (in numbers)
DEMOGRAPHIC PROFILE	
Total population	5,221,119
Male	2613225
Female	2607894
Transgender	118
Children under 5	419284
Adolescent	6,98,087
Elderly (>60)	6,22,060
SOCIAL/LIVELIHOOD VULNERABILITY	
Previous EPEP family	18,015
BPL family	4,43,169

Description		Details (in numbers)
DEMOGRAPHIC PROFILE		
Tribal communities		16,550
Migration	Immigrant	48,693 (to edit)
	Emigrant	1,91,569(to edit)
Socio-economically deprived		26,99,984 (from Civil Supplies Office, NCD DEO)
Fisherfolk		63,167
SC Community		294,437
ST Community		16,550

Graphs: Population pyramid



Source: Census of India 2011, District Census Handbook — Malappuram

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	46,823
Lactating mothers	80,398
Bedbound patients	10,611
Patients under palliative care other than bedbound	20,027
Patients on Haemodialysis	1,229
Patients on CAPD	62
Cancer patients (currently on treatment)	12,126
Haemophilic patients	291
Mentally challenged	4169 (DMHP New cases- 2025 to 2026) Intellectual Disability - 15966 (New & Digitized, UDID) Mental Illness-6887(New & Digitized, UDID)
Differently abled	20,582 (Physically challenged- 14043, blind- 2346, deaf &dumb-4193)

Description	Details in numbers
Diabetic patients	306,591
Hypertensive patients	317,698
Diabetes & Hypertensive Patients	223,666
TB patients	950
Elderly living alone	

Major Festivals & Events specific to the DISTRICT

(with the possibility of a public gathering)

Sl. No.	Name of festival	Month detailing the periodicity
1	Thirumandhamkunnu Pooram	March
2	Kottakkalpooram	March-April
3	Mamburam Nercha	Muharram
4	Malaparamba Perunnal	March-April
5	Kondotty Nercha	April
6	Puthenpalli Nercha	It is usually conducted in the arabic month of Rabbi ul awwal

7	Omanur Nercha	March-April
8	Vairamkodu Vela -Theeyatu	February
9	Nilambur Patutsavam	December-February
10	Puthiyangadi nercha (Tirur)	January (It is usually conducted in the arabic month of Rajab)
11	Veliyankodu nercha	December
12	Thrikkavu navarathri	October
13	Thirunnavaya vavu bali	July
14	Kaliyattumukku ulsavam	May-June
15	Beeyam kayal vallamkali	August-September
16	Thirunavaya Kumbhmela	January-February

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.

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
Government Healthcare Facilities								
	GMCH, Manjeri, Malappuram	MCH	0483 2766845	566	10	18	150	Nil
	DH Thirur, MLPM	DH	0494-2423834	164 (sanctioned)	10	164	10 (in ICU)	BLS-1
	DH Perinthalmann	DH	04933-228279	177	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	na,MLPM							
	DH Nilamboor, MLPM	DH	04931-220351	306	9	20	6	
	THQH Ponnani	THQH	0494-2663089	125	0	0	0	0
	THQH Thirurangadi	THQH	0494-2460372	157	4	12	0	1
	THQH Malappuram	THQH	0483-2734866	116	10	10	0	
	THQH Kondotty	THQH	0483-2710586	29	0	0	0	
	TH Areacode	THQH	0483-2851700	35	0	0	0	1
	TH Kuttippuram	THQH	0494-2608282	22	5	0	2	
	TH Wandoor	THQH	04931-247378	68(Available)	Nil	34	Nil	2

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
				32 (Sanctioned)				
	CHC Chungathara	CHC	04931-231550	18	Nil	Nil	Nil	Nil
	CHC Edavanna	CHC	0483-2701029	30	Nil	Nil	Nil	Nil
	CHC Mankada	CHC	04933-239217	26	Nil	2	Nil	Nil
	CHC Marancherry (Old)	CHC	0494-2676899	16	Nil	4	Nil	Nil
	CHC Melattur	CHC	04933-278289	22	Nil	0	Nil	Nil
	CHC Neduva	CHC	0494-2412709	34	Nil	0	Nil	Nil
	CHC Omannur	CHC	0483-2728400	24	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	CHC Edappal	CHC	0494-2685188	30	Nil	Nil	Nil	Nil
	CHC Tanur	CHC	0494-2443684	42		Nil	Nil	1
	CHC Vengara	CHC	0494-2457642	34	Nil	Nil	Nil	Nil
	CHC Purathur	CHC	0494-2567799	22	Nil	0	2	0
	CHC Vettom	CHC	0494-2631001	22	Nil	Nil	Nil	Nil
	CHC Karuvarakundu	CHC	04931-282351	8	Nil	Nil	Nil	Nil
	CHC Kallikavu	CHC	04931-258797	28	Nil	0	6	0
	CHC Urngattiri	CHC	0483-2759888	10	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	CHC Peruvallur	CHC	0494-2434700	4	Nil	Nil	Nil	Nil
	PHC Aliparamba	PHC	04933-234350	Nil	Nil	Nil	Nil	Nil
	PHC Anakkayam	PHC	0483-2781393	Nil	Nil	Nil	Nil	Nil
	PHC Valanchery	PHC	0494-2646374	Nil	Nil	Nil	Nil	Nil
	PHC Pallikkal	PHC	0494-2401661	Nil	Nil	Nil	Nil	Nil
	PHC Amarambalam	PHC	04931-261600	Nil	Nil	Nil	Nil	Nil
	PHC Kurumbalangoode	PHC	04931-208408	Nil	Nil	Nil	Nil	Nil
	PHC Chathalloor	PHC	0483-2216655	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	PHC Kodur	PHC	0483-2800200	Nil	Nil	Nil	Nil	Nil
	PHC Makkaraparamba	PHC	04933-287311	Nil	Nil	Nil	Nil	Nil
	PHC Perumpadappu	PHC	0494-2653660	Nil	Nil	Nil	Nil	Nil
	PHC Edappatta	PHC	04933-211300	Nil	Nil	Nil	Nil	Nil
	PHC Keezhattur	PHC	04933-217100	Nil	Nil	Nil	Nil	Nil
	PHC Vettathur	PHC	04933-247320	Nil	Nil	Nil	Nil	Nil
	PHC Kadalundinagaram	PHC	0494-2470840	Nil	Nil	Nil	Nil	Nil
	PHC Muthuvalloor Vilayil(PHC	0483-2114580	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	Cheacodu)							
	PHC Keezhuparamba	PHC	0483-2858866	Nil	Nil	Nil	Nil	Nil
	PHC Pookottur	PHC	0483-2774860	Nil	Nil	Nil	Nil	Nil
	PHC Nediyruppu	PHC	0483-2712161	Nil	Nil	Nil	Nil	Nil
	PHC Oorakam	PHC	0494-2670420	Nil	Nil	Nil	Nil	Nil
	PHC Athavanad	PHC	0494-2112594	Nil	Nil	Nil	Nil	Nil
	PHC Irimbiliyam	PHC	0494-2638800	Nil	Nil	Nil	Nil	Nil
	PHC Ezhavathiruthy	PHC	0494-2664701	Nil	Nil	Nil	Nil	Nil
	PHC	PHC	0494-	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	Cheriyamundam		2589610					
	PHC Kalpakanchery	PHC	0494-2612500	Nil	Nil	Nil	Nil	Nil
	PHC Othukkungal	PHC	0483-2838500	Nil	Nil	Nil	Nil	Nil
	PHC Thennala	PHC	0494-2101770	Nil	Nil	Nil	Nil	Nil
	PHC Mampad	PHC	04931-200288	Nil	Nil	Nil	Nil	Nil
	PHC Edarikode	PHC	0483-2118045	Nil	Nil	Nil	Nil	Nil
	PHC Kannamangalam	PHC	0494-2490179	Nil	Nil	Nil	Nil	Nil
	PHC Kootayi	PHC	0494-2631888	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Puzhakkattiri	FHC	04933-256098	Nil	Nil	Nil	Nil	Nil
	FHC Thrikkannapuram (Thavanur)	FHC	0494-2687505	Nil	Nil	Nil	Nil	Nil
	FHC Valavannur	FHC	0494-2546906	Nil	Nil	Nil	Nil	Nil
	FHC Kottakkal	FHC	0483-2744400	Nil	Nil	Nil	Nil	Nil
	FHC Pothukal	FHC	04931-240318	Nil	Nil	Nil	Nil	Nil
	FHC Kavannoor	FHC	0483-2869021	Nil	Nil	Nil	Nil	Nil
	FHC Palapetty	FHC	0494-2678397	Nil	Nil	Nil	Nil	Nil
	FHC Vazhakkad	FHC	0483-2728683	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Thevarkadappuram	FHC	0494-2427155	Nil	Nil	Nil	Nil	Nil
	FHC Karulai	FHC	0493-271160	Nil	Nil	Nil	Nil	Nil
	FHC Nannambra	FHC	0494-2483801	Nil	Nil	Nil	Nil	Nil
	FHC Perumannaklari	FHC	0483-2750388	Nil	Nil	Nil	Nil	Nil
	FHC Iringalloor	FHC	0494-2459309	Nil	Nil	Nil	Nil	Nil
	FHC Moorkkanad	FHC	04933-202200	Nil	Nil	Nil	Nil	Nil
	FHC Angadipuram	FHC	04933-218935	Nil	Nil	Nil	Nil	Nil
	FHC Koottilangadi	FHC	04933-241166	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Nannammukku	FHC	0494-2656654	Nil	Nil	Nil	Nil	Nil
	FHC Veliyancode	FHC	0494-2677583	Nil	Nil	Nil	Nil	Nil
	FHC Marancherry (New)	FHC	0494-2676899	Nil	Nil	Nil	Nil	Nil
	FHC Trippanachi	FHC	0483-2821460	Nil	Nil	Nil	Nil	Nil
	FHC Edakkara	FHC	04931-276500	Nil	Nil	Nil	Nil	Nil
	FHC Moothedam	FHC	04931-272250	Nil	Nil	Nil	Nil	Nil
	FHC Kalady	FHC	0494-2122022	Nil	Nil	Nil	Nil	Nil
	FHC Kootayi	FHC	0494-2631888	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Triprangode	FHC	0494-2564717	Nil	Nil	Nil	Nil	Nil
	FHC Chaliyar	FHC	04931-206351	Nil	Nil	Nil	Nil	Nil
	FHC Odakkayam	FHC	0483-2844500	Nil	Nil	Nil	Nil	Nil
	FHC Trikkalangode	FHC	0483-2707447	Nil	Nil	Nil	Nil	Nil
	FHC Elamkulam	FHC	04933-230156	Nil	Nil	Nil	Nil	Nil
	FHC Chemmalasseri	FHC	04933-269010	Nil	Nil	Nil	Nil	Nil
	FHC Cherukavu	FHC	0483-2833680	Nil	Nil	Nil	Nil	Nil
	FHC Thalakkad	FHC	0494-2425460	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Marakkara	FHC	0494-2618888	Nil	Nil	Nil	Nil	Nil
	FHC Moonniyur	FHC	0494-2476709	Nil	Nil	Nil	Nil	Nil
	FHC Thenippalam	FHC	0494-2434700	Nil	Nil	Nil	Nil	Nil
	FHC Ponnundam	FHC	0494-2588300	Nil	Nil	Nil	Nil	Nil
	FHC Thanalur	FHC	0494-2582700	Nil	Nil	Nil	Nil	Nil
	FHC Porur	FHC	04931-211630	Nil	Nil	Nil	Nil	Nil
	FHC Thiruvaly	FHC	04931-248025	Nil	Nil	Nil	Nil	Nil
	FHC Thuvvur	FHC	04931-284949	Nil	Nil	Nil	Nil	Nil
	FHC	FHC	0483-	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	Kuzhimanna		2755220					
	FHC Vazhikkadavu	FHC	04931-278450	Nil	Nil	Nil	Nil	Nil
	FHC Pang	FHC	04933-244380	Nil	Nil	Nil	Nil	Nil
	FHC Thazhekkode	FHC	04933-252151	Nil	Nil	Nil	Nil	Nil
	FHC Athanikkal	FHC	0494-2473960	Nil	Nil	Nil	Nil	Nil
	FHC Edayur	FHC	0494-2648440	Nil	Nil	Nil	Nil	Nil
	FHC Thirunavaya	FHC	0494-2600109	Nil	Nil	Nil	Nil	Nil
	FHC Chokkad	FHC	04931-215200	Nil	Nil	Nil	Nil	Nil
	FHC Pandikkad	FHC	0483-2783166	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Alancode	FHC	0494-2653750	Nil	Nil	Nil	Nil	Nil
	FHC Parappanangadi	FHC	0494-2410709	Nil	Nil	Nil	Nil	Nil
	FHC Morayoor	FHC	0483-2774300	Nil	Nil	Nil	Nil	Nil
	FHC Ponmala	FHC	0483-2706300	Nil	Nil	Nil	Nil	Nil
	FHC Pulikkal	FHC	0483-2790900	Nil	Nil	Nil	Nil	Nil
	FHC Vattamkulam	FHC	0494-2689820	Nil	Nil	Nil	Nil	Nil
	FHC Ozhoor	FHC	0494-2489126	Nil	Nil	Nil	Nil	Nil
	FHC A.R Nagar (Kunnumpura m)	FHC	0494-2494980	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY

Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FHC/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	FHC Vazhayur	FHC	0483-2833687	Nil	Nil	Nil	Nil	Nil
	FHC Chelembra	FHC	0483-2891880	Nil	Nil	Nil	Nil	Nil
	W&C Ponnani, MLPM	Speciality Hospital	0494 2666339	200	0	10	2	
	District TB Centre Manjery, Malappuram	Speciality Hospital	0483 2761064	Nil	Nil	Nil	Nil	Nil
	DMU Nilambur, Malappuram	DH	04931 226343	Nil	Nil	Nil	Nil	Nil
	GD Police Dispensary, Arecode, Malappuram	PHC	no landphone	Nil	Nil	Nil	Nil	Nil
	GFD Veliyancode, Malappuram	PHC	0494 2678400	Nil	Nil	Nil	Nil	Nil

TABLE 5. HEALTH FACILITY RESOURCE SUMMARY								
Sl.no.	Health Facility	Type of Facility (MCH/GH /CHC/FH C/SC etc.)	Contact Number	Total beds	ICU Beds	Oxygen-Supported Beds	No. of Ventilator Support Beds	No. of ambulances
	GD Police Dispensary, Klari, Malappuram	PHC	no landphone	Nil	Nil	Nil	Nil	Nil
	GD Police Dispensary, Pandikkad, Malappuram	PHC	no landphone	Nil	Nil	Nil	Nil	Nil
	GD Police Hospital, Malappuram	PHC	no landphone	Nil	Nil	Nil	Nil	Nil
	TBC District TB Centre, Ponnani, MLPM	Speciality Clinic	0494 2666050	Nil	Nil	Nil	Nil	Nil
Private Health Facility (Details of facilities are given in Annexure)								
	Private Health Facilities			3316	300	140	72	BLS-18 ALS-10

PRIVATE CLINICS

Private clinics are an essential part of pandemic preparedness, as they are often the first place people seek care when symptoms begin. In many communities, private clinics manage a significant share of outpatient visits and therefore play a critical role in early case detection, timely referrals, and disease surveillance. Having an up-to-date understanding of where these clinics are located, the services they provide, and how they are linked to the public health system helps ensure that no cases are missed during an outbreak. It also allows health authorities to engage private practitioners more effectively for reporting, risk communication, and coordinated response, strengthening the overall capacity of the health system to manage public health emergencies.

TABLE 6. PRIVATE CLINIC RESOURCE SUMMARY

Sl No .	Name of Clinic	Registered (Y/N)	Clinic (General / Speciality)	Speciality (if any)	Address	Contact Number	Diagnostic Facility (Y/N)	Ambulance Linkage (Y/N)
	There are 151 private clinics permanently registered under the clinical establishment act. The details of those clinics are attached in the ANNEXURE.							

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	1	1	3

Category of Institution	Govt	Private	AYUSH	Total
Nursing Colleges	2	11	0	4
Dental Colleges	0	3	0	3
Para-medical / Allied Health	0	10	0	10
Pharmacy Colleges	0	3	0	3

(Annexure: G.O.(Ms)No.90/2024/H&FWD attached)

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	1871	3316	320	5507
Oxygen-generating systems(Y/N)	2	7	0	9
Oxygen-supported beds(Numbers)	110	140	0	250
Ventilator-supported beds	168	72	0	240

Item	Govt	Private	AYUSH	Total
ICU beds	38	300	0	338
Burns units	1	4	0	
Blood banks	4	8	0	12
Blood storage units	5	9	0	14
BLS ambulances	10	18	0	28
ALS ambulances	1	10	0	11
Dialysis facilities	5	29	0	34
Dispensaries	5			
Medical store	126	Retailers- 2463 Wholesale -878 (Annexure attached)		
Industrial establishments (Medium-scale industries/ small-scale industries establishments to whom we can depend in a worst-case scenario)				157

*District statistics wing

***Major sectors in Malappuram are garments (1,394 units), engineering/metal fabrication (2,003 units), wood products (1,349 units), and paper products (746 units). None are pharmaceutical manufacturer. This is an important gap for pandemic supply chain planning

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.

Name of Health Facility	Oxygen-generating System (Y/N)	Backup Oxygen Source (Y/N)	Diagnostic Facilities Available(Y/N)				
			Lab	USG	X-ray	CT/MRI	RT-PCR
Government Healthcare Facilities							
DH Nilambur	N	Liquified Medical Oxygen (LMO)	Y	Y	Y	N	N
DH Perinthalmanna	Y	LMO	Y	Y	Y	N	N
DH Tirur	N	LMO	Y	Y	Y	N	N
THQH Thirurangadi	N	LMO	Y	Y	Y	N	N

Name of Health Facility	Oxygen-generating System (Y/N)	Backup Oxygen Source (Y/N)	Diagnostic Facilities Available(Y/N)				
			Lab	USG	X-ray	CT/MRI	RT-PCR
GMCH Manjeri	Y	LMO	Y	Y	Y	N	Y
W&C Ponnani	N	LMO	Y	Y	Y	N	N
THQH Malappuram	N	Y	Y	Y	Y	N	N

DIAGNOSTICS FACILITY MAPPING AT THE DISTRICT LEVEL

The diagnostic capacity of **Malappuram district** 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	122	31	2	155
Microbiology labs	3	4	0	7
RT-PCR labs	4	5	0	9
USG units	7	8	0	15
CT/MRI units	7	175	0	182

Research labs	1	0	0	1
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*District Lab Officer, Malappuram

LABORATORY IDENTIFICATION & BASIC DETAILS

Sl. No.	Name of Laboratory	Ownership (Govt / Private / Academic)	Address	Contact No.	24x7 Services (Yes/No)	NABL / Govt Approved (Yes/No)
1	District Public Health Laboratory	Govt	DMO Campus, Malappuram	0483-2734109	Yes	Yes
***Rest given as Annexure						

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	Ward	Est. Capacity (Persons)	Contact details
Educational Institutions				

Anganwadis	3299		10-15 each	Lilly Mathew(ICDS Supervisor-Malpm) 0483-2776636
Schools	1844		100-350	Mr.Rafeeq - 9895712297 (DDE)
Colleges	149		200-300	
Healthcare Educational Institutions				
Medical colleges (Govt/Private)	2 Med College +1 Ayurved a Med 0 college		856	
Nursing colleges (Govt/Private)	2 Govt + 7 Pvt			
Dental colleges (Govt/Private)	3		150 each	
Paramedical institutes (Govt/Private)	Private-5 (LT & Pharmacy)			

Community Gathering Spaces				
Community halls	110		17560	
Auditoriums	420		115250	
Religious buildings	2135		70000	
Vulnerable Group Support Facility				
Destitute homes	12		200	
Elderly homes	16		250	
DISTRICT owned other buildings	50(Pakal veedu - to edit)		500	
Mass Fatality Management (MFM) Infrastructure				
Mortuary	Government: 5(Tirur, Tirurangady, GMCH, Nilamur, Perinthamma)			

	Private: 4(MES Medical College, Moulana Medical College, KIMS AlShifa Medical College, Almas Medical College)			
Crematorium	530 (includes cremator iums associate d with religious places)			

*refer annexure 1 for contact details. **source: Block PPP

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: eg., "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	Source of data
Doctors—Modern Medicine	565	825	1390	DMO Office
Doctors – AYUSH	188, 75(NHM), 67(NAM)	0	330	DPM AYUSH
Doctors – Veterinary	122	27	149	DMO Office
Doctors – Dental	24	149	173	DMO Office & IDA Malappuram
Nursing officers	633	2513	3146	DMO Office
Lab technicians	78 (NHM)	498	576	DMO Office
Optometrist	4 (NHM)+25	24	53	DMO Office

Pharmacists	81 (NHM)+17 5	595	851	DMO Office
Psychologists	2 (NHM)+1 (vacant)	Not available	2	DMO Office
Counsellors	22 (NHM)	Not available	22	DMO Office

PUBLIC HEALTH & FIELD-LEVEL WORKFORCE

These individuals are the backbone of surveillance, maternal-child health, and decentralized care.

Cadre	Health services	Municipal common services	Total	Source of data
HS (Health Supervisors)	13	0	13	Statistics dpt DMO
HI (Health Inspectors)	83(sanctioned 84)	0	83	Statistics dpt DMO
LHS (Lady Health Supervisor)	10	0	10	Statistics dpt DMO
LHI (Lady Health Inspectors)	153	0	153	Statistics dpt DMO
JPHN (Jr Public Health Nurses)	487	0	487	Statistics dpt DMO
JHI (Jr Health Inspectors)	298 (344 sanctioned)	14	312	Statistics dpt DMO
MLSP (Mid-Level Service Providers)	591	0	591	NHM Office Mlpm
Palliative Nurses	23 (NHM)+ 117 (LSG)	11 (NHM)+19 (LSG)	170	Palliative care coordinator
RBSK Nurses	127	0	127	NHM Office Mlpm

Cadre	Health services	Municipal common services	Total	Source of data
PRO	24	12	36	NHM Office Mlpm
Epidemiologist	12	1	13	NHM Office Mlpm
Data Manager	15	1	16	NHM Office Mlpm

COMMUNITY & SUPPORT CADRE

This group represents the surge capacity of the DISTRICT—people who can be called upon for logistics, rescue, and specialized support.

Cadre	Number	Source of data
ASHA Workers	3165	Block PPP
AWW (Anganwadi Workers)	3804	Block PPP
Emergency Medical Volunteers (Trained)	220	Statistics Wing, DMO
Kudumbashree	CDS (Community Development Society): 111	Kudumbasree Mission, Malappuram

Cadre	Number	Source of data
	ADS (Area Development Society): 2504 wards Neighbourhood groups: 33620 Members: 5,04,300	E-mail: spemmlp1@gmail.com
MNREGS	166,813	MGNREGA, Malappuram E-mail: nregampm@gmail.com
Haritha karma sena	3897	District Haritha Karma Sena
Purusha Swayam Sahaya Sangham	Nil	Kudumbasree Mission, Malappuram E-mail: spemmlp1@gmail.com
CBO /NGO Palliative care units Number of home care vehicles Number of active volunteers	126 261 12200	Mr. Faisal Palliative Care Coordinator, NHM, Malappuram

Cadre	Number	Source of data
Ex-Servicemen	5903	Zilla Sainik Welfare Office E-mail: zswompm@gmail.com
Retired Police Officers	300	Kerala Police Pensioners Association, Malappuram
NCC/NSS Volunteers	NSS Malappuram West (10 clusters) & NSS Malappuram East (9 clusters) NCC: About 200	Mr. Suresh KA DistrictEast Convenor, Mob: 9847576979 Mr. Rajmohan PT, District West Convenor, Mob: 9446631072 (Details attached as annexure) Capt. Shakoor Illat Associate NCC Office, Mob: 9497344611 (Contact Batallion: 8086343528 -)
Red Cross volunteers	Red Cross General Volunteers-400 First Medical Response &State	Indian Red Cross Society, Malappuram District Managing Committee, Mob: 8301845257

Cadre	Number	Source of data
	Disaster Response (FMR & SDRT)-10 District Disaster Response Team (DDRT)-80 Youth Red Cross (YRC)-90 Junior Red Cross (JRC)-20000 Senior JRC-5000	Mr. Vasu P, District Secretary, Red Cross, Mob:9446691848
One Health Community Volunteers	Nil	
One Health Community Mentors	Nil	

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.

Category	Total Count	Source of data
NGOs	1052	NPO Darpan

Category	Total Count	Source of data
Religious based organizations	121	NPO Darpan
Foreign based organizations	183	NORKA,
Sports Club/youth clubs	327	District Youth Officer
Kudumbashree SHGs	2504 (ward-wise)	District Mission coordinator
Ayalkootams	33620 (NHGs)	District Mission coordinator
Political organizations	10	Chief Electoral Officer, Kerala
Residential organizations	142	from block-wise PPP

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.

Category	Total Count	Contact details
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Police Stations	31	0483 2734966
Fire & Rescue Stations	5	0483-273 4800
Water Pumping Points	82	85476384249
Public Distribution System (PDS)	1243	Mr.Zulfikar-9446054258 Food & Civil Supplies

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.

Means of transportation	Total Count
JCB	456
Crane	89
Heavy Trucks	1267
Tractor	329

Ambulances	285
Mobile mortuaries	45
Boats	167
Taxi service	12500 registered motor cabs, 450 large tourist taxis RTO Malappuram 04832734924

Note: For specific details regarding vehicle owners and contact information, please refer to **Annexure [X]**.

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	Wards
Animal Population	Livestock (Cattle/Goats/Buffalo)	271407	Across Districts
	Pet Animals (Dogs/Cats)	31277	Across Districts
	Stray Dog Population	18554	Across Districts
	Pig Farms (Number of heads)	2925	Across Districts
	Small Units (Sheep / Goats – clustered)	1284	Across Districts
Bird Population	Poultry Units (Birds)	341	Across Districts
	Poultry- (FOWL)	5796385	Across Districts
	Wild/Migratory Birds (Observed)	100	Kadalundi Thrissur-Ponnani Kole wetlands Biyam Kayyal Chaliyar Valley at Nilambur Thirunavaya lotus Lake

Category	Item	Estimated Population	Wards
	Crow Mortality Events (Reported)	2	Nilambur, Tirunnavaya
	Bat Roosters	90	

Malappuram District faces a considerable risk of zoonotic diseases due to intense human–animal interaction, high population density, and diverse ecological conditions. The district has reported infections such as leptospirosis, rabies, and avian influenza, and remains vulnerable to outbreaks of Nipah Virus Infection, particularly due to the **increasing bat roosting sites** in residential and agricultural areas. Fruit bats, known reservoirs of Nipah virus, frequently come into contact with humans through contaminated fruits and environments.

Additionally, the presence of **migratory birds** and expanding poultry farming increases the risk of avian-related zoonotic infections. Backyard farming, livestock movement, wet markets, and stray animal populations further amplify transmission risks. Seasonal factors such as heavy rainfall and flooding also create favorable conditions for zoonotic and vector-borne diseases. These factors underline the importance of strengthened surveillance and a coordinated One Health approach involving health, veterinary, and environmental sectors in the district.

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.

Facility Type	Name of Facility	Ownership Govt / Pvt	Location(Ward No)	Contact number
Veterinary Dispensary	93	Govt		
Veterinary Hospital / Polyclinic	16	Govt		
Private Veterinary Clinics	10	Pvt		
Mobile / Emergency Vet Service (incl. night services)	16	Govt		
Pet Homes / Animal Shelters	2	Pvt		
Slaughterhouse-linked Veterinary Inspection Unit	0			

*Annexure No

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	122	Govt
Private Veterinary Doctors	27	Pvt
Livestock Inspectors	237	Govt
Para-veterinary Staff / Attenders	123	Govt
Contract / On-call Veterinary Support (if any)	7	Govt & Pvt

HIGH-RISK INTERFACE POINTS (SURVEILLANCE SITES)

High-risk interface points for zoonotic disease surveillance in Malappuram district 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.

Type of Habitat	Type of High risk interface	Geographical vulnerability
Wetlands & Backwaters	Wild birds to domestic ducks/poultry; contaminated water exposure to cattle and humans; vector breeding	Kadalundi area, Bharathapuzha basin, low-lying paddy fields prone to flooding; monsoon water stagnation

Backyard Poultry Farms	Close human-bird contact; mixing of species (duck, chicken); poor biosecurity; exposure to wild birds	Widely distributed in rural Malappuram; high density in peri-urban villages
Cattle Sheds near Water Bodies	Contamination of water with dung/urine; leptospirosis risk; vector breeding; animal-human contact	Areas along rivers, canals, and paddy fields; flood-prone zones during monsoon
Fish & Meat Markets	Handling of raw meat/fish; blood and waste exposure; poor hygiene; cross-species contamination	Major markets in Manjeri, Perinthalmanna, Tirur; high crowd density; inadequate waste disposal systems
Community Slaughter Sites	Informal slaughter; exposure to blood/body fluids; lack of adequate veterinary inspection; zoonotic pathogen transmission	Scattered unregulated slaughter points in rural and semi-urban areas; especially during festivals
Migratory Bird Congregation Areas	Wild bird–domestic bird interaction; avian influenza risk; contamination of water bodies	Kadalundi Bird Sanctuary and nearby wetlands; seasonal influx during migration periods
Rodent-Infested Grain Storage	Rodent–human contact; contamination of feed; leptospirosis, salmonellosis risk	Paddy storage areas, godowns, households in rural areas; poor storage hygiene

Category	Total Count	Key Locations (LSGs)
Poultry Farms	341	
Backyard / Clustered Poultry Units	3765	
Duck Rearing Units (open water access)	37	
Slaughterhouses/ Slaughter Points	2	Manjeri, Valanchari
Meat/Fish Markets	142	
Live Bird Sale Points	310	
Cattle Markets / Weekly Animal Fairs	4	Edakkara,Manjeri,Parambilpeedika,Chatti paramb
Pet Shops / Breeders	4	Edakkara,Manjeri,Parambilpeedika,Chatti paramb
Animal Shelters / Pet Homes	68	Muddy paws manjery

Waste Disposal Sites near Animal Units	5	
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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*.

Risk Factor	Key Locations	Risk Level (High/Med/Low)
Flood-prone areas	Kuttippuram,Ponnani,Tirur areas under Bharathapuzha river basin,Maranchery,Nilambur, Edavanna	High
Water bodies/wetlands	Ponnani wetlands,Tirur wetlands,Kadalundi river area	High
Solid waste accumulation	Malppuram town,Manjeri,Perinthalmanna,Tirur market area	High
Animal waste disposal issues	Kondotty,Kottakkal	Medium

<p>Rodent infestation zones</p>	<p>Eranad-2 (State warehouse, Manjeri-1, Ramankulam-1)</p> <p>Perinthalmanna-3 (Angadippuram, Pariyapuram)</p> <p>Nilambur-1 (Thondy)</p> <p>Kondotty-1 (University-Central Warehouse)</p> <p>Thirurangadi-1 (University-Central Warehouse)</p> <p>Tirur-2 (Mangattiri, Kadungathuntu)</p> <p>Ponnani-1</p>	<p>Medium</p> <p>(Source: Mr.Zulfikar-9446054258, Food & Civil Supplies)</p>
<p>Industrial effluent discharge</p>	<p>KINFRA Industrial park(Kakkanchery),Manjeri industrial area</p>	<p>Medium</p>
<p>Construction sites / abandoned buildings</p>	<p>Manjeri,Malappuram town,Perinthalmanna</p>	<p>Medium</p>
<p>Poor drainage/blocked canals</p>	<p>Malappuram town,Manjeri,Tirur,Ponnani,Perinthalmanna,kuttippuram</p>	<p>High</p>
<p>Drinking water source contamination risk</p>	<p>Kuttippuram,Edappal,Tanur,Ponnani,Chaliyar</p>	<p>High</p>

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.

Disease	Peak Risk Season	Key Drivers	High-Risk Locations	Surveillance Focus
Hepatitis	January - June		A R Nagar Anakayam Areacode Athanikkal Cherukavu Kannamangalam Kottakkal Kuttippuram Kuzhimanna Malappuram Manjeri Morayur Muthuvallur Nediyrrippu Checode Malappuram Parappanagadi Perumanna Clari Peruvallur Ponmala Pookkottur Pothukal Pulikkal Thirunavaya Thirurangadi Vazhikkadavu Vengara	

<p>Leptospirosis</p>	<p>June - September</p>	<p>Flooding, Contaminated water, Rodent density, Occupational exposure</p>	<p>Anakkayam Ponnai Koottilangadi Manjeri Mankada Moothedam Ponnai Pookkottur Thiruvai Thrikkalangod Vazhikkadavu Wandoor Nilambur Ezhuvathuruthy Thavanur Kuttippuram Veliyancode Pandikkad Tanur</p>	<p>Doxy - prophylaxis , rodent control, and jaundice/fe ver surveys</p>
<p>Dengue/Chikungunya</p>	<p>June - November</p>	<p>Stagnant water, high larval breeding sites</p>	<p>Aliparamba Angadippuram Arecode Chungathara Edappal Elamkulam Karuvarakundu Kuttippuram Malappuram Manjeri Nilambur Omanur Perinthalmanna Ponnani Pothukal Thanalur Thrikkalangod Urgattiri Valancheri Vazhakkad Vazhikkadavu Vettom</p>	<p>Dry day- source reduction, vector survey, sym ptomatic fever surveillance</p>

Acute Diarrheal Diseases	March - July	Contaminated water		Water quality testing, chlorination, ORS & Zinc stock management
Rabies	Year round	Stray dog population, lack of ABC programs	All wards	Mass dog vaccination, timely ARV & RIG administration and public awareness

VULNERABILITY MAPPING

Vulnerability mapping pinpoints high-risk populations, occupations, and areas exposed via environment, livelihoods, socio-economics, 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.

Vulnerability Factor	High-Risk LSGs	Key Groups / Locations	Risk Level
Flood-prone households	Nilambur, Edavanna, Areekode, Kuttippuram, Maranchery, Tirur, Ponnani	River basin areas	High
Wetland-adjacent communities	Ponnani, Tirur, Tanur	Coastal areas	High
Backyard poultry / duck rearing households	Nilambur, Edavanna, Kuttippur	Backyard poultry farmers, Duck reuters in	High

	am,Maranchery ,Ponnani	water logged areas,poor sanitation households & close animal human contact	
Livestock-rearing households	Perinthalaman na,Manjeri,,Kondotty	Small farmers,cattle & poultry area	High
Slaughterhouse & meat market workers	Manjeri,Tirur, Malappuram Municipality	Butchers,meat handlers ,informal workers	High
Fisherfolk & fish market workers	Ponnani,Parappanangadi,Tanur	Coastal fishing communities	High
Sanitation workers	All Municipalities of Malappuram district	Waste handlers,drainage cleaners	High
Daily wage/migrant workers	Across Malappuram districts	Construction workers,interstate migrants	High
Elderly & chronically ill populations	Across Malappuram districts	Bed ridden ,NCD patients	High
Pregnant Women	Across Malappuram districts	ANC registered women	Medium-high

Children (schools, Anganwadis)	Across Malappuram districts	School children, Anganwadi beneficiaries	Medium
Limited access to safe water & sanitation	Coastal (Ponnani), flood prone area, slums	Households with contaminated wells, poor drainage	High

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.

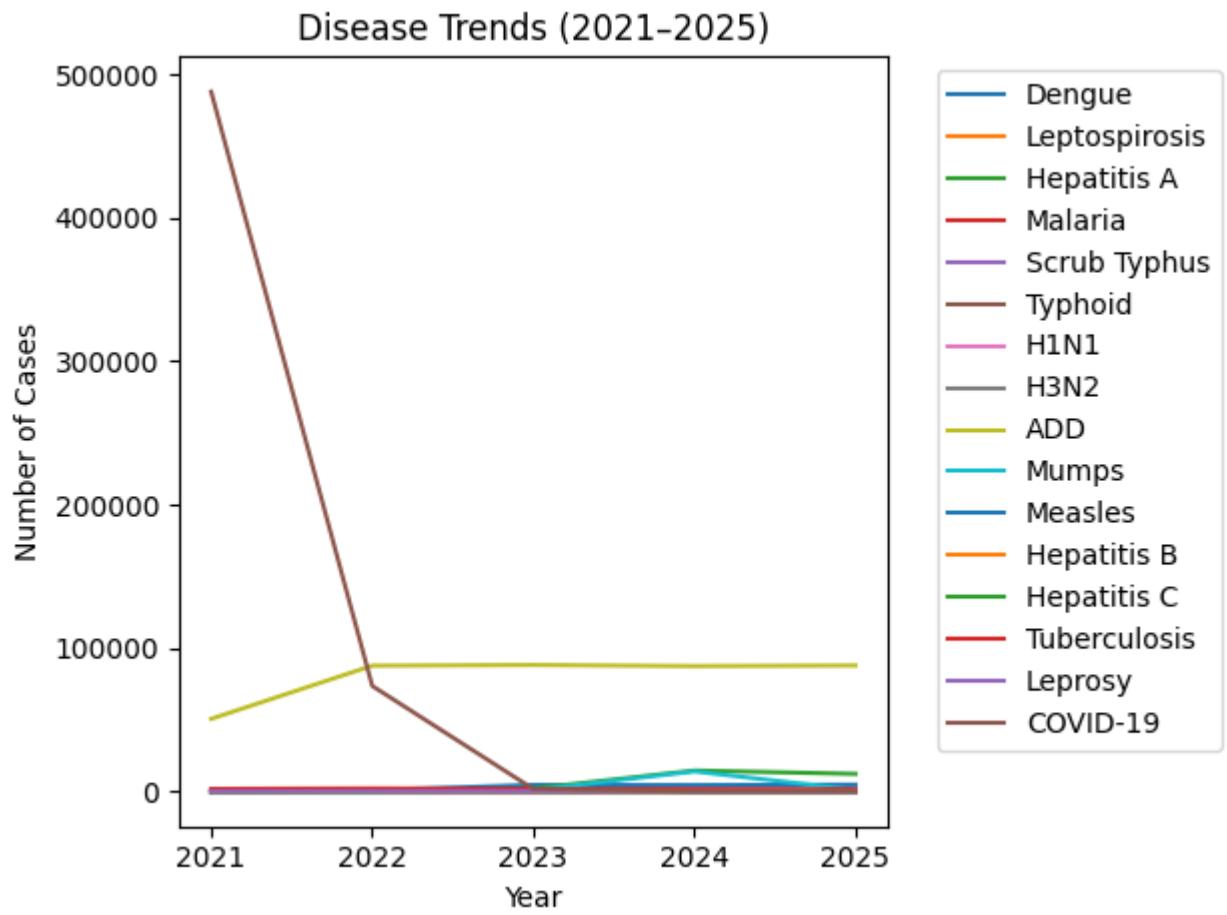
DISEASE BURDEN AMONG HUMAN BEINGS(LAST 5 YEARS)

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(Increasing/Stable/Decreasing)
Dengue	698	797	4466	4373	4678	Increasing
Leptospirosis	221	339	444	507	503	Stable
Hepatitis A	178	404	1987	1451 2	1217 9	Decreasing

Malaria	25	38	40	56	74	Increasing
Scrub Typhus	2	37	38	29	23	Stable
Typhoid	0	1	14	17	22	Stable
H1N1	0	9	194	130	9	Decreasing
H3N2	0	0	4	3	2	Stable
ADD	50558	87660	88166	87370	87803	Stable
Mumps	19	50	866	13885	1075	Decreasing
Measles	2	810	1964	151	91	Decreasing
Hepatitis B	14	80	126	105	108	Stable
Hepatitis C	6	18	15	22	40	Increasing
Tuberculosis	1709	2008	1662	1553	1449	Decreasing
Leprosy	39	52	60	41	32	Decreasing
COVID-19	488107	73528	1627	79	70	Decreasing

*(use the above table data to create the graph/diagram)



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

Dengue is a major seasonal vector-borne disease strongly associated with rainfall, water stagnation, and increased mosquito breeding during the monsoon period.

Peak: July–November

DENGUE – LSG-WISE YEARLY DISTRIBUTION (2021–2025)

Name of LSGD	2023	2024	2025
ABDUREHMAN NAGAR GRAMA PANCHAYATH	14	42	33
ALAMKODE GRAMA PANCHAYATH	34	10	12
ALIPARAMBA GRAMA PANCHAYATH	58	48	36
AMARAMBALAM GRAMA PANCHAYATH	63	55	41
ANAKAYAM GRAMA PANCHAYATH	69	54	37
ANGADIPPURAM GRAMA PANCHAYATH	121	53	38

AREACODE GRAMA PANCHAYATH	68	130	70
ATHAVANAD GRAMA PANCHAYATH	11	11	28
CHALIYAR GRAMA PANCHAYATH	28	58	6
CHEACODE GRAMA PANCHAYATH	29	60	40
CHELEMBRA GRAMA PANCHAYATH	18	10	44
CHERIYAMUNDAM GRAMA PANCHAYATH	13	17	66
CHERUKAVU GRAMA PANCHAYATH	18	17	21
CHOKKAD GRAMA PANCHAYATH	98	15	24
CHUNGATHARA GRAMA PANCHAYATH	98	113	61
EDAKKARA GRAMA PANCHAYATH	22	43	24
EDAPATTA GRAMA PANCHAYATH	78	25	11
EDAPPAL GRAMA PANCHAYATH	36	50	38
EDARIKKODE GRAMA PANCHAYATH	8	20	12
EDAVANNA GRAMA PANCHAYATH	88	60	80
EDAYUR GRAMA PANCHAYATH	15	16	62

ELAMKULAM GRAMA PANCHAYATH	27	47	28
IRUMBILIYUM GRAMA PANCHAYATH	16	35	15
KALADY GRAMA PANCHAYATH	30	27	23
KALIKAVU GRAMA PANCHAYATH	145	45	27
KALPAKANCHERI GRAMA PANCHAYATH	16	18	29
KANNAMANGALAM GRAMA PANCHAYATH	12	26	12
KARULAI GRAMA PANCHAYATH	31	28	26
KARUVARAKUNDU GRAMA PANCHAYATH	139	73	27
KAVANNUR GRAMA PANCHAYATH	78	93	49
KEEZHATTUR GRAMA PANCHAYATH	59	27	26
KEEZHUPARAMBA GRAMA PANCHAYATH	26	37	16
KODUR GRAMA PANCHAYATH	26	13	17
KONDOTTY MUNICIPALITY	31	51	103
KOOTTILANGADI GRAMA PANCHAYATH	25	26	14

KOTTAKKAL MUNICIPALITY	24	18	54
KURUVA GRAMA PANCHAYATH	39	30	35
KUTTIPPURAM GRAMA PANCHAYATH	40	58	131
KUZHIMANNA GRAMA PANCHAYATH	40	34	65
MAKKARAPARAMBA GRAMA PANCHAYATH	23	25	11
MALAPPURAM MUNICIPALITY	71	47	27
MAMPAD GRAMA PANCHAYATH	65	66	18
MANGALAM GRAMA PANCHAYATH	24	18	111
MANJERI MUNICIPALITY	158	124	95
MANKADA GRAMA PANCHAYATH	47	33	14
MARAKKARA GRAMA PANCHAYATH	14	12	20
MARANCHERY GRAMA PANCHAYATH	31	48	33
MELATTUR GRAMA PANCHAYATH	131	13	12
MOONNIYUR GRAMA PANCHAYATH	28	29	21
MOORKANAD GRAMA PANCHAYATH	32	26	25

MOOTHEM GRAMA PANCHAYATH	54	64	76
MORAYUR GRAMA PANCHAYATH	34	23	22
MUTHUVALLUR GRAMA PANCHAYATH	27	39	36
NANNAMBRA GRAMA PANCHAYATH	8	20	32
NANNAMUKKU GRAMA PANCHAYATH	6	7	8
NILAMBUR MUNICIPALITY	41	46	30
NIRAMARUTHOOR GRAMA PANCHAYATH	20	22	70
OORAKAM GRAMA PANCHAYATH	20	15	5
OTHUKKUNGAL GRAMA PANCHAYATH	10	7	10
OZHOOOR GRAMA PANCHAYATH	26	36	115
PALLIKKAL GRAMA PANCHAYATH	20	43	76
PANDIKKAD GRAMA PANCHAYATH	45	28	26
PARAPPANANGADI MUNICIPALITY	33	43	36
PARAPPUR GRAMA PANCHAYATH	7	11	10
PERINTHALMANNA MUNICIPALITY	111	60	40

PERUMANNA CLARI GRAMA PANCHAYATH	6	1	26
PERUMBADAPPU GRAMA PANCHAYATH	1	1	14
PERUVALLUR GRAMA PANCHAYATH	10	18	20
PONMALA GRAMA PANCHAYATH	10	7	15
PONMUNDAM GRAMA PANCHAYATH	6	21	47
PONNANI MUNICIPALITY	37	67	64
POOKKOTTUR GRAMA PANCHAYATH	36	36	34
PORUR GRAMA PANCHAYATH	46	40	30
POTHUKAL GRAMA PANCHAYATH	30	148	34
PULAMANTHOLE GRAMA PANCHAYATH	13	27	22
PULIKKAL GRAMA PANCHAYATH	22	43	36
PULPETTA GRAMA PANCHAYATH	27	20	20
PURATHUR GRAMA PANCHAYATH	25	25	127
PUZHAKKATIRI GRAMA PANCHAYATH	31	25	43
THALAKKAD GRAMA PANCHAYATH	12	35	90

THANALUR GRAMA PANCHAYATH	34	45	103
THANOR MUNICIPALITY	122	54	63
THAVANUR GRAMA PANCHAYATH	40	37	41
THAZHEKKODE GRAMA PANCHAYATH	50	37	31
THENHIPPALAM GRAMA PANCHAYATH	16	14	22
THENNELA GRAMA PANCHAYATH	12	6	11
THIRUNAVAYA GRAMA PANCHAYATH	17	24	39
THIRUVALI GRAMA PANCHAYATH	47	40	52
THRIKKALANGODE GRAMA PANCHAYATH	93	89	88
THRIPRANGODE GRAMA PANCHAYATH	18	23	61
THUVVUR GRAMA PANCHAYATH	50	23	16
TIRUR MUNICIPALITY	49	68	205
TIRURANGADI MUNICIPALITY	18	26	23
URANGATTIRI GRAMA PANCHAYATH	52	134	154
VALANCHERY MUNICIPALITY	23	74	99

VALAVANNUR GRAMA PANCHAYATH	7	9	53
VALLIKKUNNU GRAMA PANCHAYATH	25	32	21
VATTAMKULAM GRAMA PANCHAYATH	32	52	58
VAZHAKKAD GRAMA PANCHAYATH	25	59	61
VAZHAYUR GRAMA PANCHAYATH	14	23	15
VAZHIKKADAVU GRAMA PANCHAYATH	45	75	55
VELIYANCODE GRAMA PANCHAYATH	25	39	27
VENGARA GRAMA PANCHAYATH	34	32	17
VETTATHUR GRAMA PANCHAYATH	118	15	8
VETTOM GRAMA PANCHAYATH	43	56	256
WANDOOD GRAMA PANCHAYATH	121	49	17

LEPTOSPIROSIS

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

Peak: June - August

LEPTOSPIROSIS – LSG-WISE YEARLY DISTRIBUTION (2021–2025)

Name of LSGD	2023	2024	2025
ABDUREHMAN NAGAR GRAMA PANCHAYATH	2	3	3
ALAMKODE GRAMA PANCHAYATH	1	0	3
ALIPARAMBA GRAMA PANCHAYATH	2	4	1
AMARAMBALAM GRAMA PANCHAYATH	7	2	5
ANAKAYAM GRAMA PANCHAYATH	11	17	3
ANGADIPPURAM GRAMA PANCHAYATH	2	3	5
AREACODE GRAMA PANCHAYATH	1	2	3
ATHAVANAD GRAMA PANCHAYATH	0	0	2
CHALIYAR GRAMA PANCHAYATH	4	6	4
CHEACODE GRAMA PANCHAYATH	1	2	0
CHELEMBRA GRAMA PANCHAYATH	2	2	3

CHERIYAMUNDAM GRAMA PANCHAYATH	1	2	4
CHERUKAVU GRAMA PANCHAYATH	4	5	1
CHOKKAD GRAMA PANCHAYATH	4	1	3
CHUNGATHARA GRAMA PANCHAYATH	11	3	6
EDAKKARA GRAMA PANCHAYATH	3	2	2
EDAPATTA GRAMA PANCHAYATH	1	2	3
EDAPPAL GRAMA PANCHAYATH	6	4	5
EDARIKKODE GRAMA PANCHAYATH	1	1	2
EDAVANNA GRAMA PANCHAYATH	5	11	5
EDAYUR GRAMA PANCHAYATH	0	2	1
ELAMKULAM GRAMA PANCHAYATH	1	0	4
IRUMBILIYUM GRAMA PANCHAYATH	1	3	0
KALADY GRAMA PANCHAYATH	6	5	3
KALIKAVU GRAMA PANCHAYATH	4	2	7

KALPAKANCHERI GRAMA PANCHAYATH	2	0	3
KANNAMANGALAM GRAMA PANCHAYATH	4	1	1
KARULAI GRAMA PANCHAYATH	4	5	8
KARUVARAKUNDU GRAMA PANCHAYATH	3	5	4
KAVANNUR GRAMA PANCHAYATH	7	6	1
KEEZHATTUR GRAMA PANCHAYATH	1	1	3
KEEZHUPARAMBA GRAMA PANCHAYATH	0	1	1
KODUR GRAMA PANCHAYATH	2	1	4
KONDOTTY MUNICIPALITY	5	2	6
KOOTTILANGADI GRAMA PANCHAYATH	8	8	5
KOTTAKKAL MUNICIPALITY	2	1	3
KURUVA GRAMA PANCHAYATH	4	1	3
KUTTIPPURAM GRAMA PANCHAYATH	1	3	9

KUZHIMANNA GRAMA PANCHAYATH	1	3	2
MAKKARAPARAMBA GRAMA PANCHAYATH	2	5	0
MALAPPURAM MUNICIPALITY	10	6	8
MAMPAD GRAMA PANCHAYATH	4	4	14
MANGALAM GRAMA PANCHAYATH	1	1	1
MANJERI MUNICIPALITY	37	28	23
MANKADA GRAMA PANCHAYATH	4	7	6
MARAKKARA GRAMA PANCHAYATH	0	1	2
MARANCHERY GRAMA PANCHAYATH	5	10	11
MELATTUR GRAMA PANCHAYATH	9	2	4
MOONNIYUR GRAMA PANCHAYATH	2	3	2
MOORKANAD GRAMA PANCHAYATH	2	3	2
MOOTHEDAM GRAMA PANCHAYATH	1	9	3
MORAYUR GRAMA PANCHAYATH	4	4	1

MUTHUVALLUR GRAMA PANCHAYATH	1	1	3
NANNAMBRA GRAMA PANCHAYATH	2	7	3
NANNAMUKKU GRAMA PANCHAYATH	2	2	1
NILAMBUR MUNICIPALITY	5	5	7
NIRAMARUTHOOR GRAMA PANCHAYATH	1	4	4
OORAKAM GRAMA PANCHAYATH	0	3	1
OTHUKKUNGAL GRAMA PANCHAYATH	0	2	2
OZHOOR GRAMA PANCHAYATH	5	3	1
PALLIKKAL GRAMA PANCHAYATH	2	4	6
PANDIKKAD GRAMA PANCHAYATH	12	7	11
PARAPPANANGADI MUNICIPALITY	6	4	3
PARAPPUR GRAMA PANCHAYATH	2	2	1
PERINTHALMANNA MUNICIPALITY	3	0	5

PERUMANNA CLARI GRAMA PANCHAYATH	4	2	1
PERUMBADAPPU GRAMA PANCHAYATH	1	0	3
PERUVALLUR GRAMA PANCHAYATH	0	3	5
PONMALA GRAMA PANCHAYATH	2	3	4
PONMUNDAM GRAMA PANCHAYATH	1	3	1
PONNANI MUNICIPALITY	27	20	34
POOKKOTTUR GRAMA PANCHAYATH	8	14	7
PORUR GRAMA PANCHAYATH	5	8	8
POTHUKAL GRAMA PANCHAYATH	6	1	5
PULAMANTHOLE GRAMA PANCHAYATH	2	1	5
PULIKKAL GRAMA PANCHAYATH	1	3	4
PULPETTA GRAMA PANCHAYATH	3	3	7
PURATHUR GRAMA PANCHAYATH	3	3	3
PUZHAKKATIRI GRAMA PANCHAYATH	2	0	2

THALAKKAD GRAMA PANCHAYATH	4	4	4
THANALUR GRAMA PANCHAYATH	8	6	9
THANOOR MUNICIPALITY	10	9	12
THAVANUR GRAMA PANCHAYATH	3	2	9
THAZHEKKODE GRAMA PANCHAYATH	2	3	5
THENHIPPALAM GRAMA PANCHAYATH	1	1	3
THENNELA GRAMA PANCHAYATH	0	1	4
THIRUNAVAYA GRAMA PANCHAYATH	2	4	2
THIRUVALI GRAMA PANCHAYATH	6	7	10
THRIKKALANGODE GRAMA PANCHAYATH	16	22	12
THRIPRANGODE GRAMA PANCHAYATH	1	5	2
THUVVUR GRAMA PANCHAYATH	1	1	7
TIRUR MUNICIPALITY	5	7	3

TIRURANGADI MUNICIPALITY	0	3	8
URANGATTIRI GRAMA PANCHAYATH	3	5	5
VALANCHERY MUNICIPALITY	1	0	4
VALAVANNUR GRAMA PANCHAYATH	1	1	2
VALLIKKUNNU GRAMA PANCHAYATH	0	3	9
VATTAMKULAM GRAMA PANCHAYATH	0	4	5
VAZHAKKAD GRAMA PANCHAYATH	3	14	4
VAZHAYUR GRAMA PANCHAYATH	1	2	3
VAZHIKKADAVU GRAMA PANCHAYATH	7	14	8
VELIYANCODE GRAMA PANCHAYATH	11	11	14
VENGARA GRAMA PANCHAYATH	2	6	3
VETTATHUR GRAMA PANCHAYATH	2	2	0
VETTOM GRAMA PANCHAYATH	2	4	3

WANDOOR GRAMA PANCHAYATH	6	10	8
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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.

Peak: October - December

HEPATITIS A – LSG-WISE YEARLY DISTRIBUTION (2021–2025)

Name of LSGD	2023	2024	2025
ABDUREHMAN NAGAR GRAMA PANCHAYATH	24	3	108
ALAMKODE GRAMA PANCHAYATH	3	14	9
ALIPARAMBA GRAMA PANCHAYATH	12	95	210
AMARAMBALAM GRAMA PANCHAYATH	11	62	68
ANAKAYAM GRAMA PANCHAYATH	78	248	329
ANGADIPPURAM GRAMA PANCHAYATH	23	94	180
AREACODE GRAMA PANCHAYATH	22	148	110
ATHAVANAD GRAMA PANCHAYATH	10	12	75

CHALIYAR GRAMA PANCHAYATH	18	49	20
CHEACODE GRAMA PANCHAYATH	11	139	238
CHELEMBRA GRAMA PANCHAYATH	6	108	109
CHERIYAMUNDAM GRAMA PANCHAYATH	5	71	103
CHERUKAVU GRAMA PANCHAYATH	18	117	45
CHOKKAD GRAMA PANCHAYATH	11	71	45
CHUNGATHARA GRAMA PANCHAYATH	22	115	88
EDAKKARA GRAMA PANCHAYATH	5	66	60
EDAPATTA GRAMA PANCHAYATH	12	34	61
EDAPPAL GRAMA PANCHAYATH	4	21	26
EDARIKKODE GRAMA PANCHAYATH	50	137	85
EDAVANNA GRAMA PANCHAYATH	30	101	178
EDAYUR GRAMA PANCHAYATH	15	36	89
ELAMKULAM GRAMA PANCHAYATH	16	59	180
IRUMBILIYUM GRAMA PANCHAYATH	9	76	32

KALADY GRAMA PANCHAYATH	10	51	32
KALIKAVU GRAMA PANCHAYATH	5	18	29
KALPAKANCHERI GRAMA PANCHAYATH	30	82	135
KANNAMANGALAM GRAMA PANCHAYATH	9	188	149
KARULAI GRAMA PANCHAYATH	16	65	71
KARUVARAKUNDU GRAMA PANCHAYATH	3	42	38
KAVANNUR GRAMA PANCHAYATH	35	201	105
KEEZHATTUR GRAMA PANCHAYATH	5	65	93
KEEZHUPARAMBA GRAMA PANCHAYATH	38	118	95
KODUR GRAMA PANCHAYATH	4	159	151
KONDOTTY MUNICIPALITY	38	277	340
KOOTTILANGADI GRAMA PANCHAYATH	19	98	128
KOTTAKKAL MUNICIPALITY	8	257	291
KURUVA GRAMA PANCHAYATH	23	150	415
KUTTIPPURAM GRAMA PANCHAYATH	14	240	47

KUZHIMANNA GRAMA PANCHAYATH	41	385	148
MAKKARAPARAMBA GRAMA PANCHAYATH	12	101	171
MALAPPURAM MUNICIPALITY	35	539	336
MAMPAD GRAMA PANCHAYATH	24	93	76
MANGALAM GRAMA PANCHAYATH	4	10	18
MANJERI MUNICIPALITY	76	326	457
MANKADA GRAMA PANCHAYATH	12	111	206
MARAKKARA GRAMA PANCHAYATH	8	26	178
MARANCHERY GRAMA PANCHAYATH	1	10	20
MELATTUR GRAMA PANCHAYATH	4	26	57
MOONNIYUR GRAMA PANCHAYATH	9	185	135
MOORKANAD GRAMA PANCHAYATH	5	90	253
MOOTHEDAM GRAMA PANCHAYATH	9	53	73
MORAYUR GRAMA PANCHAYATH	108	495	216
MUTHUVALLUR GRAMA PANCHAYATH	7	123	54

NANNAMBRA GRAMA PANCHAYATH	16	102	103
NANNAMUKKU GRAMA PANCHAYATH	3	20	4
NILAMBUR MUNICIPALITY	9	106	162
NIRAMARUTHOOR GRAMA PANCHAYATH	1	16	17
OORAKAM GRAMA PANCHAYATH	16	142	158
OTHUKKUNGAL GRAMA PANCHAYATH	2	92	83
OZHOOR GRAMA PANCHAYATH	4	74	149
PALLIKKAL GRAMA PANCHAYATH	7	127	127
PANDIKKAD GRAMA PANCHAYATH	8	42	41
PARAPPANANGADI MUNICIPALITY	10	163	151
PARAPPUR GRAMA PANCHAYATH	9	148	111
PERINTHALMANNA MUNICIPALITY	21	53	172
PERUMANNA CLARI GRAMA PANCHAYATH	19	240	84
PERUMBADAPPU GRAMA PANCHAYATH	0	0	2
PERUVALLUR GRAMA PANCHAYATH	3	345	36

PONMALA GRAMA PANCHAYATH	8	207	252
PONMUNDAM GRAMA PANCHAYATH	5	58	152
PONNANI MUNICIPALITY	8	46	23
POOKKOTTUR GRAMA PANCHAYATH	192	552	253
PORUR GRAMA PANCHAYATH	7	56	26
POTHUKAL GRAMA PANCHAYATH	6	780	102
PULAMANTHOLE GRAMA PANCHAYATH	8	79	103
PULIKKAL GRAMA PANCHAYATH	39	264	79
PULPETTA GRAMA PANCHAYATH	16	143	218
PURATHUR GRAMA PANCHAYATH	2	21	22
PUZHAKKATIRI GRAMA PANCHAYATH	37	99	110
THALAKKAD GRAMA PANCHAYATH	9	65	34
THANALUR GRAMA PANCHAYATH	2	83	47
THANOOR MUNICIPALITY	12	57	66
THAVANUR GRAMA PANCHAYATH	32	84	74

THAZHEKKODE GRAMA PANCHAYATH	7	38	108
THENHIPPALAM GRAMA PANCHAYATH	5	43	86
THENNELA GRAMA PANCHAYATH	2	48	132
THIRUNAVAYA GRAMA PANCHAYATH	10	197	51
THIRUVALI GRAMA PANCHAYATH	19	99	58
THRIKKALANGODE GRAMA PANCHAYATH	33	150	142
THRIPRANGODE GRAMA PANCHAYATH	4	35	29
THUVVUR GRAMA PANCHAYATH	3	21	54
TIRUR MUNICIPALITY	8	50	56
TIRURANGADI MUNICIPALITY	14	138	230
URANGATTIRI GRAMA PANCHAYATH	16	155	118
VALANCHERY MUNICIPALITY	28	69	181
VALAVANNUR GRAMA PANCHAYATH	10	18	84
VALLIKKUNNU GRAMA PANCHAYATH	1	278	45
VATTAMKULAM GRAMA PANCHAYATH	11	55	35

VAZHAKKAD GRAMA PANCHAYATH	18	165	210
VAZHAYUR GRAMA PANCHAYATH	62	104	80
VAZHIKKADAVU GRAMA PANCHAYATH	9	364	192
VELIYANCODE GRAMA PANCHAYATH	5	4	19
VENGARA GRAMA PANCHAYATH	61	489	219
VETTATHUR GRAMA PANCHAYATH	6	119	30
VETTOM GRAMA PANCHAYATH	13	40	33
WANDOOR GRAMA PANCHAYATH	17	39	60

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	4940	9
Water Borne Diseases	100060	22
Air Borne Diseases	1789	11
Blood Borne Diseases	1784	1
Food Borne Diseases	488	0

VECTOR-BORNE DISEASE

Disease	No. of Cases	No. of Deaths
Dengue	4678	9

Malaria	74	0
Chikungunya	3	0

WATER BORNE DISEASE

Disease	No. of Cases	No. of Deaths
Cholera	0	0
Typhoid	22	0
Hep- A	12179	21
Dysentery	54	0
Amoebiasis		
E- Coli infections		zS

AIR BORNE DISEASE

Disease	No. of Cases	No. of Deaths
Influenza	170	10
H1N1	9	1
TB	1449	150
Chickenpox	3568	-
Measles	94	-
Covid-19	70	-
Pertussis	-	-
Mumps	1065	-

BLOOD-BORNE DISEASE

Disease	No. of Cases	No. of Deaths
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AIDS	1784	1
Hep- B	108	-
Hep- C	40	-

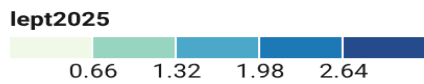
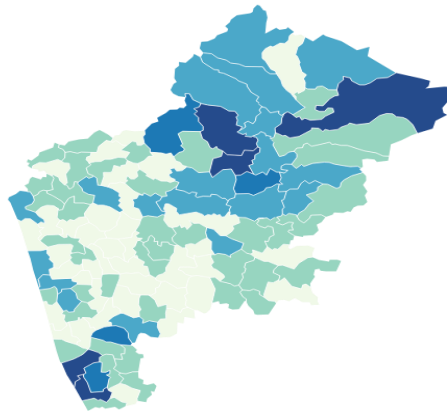
ZOONOTIC DISEASE

Disease	No. of Cases	No. of Deaths
Rabies	3	3
Leptospirosis	502	48
Avian influenza	-	-
West nile	14	3
Anthrax	-	-
Nipah	2	1

Scrub Typhus	24	-
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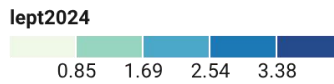
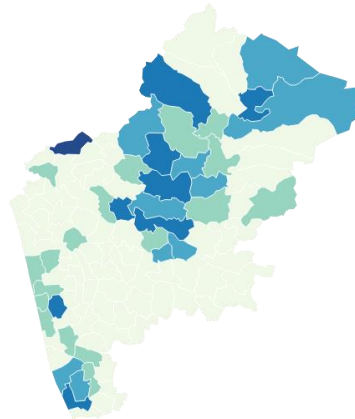
INTEGRATED DISEASE HOTSPOT MAP (2021–2025)

2025



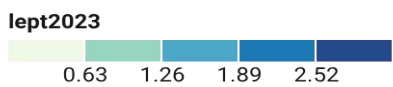
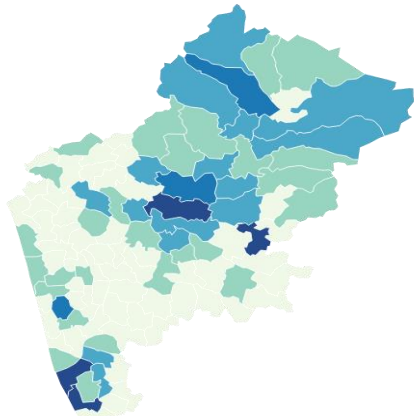
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2024



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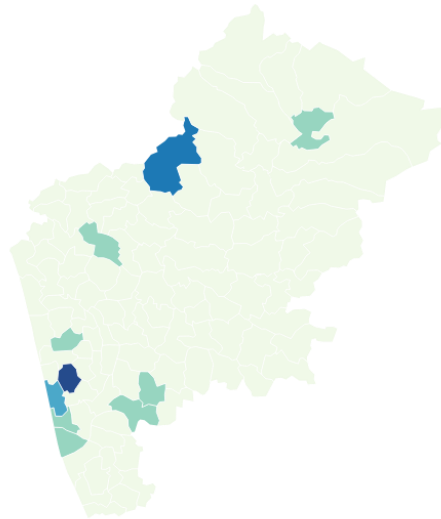
Distribution of Leptospirosis Cases by LSGDs- 2023



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dengue

Dengue 2025

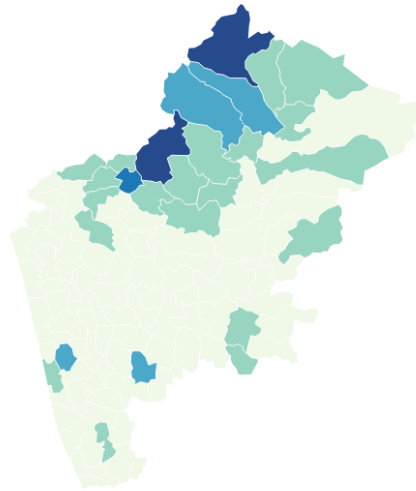


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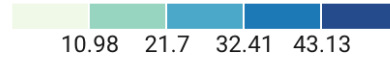


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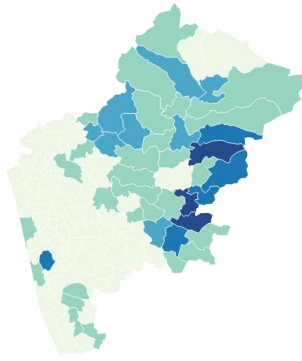


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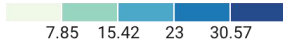


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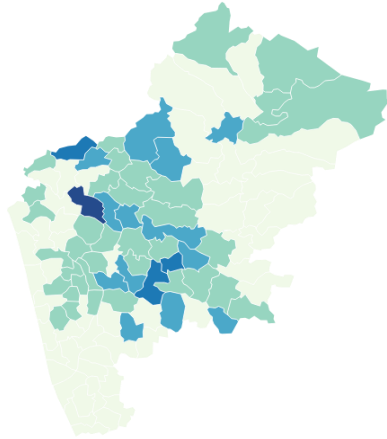


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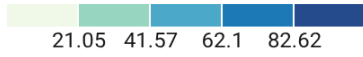


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Hepatitis 2025

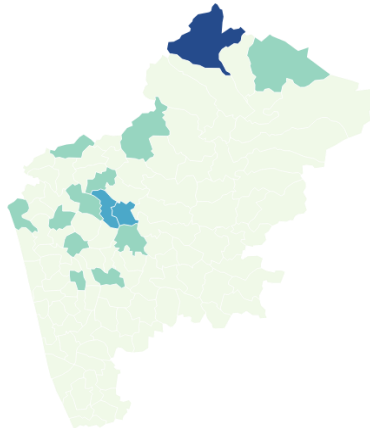


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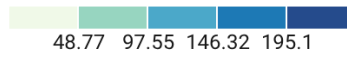


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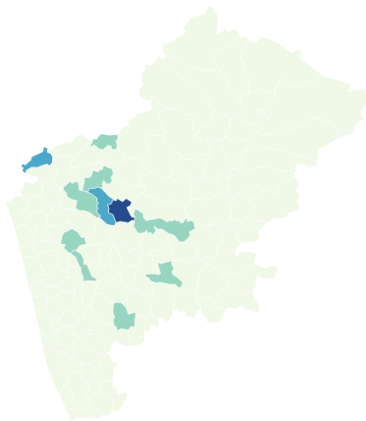


Hepatitis2024



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Hepatitis 2023



Hepatitis2023



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LSG Name	Dengue Total (2022-25)	Leptospirosis Total (2022-25)	Hepatitis A Total (2022-25)	Total Cases
ABDUREHMAN NAGAR GRAMA PANCHAYATH	94	10	138	242
ALAMKODE GRAMA PANCHAYATH	60	5	26	91
ALIPARAMBA GRAMA PANCHAYATH	149	9	341	499
AMARAMBALAM GRAMA PANCHAYATH	169	17	145	331
ANAKAYAM GRAMA PANCHAYATH	173	39	689	901
ANGADIPPURAM GRAMA PANCHAYATH	228	15	313	556
AREACODE GRAMA PANCHAYATH	284	8	286	578
ATHAVANAD GRAMA PANCHAYATH	53	2	97	152
CHALIYAR GRAMA PANCHAYATH	96	17	89	202

CHEACODE GRAMA PANCHAYATH	135	4	390	529
CHELEMBRA GRAMA PANCHAYATH	78	8	225	311
CHERIYAMUNDAM GRAMA PANCHAYATH	98	9	181	288
CHERUKAVU GRAMA PANCHAYATH	59	11	181	251
CHOKKAD GRAMA PANCHAYATH	145	11	127	283
CHUNGATHARA GRAMA PANCHAYATH	277	23	226	526
EDAKKARA GRAMA PANCHAYATH	95	12	133	240
EDAPATTA GRAMA PANCHAYATH	115	7	107	229
EDAPPAL GRAMA PANCHAYATH	134	19	51	204
EDARIKKODE GRAMA PANCHAYATH	40	4	273	317
EDAVANNA GRAMA PANCHAYATH	237	27	313	577

EDAYUR GRAMA PANCHAYATH	104	3	140	247
ELAMKULAM GRAMA PANCHAYATH	106	5	256	367
IRUMBILIYUM GRAMA PANCHAYATH	72	5	117	194
KALADY GRAMA PANCHAYATH	90	17	93	200
KALIKAVU GRAMA PANCHAYATH	224	18	53	295
KALPAKANCHERI GRAMA PANCHAYATH	63	6	287	356
KANNAMANGALAM GRAMA PANCHAYATH	51	6	348	405
KARULAI GRAMA PANCHAYATH	90	20	152	262
KARUVARAKUNDU GRAMA PANCHAYATH	250	16	94	360
KAVANNUR GRAMA PANCHAYATH	234	18	341	593
KEEZHATTUR GRAMA PANCHAYATH	119	7	165	291

KEEZHUPARAMBA GRAMA PANCHAYATH	90	4	252	346
KODUR GRAMA PANCHAYATH	57	7	314	378
KONDOTTY MUNICIPALITY	191	14	657	862
KOOTTILANGADI GRAMA PANCHAYATH	73	24	255	352
KOTTAKKAL MUNICIPALITY	97	6	556	659
KURUVA GRAMA PANCHAYATH	111	8	595	714
KUTTIPPURAM GRAMA PANCHAYATH	270	16	301	587
KUZHIMANNA GRAMA PANCHAYATH	146	8	578	732
MAKKARAPARAMBA GRAMA PANCHAYATH	65	9	298	372
MALAPPURAM MUNICIPALITY	152	26	916	1094
MAMPAD GRAMA PANCHAYATH	160	24	195	379
MANGALAM GRAMA PANCHAYATH	161	3	32	196

MANJERI MUNICIPALITY	404	108	865	1377
MANKADA GRAMA PANCHAYATH	106	20	331	457
MARAKKARA GRAMA PANCHAYATH	48	4	212	264
MARANCHERY GRAMA PANCHAYATH	112	26	32	170
MELATTUR GRAMA PANCHAYATH	168	15	89	272
MOONNIYUR GRAMA PANCHAYATH	83	8	329	420
MOORKANAD GRAMA PANCHAYATH	93	7	351	451
MOOTHEDAM GRAMA PANCHAYATH	197	16	136	349
MORAYUR GRAMA PANCHAYATH	86	11	831	928
MUTHUVALLUR GRAMA PANCHAYATH	104	8	186	298
NANNAMBRA GRAMA PANCHAYATH	65	14	239	318

NANNAMUKKU GRAMA PANCHAYATH	21	8	27	56
NILAMBUR MUNICIPALITY	123	21	279	423
NIRAMARUTHOOR GRAMA PANCHAYATH	112	9	36	157
OORAKAM GRAMA PANCHAYATH	47	5	316	368
OTHUKKUNGAL GRAMA PANCHAYATH	29	6	178	213
OZHOOR GRAMA PANCHAYATH	179	9	227	415
PALLIKKAL GRAMA PANCHAYATH	144	15	264	423
PANDIKKAD GRAMA PANCHAYATH	103	40	93	236
PARAPPANANGADI MUNICIPALITY	139	20	334	493
PARAPPUR GRAMA PANCHAYATH	28	5	268	301
PERINTHALMANNA MUNICIPALITY	217	10	247	474

PERUMANNA CLARI GRAMA PANCHAYATH	34	8	344	386
PERUMBADAPPU GRAMA PANCHAYATH	16	4	2	22
PERUVALLUR GRAMA PANCHAYATH	54	8	386	448
PONMALA GRAMA PANCHAYATH	35	10	468	513
PONMUNDAM GRAMA PANCHAYATH	74	5	215	294
PONNANI MUNICIPALITY	179	89	77	345
POOKKOTTUR GRAMA PANCHAYATH	113	38	1003	1154
PORUR GRAMA PANCHAYATH	120	26	90	236
POTHUKAL GRAMA PANCHAYATH	222	14	891	1127
PULAMANTHOLE GRAMA PANCHAYATH	68	9	197	274
PULIKKAL GRAMA PANCHAYATH	103	11	382	496

PULPETTA GRAMA PANCHAYATH	75	22	378	475
PURATHUR GRAMA PANCHAYATH	178	14	46	238
PUZHAKKATIRI GRAMA PANCHAYATH	105	8	249	362
THALAKKAD GRAMA PANCHAYATH	139	12	108	259
THANALUR GRAMA PANCHAYATH	186	29	135	350
THANOOR MUNICIPALITY	244	36	138	418
THAVANUR GRAMA PANCHAYATH	132	18	191	341
THAZHEKKODE GRAMA PANCHAYATH	122	10	158	290
THENHIPPALAM GRAMA PANCHAYATH	54	8	137	199
THENNELA GRAMA PANCHAYATH	30	6	185	221
THIRUNAVAYA GRAMA PANCHAYATH	81	12	258	351

THIRUVALI GRAMA PANCHAYATH	148	26	180	354
THRIKKALANGODE GRAMA PANCHAYATH	281	64	326	671
THRIPRANGODE GRAMA PANCHAYATH	104	11	68	183
THUVVUR GRAMA PANCHAYATH	96	18	78	192
TIRUR MUNICIPALITY	327	16	114	457
TIRURANGADI MUNICIPALITY	68	11	383	462
URANGATTIRI GRAMA PANCHAYATH	344	16	294	654
VALANCHERY MUNICIPALITY	235	5	278	518
VALAVANNUR GRAMA PANCHAYATH	72	7	112	191
VALLIKKUNNU GRAMA PANCHAYATH	95	12	331	438
VATTAMKULAM GRAMA PANCHAYATH	153	14	101	268
VAZHAKKAD GRAMA PANCHAYATH	147	23	393	563

VAZHAYUR GRAMA PANCHAYATH	61	8	246	315
VAZHIKKADAVU GRAMA PANCHAYATH	188	34	568	790
VELIYANCODE GRAMA PANCHAYATH	93	44	28	165
VENGARA GRAMA PANCHAYATH	91	11	773	875
VETTATHUR GRAMA PANCHAYATH	145	7	157	309
VETTOM GRAMA PANCHAYATH	360	11	89	460
WANDOOR GRAMA PANCHAYATH	201	29	117	347

By overlaying five years of epidemiological data (2021–2025), a total of 25 “Red Zone” Panchayaths have been identified. These are wards where at least two different categories of diseases (for example, Dengue and Leptospirosis) have recurred in consecutive years, indicating persistent public health vulnerability.

Among these, Ward 4 has been classified as the Highest Priority Hotspot, due to its combined risk factors of flood vulnerability and high vector density, which significantly increase the likelihood of recurring outbreaks, particularly of vector-borne and waterborne diseases.

In light of these findings, future health infrastructure interventions should be strategically prioritized in these high-risk areas. In particular, the installation of R.O. (Reverse Osmosis) water purification plants and other identified Red Zone Panchayaths are strongly recommended. Additional priority locations may include wards with consistently

high incidence of waterborne diseases such as Hepatitis A and Leptospirosis, especially where safe drinking water access is limited.

Such targeted interventions will help reduce disease recurrence, improve water quality, and strengthen overall community resilience against future outbreaks.

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)

surveillance

surveillance forms the most important component in identification of any unusual disease presentation in community

Surveillance Sources

- Government and private hospitals
- FHCs/CHCs
- Sentinel surveillance sites
- Field reports from ASHAs/ANMs
- Community-based reporting (ward-level)

A. Syndromic Surveillance

Monitor:

- Fever, respiratory syndromes, gastrointestinal symptoms, rash, etc.
- Reports from ERs, primary care, pharmacies (OTC medicine spikes).

B. Sentinel Surveillance

Selected clinics/hospitals continuously test samples from symptomatic patients to detect unusual trends.

C. Environmental Surveillance

- Wastewater testing for early pathogen circulation.
- Air sampling in high-risk facilities (airports, hospitals).

Reporting Requirements

- Daily reporting of ILI/SARI/unusual presentation cases.
- Immediate reporting of any suspected or confirmed case.
- Zero-reporting mandatory (submit reports even if no cases).

Point-of-Entry Screening

- Temperature checks or symptom questionnaires.
- Targeted testing for travelers from affected areas.

Community Screening

- Drive-through or walk-in testing centers.
- Mobile testing units for underserved or remote areas.

TESTING & SAMPLE MANAGEMENT

Eligibility for Testing

- Symptomatic individuals meeting case definition.
- Close contacts of confirmed cases.
- High-risk groups (elderly, comorbid, healthcare workers).

Sample Collection

- The District Sample Collection Team coordinates with FHCs ,CHCs and hospitals.
- Sample collection centres may be set up in major hospitals(3 District Hospitals and Manjeri Medical College) initially and later expanded to lower institutions in a phased manner according to case load and localisation of cases.
- Samples transported to designated district/state labs following official guidelines.
- All labs performing advanced diagnostic tests like PCR in government and private sector to be identified beforehand and listed out at district level .

Data Reporting

- All samples entered in state-approved portal (e.g., ICMR portal, district lab system).
- Daily aggregation of case counts, positivity rates, hospitalization levels

Testing Strategy

A. Diagnostic Testing

- PCR/NAAT for high sensitivity.
- Rapid antigen tests for quick detection during high prevalence.
- Serology for retrospective and epidemiological analysis.

B. Risk-Based Testing

Prioritize:

- Symptomatic individuals.
- Close contacts.
- Healthcare workers.
- High-risk settings (nursing homes, prisons).

C. Sample Collection Protocol

- Nasopharyngeal or oropharyngeal swabs.
- Saliva testing where validated.
- Any other sample as per nature of transmission of pathogen
- Biosafety precautions: Secure area for sample collection, PPE, proper sterilization, chain-of-custody.

Trigger Thresholds & Escalation

Increase in positivity → expand testing.

New variant detection → enhanced genomic sequencing.

D. Genomic Surveillance

Monitor for:

- New variants or mutations.
- Vaccine or treatment-resistant strains.

- Transmission dynamics.

Sequencing is performed on:

- Random sample of positives.
- Outbreak clusters.
- International travelers.

TRIAGE & CASE MANAGEMENT

Hospital Triage

All district hospitals, medical college, Taluk hospitals CHC, and FHCs must establish triage zones:

- **Green Zone** – non-pandemic cases
- **Yellow Zone** – symptomatic suspects
- **Red Zone** – confirmed cases or high-risk symptomatic patients
- Staff should be designated exclusively to each zones and should strictly avoid movement between zones

Infection-Control Measures

- Physical distancing
- Masking based on transmission level
- Sanitization and ventilation protocols
- Adequate PPE use and safe disposal by staff

Facility Preparedness

- Ensure oxygen supply, essential medicines, PPE stock.
- Maintain isolation wards and dedicated beds.
- Training and retraining of staff on the pandemic preparedness plan of the facility
- Dissemination of necessary IEC and directions duly received from state and district level from time to time

Contact Management

- High-risk contacts → testing + quarantine.
- Low-risk contacts → symptom monitoring.

Exposed contacts to be made to stay separated for incubation period unless negative testing protocols apply.

All vulnerable contacts like elderly, child contacts, contacts with serious comorbidities to be quarantined separately and carefully monitored.

BPHU Level symptom monitoring unit to make daily calls to all contacts in quarantine

If any suspect becomes symptomatic, they have to be shifted to the nearest hospital where testing /treatment facility is available. For shifting district transportation team to be contacted.

Identification of suspect isolation beds

Those who can be isolated at home where single rooms and bathrooms are available, may be kept at home. If there are inadequate home quarantine facilities, such persons will have to be kept in institution quarantine.

Single rooms with separate bathrooms will have to be identified to keep suspects so that disease transmission does not occur. All such institutions, both private and public to be identified beforehand and listed so that they can be activated as and when required without any administrative hassles.

All such isolation facilities will be identified at LSG level and documented in LSG level pandemic preparedness plan

C. Digital Tools

- Exposure-notification apps may be created for easy identification of contacts where in the contacts can opt in to report proactively.
- Secure data logs for outbreak analysis.

CASE MANAGEMENT & ISOLATION

Isolation Protocol

- Confirmed cases isolate according to public-health guidelines.
- Provide telehealth or remote monitoring support if applicable.

Monitoring

- Self-report apps.
- Telehealth check-ins.
- Home oxygen or vital-sign monitoring for certain diseases.

Care Pathways

- Mild cases → Home care or outpatient management.
- Moderate/severe cases → Referral to designated healthcare facilities.

Identification of beds in health care facilities

All beds in government and private sector which will be available for treatment of pandemic to be identified beforehand and made functional as and when required in a phased manner. ICU beds and Ventilators to be identified and earmarked so that patient transfer becomes hassle free. Oxygen beds at each facility that can be utilised to be identified and ear marked. Detailed surge plan including escalation of bed capacity to be prepared in detail in Facility level pandemic preparedness plan .

Setting up of temporary hospitals

Community halls, hostels etc in each LSGD area that can be transformed to temporary hospitals may be identified beforehand and listed out.

Human resource Management

Details of all human resource for patient management including doctors, paramedical staff, nursing officers, cleaning staff available in each LSGI area in both government and private sector to be listed and maintained by the corresponding health institution's pandemic preparedness plan. Speciality wise list of doctors to be maintained. Training of all staff including case identification and infection control protocols to be conducted at regular intervals so that they can be activated at the time of pandemic instantaneously. Volunteers willing to work in health sector may also be identified at each LSGI level and necessary trainings given to enhance human resource pool. A consolidated list of all the health care staff and trained health care volunteers will maintained at district level for authenticity and ease of activation in the district level pandemic preparedness plan .

Referral of patients

Dedicated 2 chamber ambulances to be identified for patient transportation. All the available ambulances in each LSG area including government, private and 108 is included

in the LSG level pandemic preparedness plan and consolidated and maintained at district level in the district pandemic preparedness plan

Details of all who require referral to be intimated to district case management team .

The district case management will evaluate the merit of reference and where to refer and will pass on the details to the district transportation team if reference is required.

The hospital to which the patient is referred will be intimated by the district case management team , for hassle free and safe transfer.

Discontinuation of Isolation

Follow health-authority time-based or test-based clearance criteria.

SUPPLY, LOGISTICS & RESOURCE MANAGEMENT

Inventory Monitoring

- District Store Verification Officer (SVO) updates daily stock of:
 - PPE- nil
 - Masks- 4243(N95)
 - Sanitizers- 50
 - Essential medicines- ORS-3,07,906. Doxycycline- 3,50,960. Oseltamivir- 2,00,803
 - Testing supplies
- All health institutions maintain a buffer stock of PPE for emergency use .

Distribution

- Supplies dispatched to FHCs/CHCs /major hospitals based on risk & case load.
- Alternate sourcing to be arranged if KMSCL stock exhausts.
- All Oxygen suppliers to be identified
- All private large scale suppliers of PPE, medicines and other hospital supplies will be identified and listed out

Transport Arrangements

- Dedicated 108 ambulances, other available 2 chamber ambulances for suspected/confirmed cases.

- Separate routes for sample transport using the transport vehicles available at district level. Transportation through the post office department may also be utilised ensuring safety and infection control measures.
- Alternate routes during floods to be arranged in coordination with revenue, police and motor vehicle departments.
- Mobile testing units to be maintained and areas /blocks demarcated for each .

COMMUNITY MITIGATION & PUBLIC SAFETY MEASURES

Public Health Orders (District Level)

- Mask advisories
- Crowd control measures
- Market/school guidelines based on state instructions

Facility Protocols

- All government offices, schools, ICDS centres follow sanitization norms.
- Mobile testing units to be arranged at district level and will implement screening where advised.

Social and Operational Measures

- Remote work options.
- Staggered shifts.
- Reduced occupancy in enclosed spaces.

Environmental Controls

- Regular sanitization schedules.
- Improved ventilation standards.
- Barriers or protective equipment where needed.

Protective Equipment Policy

- Mask use and PPE based on risk assessment and public-health guidance.

All risk communication orders will be released by DDMA as and when required.

Social support

Support from the public has always been an essential component in management of pandemics or disasters in the district. Various NGOs available in each LSG area have been listed out and entered in LSG level pandemic preparedness plan and consolidated at

district level. They can be properly trained and utilised to support health workers in times of crisis including data management, patient management and social support.

Community kitchen

In times of pandemic and natural disasters , where people will either be quarantined or moved to relief camps, arranging hygienic food is a major concern.

LSGI level RRT in association with Kudumbasree shall set up community kitchens and the sanitation and hygiene of food preparation shall be ensured by the public health wing of the concerned LSGI. Funds if required may be met through CSR /philanthropists' support.

Coordination with Fire, Police and Civil Defence team

In times of disasters as well as pandemics, there needs to be proper coordination with all stakeholders at all levels. In case of pandemics, thorough understanding with departments like police and revenue is needed for disease screening, contact isolation, rumour containment, enforcement of physical distancing, masking and restrictions in containment zones. Such coordination should occur at LSGI level and district level. Regular review meetings with stakeholders to be conducted under leadership of DDMA.

During disasters, civilians will be the first people to reach the site and engage in rescue operations. In such scenarios, it is important to ensure the safety of such civilians. The best way is to make all people in disaster prone areas trained in rescue operations and personal safety. For this, police, fire force and civil defence volunteers may be consulted beforehand and all necessary training completed. LSGIs shall take the lead role in organising such sessions in batches, while district (Deputy DMO, Disaster management) may be consulted in case any support is needed. Regular retraining at least once in a year to be made mandatory and certificates of training shall be given by district and concerned LSGI jointly.

During the time of disasters also, service of police, fire force and civil defence is inevitable. Health teams at LSGI level and district level shall keep them in loop for hassle-free rescue operations, shifting of injured, etc.

MAPPING OF EXISTING PLANS AND COMMITTEES

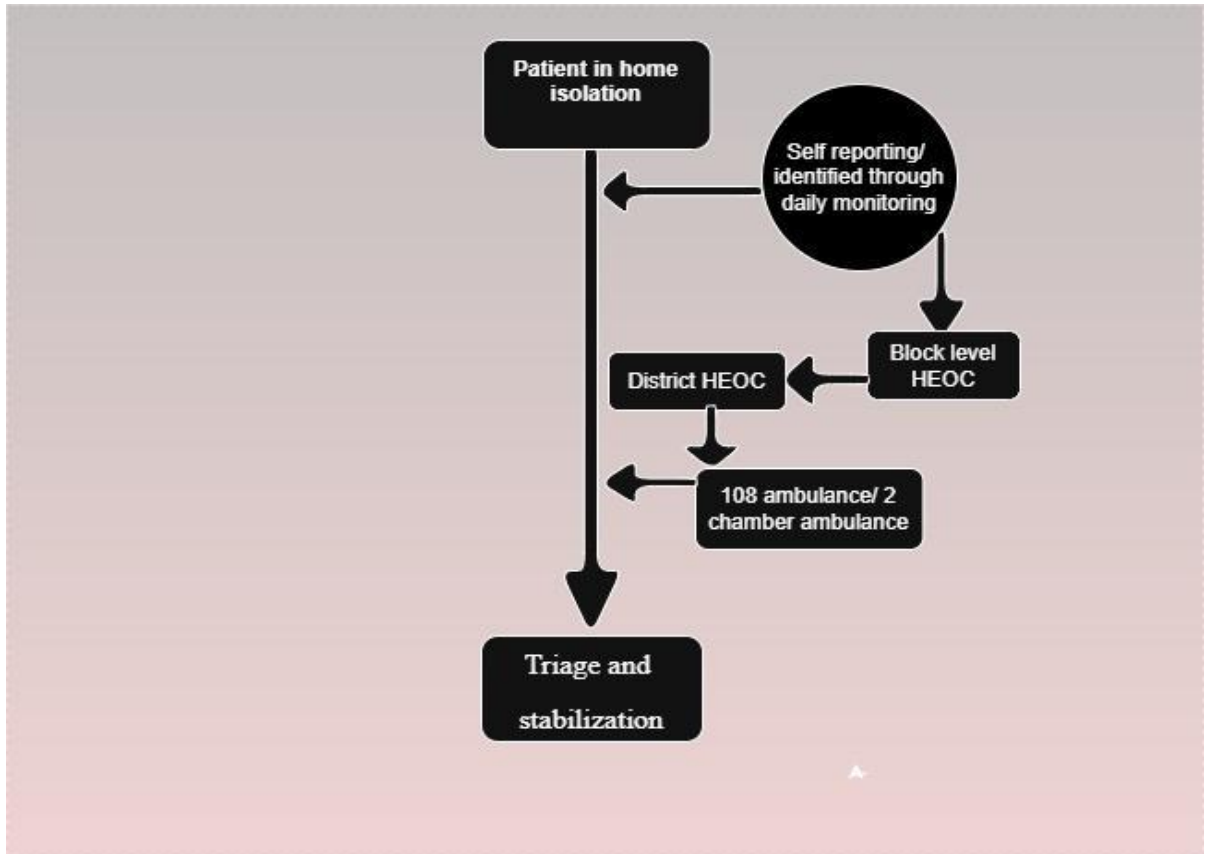
- **Committee Harmonization:**

Member	Roles in Pandemic task force
District Panchayath President	Heads and coordinates district-level pandemic response, linking local bodies with health officials and administration
District panchayath Secretary	Oversees implementation of development programs, maintains records, manages funds, and monitors progress of projects and services
District panchayat standing committee chairman	Subject-wise leadership, Monitors execution of schemes, reviews progress, and ensures policies and programs are effectively carried out.
District Medical officer	Prepares district pandemic plans, ensures resources (beds, PPE, staff), and coordinates with hospitals and administration.
Technical assistant	Technical support & data management, Assists the District Medical Officer in surveillance, data collection, analysis, and reporting of pandemic-related information.
District Public health nurse supervisor	Trains health workers, monitors field activities (contact tracing, home care), and ensures adherence to public health guidelines.
District Epidemiologist	Collects, analyzes, and interprets data on disease trends to detect outbreaks and guide control measures.
Veterinary doctor	Monitors and reports animal diseases that can spread to humans, supporting early detection of outbreaks.
Agricultural officer	Ensures continuous food production and promotes safe farming, storage, and handling practices during a pandemic.
Police officer	Law enforcement & containment, Assists health authorities in contact tracing, crowd control, and safe movement of

	essential services and patients.
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A table mapping the members of the LSG Disaster Management Committee (LDMC) to their specific roles in the Pandemic Task Force.

- **HEOC Integration:**



- **IDSP Liaison:**

At LSGD level, JHI collects data from the community through ASHA or volunteers and reports to HI. HI reports the data to the BPHU. From BPHU, the data manager consolidates the block level data and reports it to the district IDSP. At block level, HI is the reporting officer.

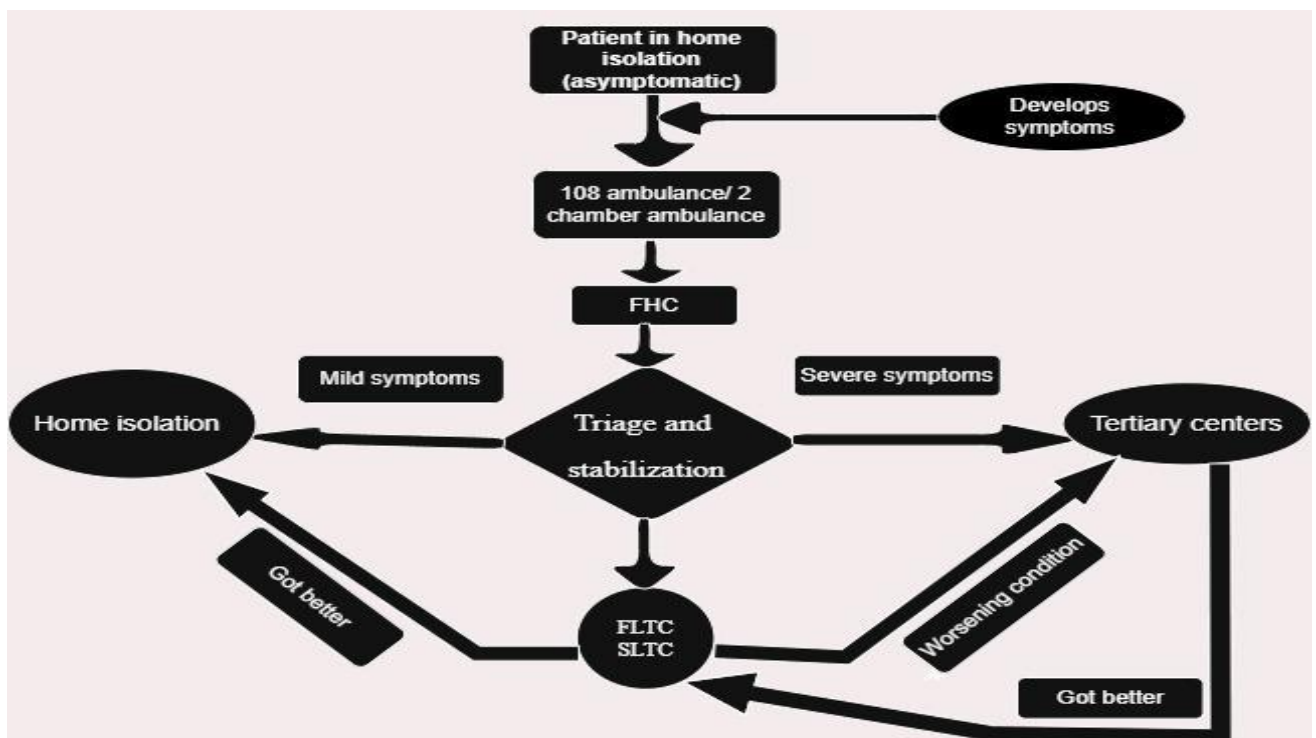
- **SOP Adaptation:** All protocols relevant to management of communicable diseases including COVID-19 protocols (e.g., dead body management, quarantine rules)

have been adopted from state level advisories and maintained at district level. and also disseminated to all institutions.

- **Resource Sharing Agreements:** Directions have been given to all institutions to keep 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.- pvt testing centers, nirnaya hub and spoke lab transportation

- **Supply Chain Buffer:** A 30-day "Minimum Stock Level" (MSL) defined for essential medicines, masks, and sanitizers. from SVO
- **Volunteer Force (Kudumbashree/Arogyasena/NDRF):** A registered database of "Trained Volunteers" categorized by skill (e.g., nursing, food preparation, data entry, driving)
 - 2391 Kudmbasree workers, 653 anganwadi workers, 3325 ASHA workers, 267 ambulance drivers got orientation in disaster management.

BUILD & ORGANISE CRITICAL CAPACITIES

- **Surveillance and data**

Active surveillance is done through IHIP portal. Private hospitals which are not listed in IHIP report through google sheets. News, rumours and intimation from other systems of medicines through reporting channels like e-mails are other means of disease reporting. Early warning signals in IHIP are in place and each of the listed outbreaks or clusters are confirmed with the help of local health facility staff. EWS for the public can be initiated in IHIP so that anyone can give an alert about a disease outbreak.
- **Regular IDSP meetings**

Regular IDSP meetings at FHC level are conducted every Monday afternoon under the medical officer. Review of weekly reported diseases and the public health activities conducted are carried out in the meeting. On every Wednesday, a block public health unit meeting is conducted by the medical officer, HS, PHNS, Epidemiologist and data manager. Status of communicable disease in a week in the entire block, their trend, any clusters or outbreaks, prevention activities done are discussed in the meeting. Major decisions on the public health activities of the block are made in the meeting. The district IDSP meeting is conducted every Thursday.
- **Linelist of non reporting institutions public and private, labs, LSGD**

Non reporting institutions are collected from IHIP every month and presented in DMO conferences.
- **Lab turnover time**

In general labs, the turnover time is around 2 to 3 hours. RTPCR labs take 2 to 3 days for the results. District Public health lab and medical college Manjeri, are equipped to increase the number of rounds of testing provided, if the trained HR is pooled from the peripheral institutions in different shifts.
- **Define simple ward-level indicators (e.g., ILI clusters, mortality alerts) and SOPs for field verification and response.**

- **ILI cluster and mortality alerts**
ILI clusters are identified from the data entered in IHIP.
- Development of SOPs
- **Vaccination coverage**
Vaccination camps can be conducted at the LSG level, if the disease already has an available vaccine.
- **Cold chain integrity**
Proper cold chain supply facilities are in place in the district.
- **Risk communication**
Risk communication from the peripheral institutions are intimated to the District collector by DMO and is conveyed to the public through press and media.
- **Community engagement-RRT, Kudumbhashree, one health**
RRT is in place in every JAK which can be involved in IEC purposes. The community kitchen can be handed over to Kudumbasree workers.
- **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:**

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.

10. 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

1. **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 "liters-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.
2. **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 has constituted 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	Contact Number
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1	SRI. Dr VINAY GOYAL IAS	District collector	DISTRICT	Chairperson	0483 2736320,0483 2736326
2	Dr.Jayanthi T K	District Medical Officer(Health)	Health Dept	Member Secretary	0483- 2737857,0483- 2736241
3	Dr SHAJI K	District Animal Husbandry Officer	Animal Husbandry	Member	04832734815
4	Mr. Shaji Joseph Cherukarak unnel	Deputy Director, Panchayats	LSGD	Member	0483-2734838
5	G. Sudarsanan	District Agriculture Officer	Agriculture	Member	0483-2734916
6	Sri. Ashik Babu C	District Fisheries Officer	Fisheries	Member	0494-2666428
7	Mujeeb Rahman P K Rajalakshmi K R	District Forest Officer	Forest	Member	04931-220392 04931-220232
8	Sujith Pereria D	District Food Safety Officer	Food safety	Member	0483-2732121
9	Dr. Shubin C	District Surveillance Officer	Health	Member	

10	Dr. Firos Khan V.		Health	Member	
11	Dr Praveena KK	Ar dram (NKKP 2) Nodal Officer	Health	Member	
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	Key Responsibilities	Team Leader
Surveillance and Contact Tracing Team	HI, JHI, JPHN, ASHAs and Volunteers	Case detection, contact listing, home visits, reporting	HI
Case Management Team	Doctors, Nurses, MLSP, Palliative Nurses	Patient care & referral	DOCTOR
Quarantine & Isolation Team	DISTRICT staff, Volunteers	Facility management	JHI
Psychosocial support	District Mental Health Team School Counsellors Adolescent Health Counsellors	Assess psychosocial needs of the affected Provide psychosocial support and referral services as required	District Mental Health Programme Nodal Officer- Malappuram

		Documentation and reporting	
Logistics & supply chain Team	DISTRICT staff, Storekeepers, Drivers 3	Supplies & transport [PPE, medicines, oxygen, transport, waste management]	Ward Member
Communication Team	Ward members, Kudumbashree, Youth clubs, AWW workers and other self help groups	IEC, community meetings, countering misinformation	M.O in charge
Transportation	KSRTC, educational institutional buses		
Media Surveillance	District Educational & Mass Media Officer (DEMO) Deputy DEMO Junior Consultant (Documentation & Communication)	Monitor information and message via social media or any other communication platform Report misinformations and take remedial measures Create awareness among the stakeholders Documentation and reporting	District Educational & Mass Media Officer (DEMO)

Intersectoral coordination and convergence			
Collaborative surveillance			

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:
 - o Notify/strengthen a District Public Health Emergency & Pandemic Task Force under DDMA, integrating health, revenue, LSG, police, animal husbandry, ICDS, education and transport.
 - o Define incident management: trigger points, activation of HEOC/control room, reporting lines, decision-making authority, and linkages to state IRT/HEOC.
- Panchayat/ULB level:
 - o 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.
 - o 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:

An enhanced syndromic surveillance system shall be implemented across all health facilities to enable early detection of unusual health events. Surveillance will focus on clustering of symptoms such as fever, respiratory illness, gastrointestinal symptoms, and other epidemic-prone conditions. Regular reporting from field-level workers (JHIs, JPHNs, ASHAs) will be ensured for early identification of outbreaks at the community level.

- **Data sources for surveillance:**

Surveillance data shall be collected and consolidated from multiple sources, including:

- Government and private health institutions (OP/IP registers)
- Laboratory reports (public and private labs)
- Field-level reporting by ASHA workers and health inspectors
- School and workplace absenteeism records
- Pharmacies (unusual drug sales trends)
- Integrated Disease Surveillance Programme (IDSP) portals

- **Event-based triggers (to be monitored and reported):**

Specific triggers shall be identified for immediate reporting and action, including:

- Sudden increase in fever or respiratory illness cases
- Clusters of unusual or severe illness in a locality
- Unexpected deaths or high case fatality rates
- Outbreaks in closed settings (schools, hostels, institutions)
- Reports of unknown or emerging diseases
- Any public health event of concern reported through media or community

- **Zoonotic and animal health surveillance**

A One Health approach shall be adopted by strengthening coordination between the Health Department and Animal Husbandry Department. Surveillance of zoonotic diseases will include monitoring of livestock and poultry health, unusual animal deaths, and diseases with potential human transmission. Regular information sharing between departments will be ensured for early warning and joint response

- Logistics and Stock Preparedness

Adequate stockpiling and supply chain management systems shall be established to ensure uninterrupted availability of essential materials, including:

- Personal Protective Equipment (PPE)
- Essential medicines and emergency drugs
- Testing kits and laboratory consumables
- Disinfection and sanitation supplies

Buffer stock shall be maintained at district and block levels, with periodic review of stock status. Systems for rapid procurement, distribution, and replenishment shall be strengthened to avoid shortages during emergencies.

- 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.)

Total schools, colleges, auditoriums, religious buildings and community halls in the district are identified and their total surge capacity has been estimated.

- 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.)

Total bed capacity of all categories of health facilities in the government sector and private sector has been identified.

- Find an alternate site if the primary sites are not available or not in use.

If the schools and colleges identified for this purpose are not available, nearby community halls or religious buildings can be used. In Malappuram district, religious buildings are available in plenty which can be arranged as quarantine facilities.

- 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 early 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

1. 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)

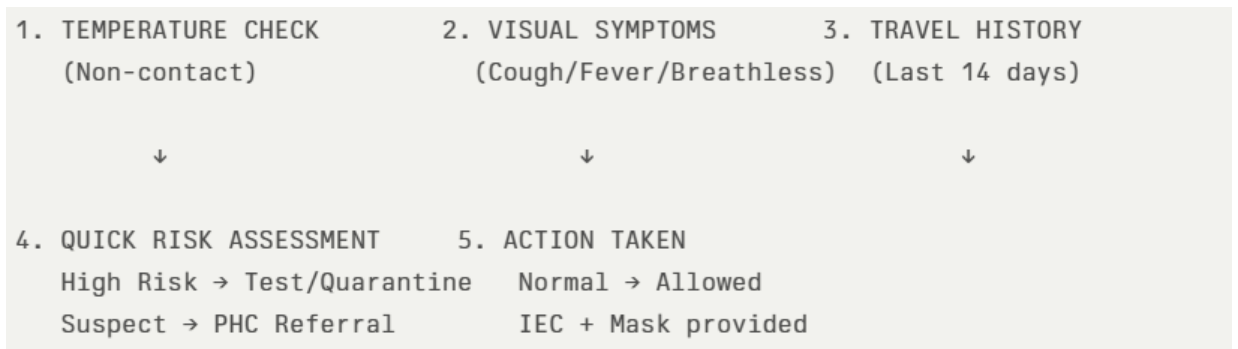
2. SCREENING CHECKPOINTS

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/Rail way)	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) 3.Thermal Scanners	Surveillance Nodal Officer in control room

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.

3. 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: IDSP Training hall, Civil station

Backup Location: Collectorate, Civil station, Malappuram

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

Handles collection, validation, analysis, and interpretation of data to support evidence-based decision-making and daily situation reporting

Human Resource Deployment Team

Manages allocation, mobilization, and rotation of healthcare personnel to ensure adequate staffing across facilities

Laboratory Surveillance Team

Coordinates all laboratory-related activities including sample collection, testing, reporting, and quality assurance. It ensures timely diagnosis and supports surveillance by integrating lab data into the reporting system

Vaccination Cell (If Required)

Plans and implements vaccination strategies during pandemics, including beneficiary prioritization, session planning, cold chain maintenance, and monitoring of vaccine coverage and adverse events.

Infrastructure & Patient Occupancy Team

Continuously monitors bed availability, ICU capacity, oxygen supply, and facility readiness across public and private institutions. It ensures appropriate allocation of patients and prevents overburdening of facilities.

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 monitorings

Infection control and training

Private hospital coordination

Welfare committee

Animal surveillance

Wild life 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

Total number of calls till today	No: of calls on the date-- /-- /2020	Total	Case follow up till today	Case reported on --/-- /2020	Total fever

- DISHA Calls

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 audiovisual 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
- **DATE:**

SI N o	Segment	Subject	Place	Number of persons attended
	Govt sector			
	Doctors			
	Paramedical staff			
	Attendants			
	Private sector			
	Doctors			

	Paramedical Staff			
	Attendants			
	Others			
	ASHA			
	Line departments staff			
	LSGD representatives			
	Kudumbashree			
	Anganwadi Teachers			
	Ambulance Drivers			

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.

• **DATE :**

INSTITUTION:

Sl No	Items	Opening stock	Distributio n	Balance
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- 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

• **DATE**

INSTITUTION

S I N O		Describe and give data
	Whether isolation ward identified and all required things are set up	
	Whether the specific teams have been identified and trained Number of Doctors Number of Paramedical staff Number of Attendants	
	Whether stand by team identified and trained Number of Doctors Number of Paramedical Staff Number of Attendants	

	Duty roster prepared	
	Whether all inventory is ensured	
	Number of beds	
	Number of Patients admitted and their details	
	Infection control measures taken Details	
	Bio medical waste disposal mechanism from Isolation ward	
	Institution requirements details	

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 general 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
- Reporting format of cyber space monitoring

Sl no :	Description	Details
1	Whether any misinformation noticed	
2	Misinformation noticed Give details in brief	
3	Whether reported to take action and case booked	
4	Cases booked today	
5	Total cases Booked till today	

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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

•

- **DATE**

Sl No	Description	Number	Results received	Positive

1	<p>Total Sample Collected</p> <p>Blood</p> <p>Urine</p> <p>Throat Swab</p>			
2	<p>Samples sent to Alpy NIV</p> <p>Blood</p> <p>Urine</p> <p>Throat swab</p>			
3	<p>Samples sent to Manipal Laboratory</p> <p>Blood</p> <p>Urine</p> <p>Throat swab</p> <p>CSF</p>			
4	<p>Samples sent to NIV Pune</p> <p>Blood</p> <p>Urine</p> <p>Throat Swab</p> <p>CSF</p>			

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

Press note	
Press brief	
Social media dissemination content	

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
- Reporting format

	Cumulative
Number of persons visited private hospitals	
Suspected cases/contacts identified from Jan 15 2020 onwards	

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.
-

Sl no		Details
-------	--	---------

1	Expert / Expert Group Institution Govt or private	
2	Names:	
3	Activities undertaken	

-

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.

Sl no	Vehicle number	Driver	From	To	Post trip sanitization

-

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

SI No	Description	Details
1	Number of Contacts under Home Quarantine	
2	Number of Kits prepared and provided to Homes where contact is quarantine	
3	Kits stock	
4	Kits distribution	
5	Kits balance	

-

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	Team Leader	Members
	Over all 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 Pophint (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.

4. 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	Responsible Person	Contact
LSG-level announcements	Secretary / LSG Office	
Social media	Social Media Coordinator	
Local Cable TV/Radio	Public Relations Officer	

- 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 behavior 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.

5. 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	Frequency	Nodal Person
Block PHC	Complete Situation Report (Cases, Quarantine, Beds, Screening, Deaths)	Daily (by 4 PM)	Health Inspector / JHI
District IDSP Unit	Outbreaks / Clusters / Unusual Events (>5 cases in same ward)	Immediate (within 24 hrs)	Medical Officer / Surveillance Officer
Veterinary Officer	Animal health events / Zoonotic alerts	As and when detected (Immediate)	Livestock Inspector / Veterinary Assistant
State Cell	Zoonotic cross-sector events	Immediate + Daily follow-up	District Surveillance Officer (DSO)

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)	Contact
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PPE Kits/Masks/Gloves	KMSCL	Ms. Jima -
PPE Kits/Masks/Gloves	Local Vendors	
Oxygen Cylinders/Concentrators	KMSCL	Ms.Rekha -
Medicines/Antivirals	KMSCL	Ms.Rekha -
Medicines/Antivirals	Neethi Shops	
Test Kits (RTPCR/Rapid)	KMSCL	Ms. Jima -

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.

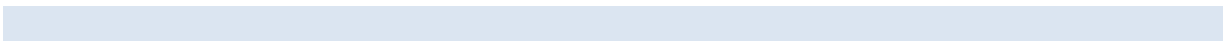
Organization	Type	Support Offered	Contact Person
Youth Clubs/Student Unions	CBO		

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	Contact
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.

RECOVERY AND REHABILITATION PHASE

- **Restoration of Health Services**

Essential health services shall be restored in a phased manner, ensuring continuity of care for all populations. Priority will be given to maternal and child health services, immunization programs, management of communicable and non-communicable diseases, and emergency care services.

- **Rehabilitation of Affected Population**

Targeted measures shall be implemented to support affected individuals and vulnerable populations. This includes access to healthcare, nutritional support, and linkage with social welfare schemes through coordination with Local Self Government Institutions.

- **Psychosocial and Mental Health Support**

Psychological support services shall be strengthened through counseling, community outreach, and referral systems. Special attention shall be given to frontline workers, affected families, and high-risk groups.

- **Disease Surveillance During Recovery Phase**

Surveillance activities shall continue to monitor for resurgence or emergence of new health threats. Strengthened reporting systems and regular data analysis will ensure early detection and response.

- **Environmental Cleanup and Sanitation**

Sanitation and environmental health activities shall be intensified in affected areas to prevent secondary outbreaks and improve overall public health conditions.

- **Livelihood Restoration**

Efforts shall be made to restore livelihoods through convergence with government schemes and support from Local Self Governments, focusing on economically affected populations.

- **Community Engagement and Confidence Building**

Community participation shall be encouraged through awareness programs and transparent communication to rebuild trust and promote utilization of health services.

- **Documentation and After-Action Review**

All recovery activities shall be documented systematically. After-action reviews shall be conducted at block and district levels to identify gaps, best practices, and areas for improvement.

- **Lessons Learned and Best Practices**

Key lessons learned during the pandemic response shall be compiled and integrated into future planning. Successful strategies and innovations shall be documented as best practices for replication.

- **Health System Strengthening**

Based on identified gaps, strategic efforts shall be undertaken to strengthen the health system, including infrastructure development, capacity building of healthcare personnel, improved supply chain management, and enhanced surveillance systems

Policy Revision and Preparedness Enhancement

Based on the lessons learned and after-action reviews, existing policies, guidelines, and standard operating procedures shall be reviewed and updated. Emphasis shall be given to strengthening preparedness plans, improving coordination mechanisms, and ensuring alignment with evolving national and state-level frameworks.

Research

Operational and public health research shall be encouraged to generate evidence on pandemic response, disease patterns, effectiveness of interventions, and community behavior. Collaboration with academic institutions and research bodies shall be promoted to support data-driven decision-making and innovation in public health preparedness.

Health System Strengthening

Strategic measures shall be undertaken to strengthen health systems, including infrastructure development, capacity building, improved logistics and supply chain systems, and enhanced surveillance mechanisms.

CONCLUSION

The Pandemic Preparedness Plan for Malappuram District provides a structured and forward-looking framework to strengthen the district's capacity to prevent, detect, respond to, and recover from public health emergencies. By institutionalizing a coordinated, multi-sectoral approach involving the health system, Local Self Government Institutions, and allied departments, the plan ensures timely surveillance, early warning, rapid response, and effective containment of potential outbreaks.

Built on the principles of equity, resilience, and evidence-based decision-making, the plan prioritizes the protection of vulnerable populations and the uninterrupted delivery of essential health services during crises. It emphasizes the development of robust surveillance mechanisms, a skilled and well-trained workforce, and reliable logistics and communication systems to support coordinated action at all levels.

Through continuous capacity building, regular simulation exercises, and strengthened field-level implementation mechanisms, the plan enhances overall system readiness. The systematic integration of lessons learned and best practices will guide periodic revisions and adaptive strategies, enabling Malappuram District to effectively respond to evolving public health threats and safeguard the health security of its population.

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 Malappuram for emergency referral and transport.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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

Tsunami Mock Drill

A tsunami preparedness mock drill was conducted on 8 January 2025 at Veliyancode Gram Panchayat (Ward 17) by the Kerala Disaster Management Authority. The medical team established a triage base camp and managed 11 patients using standard protocols, with 7 referred to Medicity Hospital, 2 given supportive care, and 2 declared dead.

The drill showed good coordination and effective response but identified gaps in patient transport, death management, and tracking (one patient unaccounted).

Conclusion: Strengthening logistics, documentation, and communication systems is essential for improved disaster response.

Air Crash Mock Drill

An air crash mock drill was conducted in Kondotty near Calicut International Airport to assess preparedness for aviation-related disasters. The drill was organized with the

coordination of the Health Department, Airport Authority, Fire and Rescue Services, Police, and other emergency response agencies.

The exercise simulated an aircraft crash scenario with multiple casualties. Emergency teams established a triage area, carried out rescue operations, and ensured rapid evacuation of victims to nearby healthcare facilities. Patients were categorized based on severity and managed according to standard emergency protocols.

The drill demonstrated effective interdepartmental coordination, timely response, and efficient casualty management. However, minor gaps were observed in communication flow and patient transportation logistics.

Conclusion: Strengthening coordination, communication systems, and emergency transport mechanisms will further enhance preparedness for aviation disasters in the district

Fire Emergency Mock Drill

Fire emergency mock drills are conducted in all institutions at six-month intervals to ensure preparedness for fire-related incidents. These drills involve activation of fire alarms, safe evacuation of occupants, use of fire extinguishers, and coordination with Fire and Rescue Services.

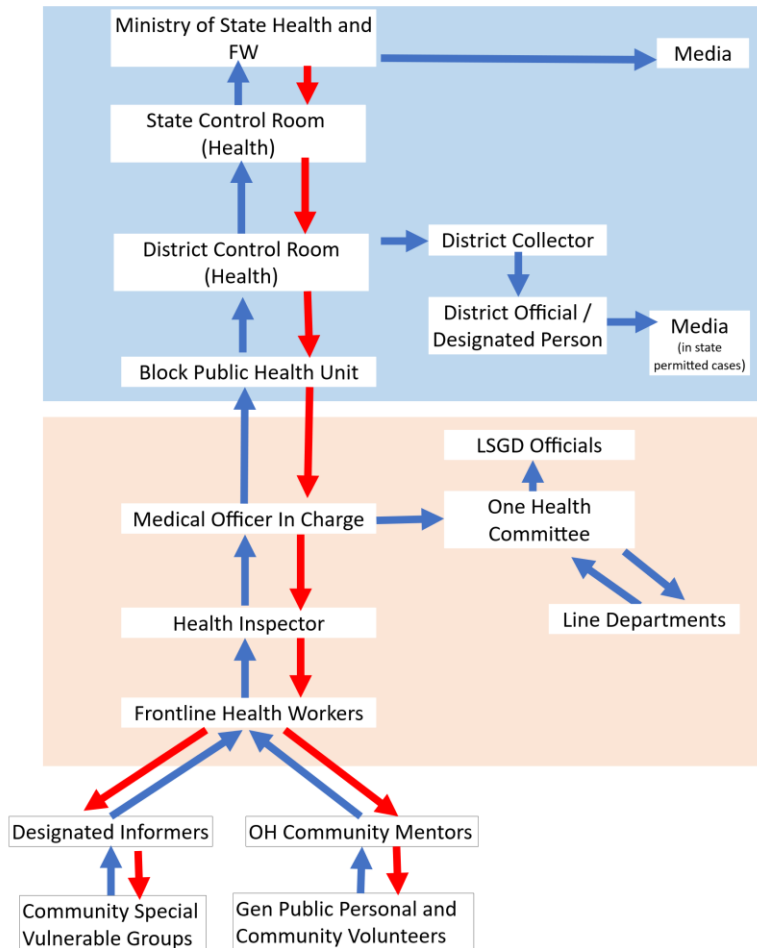
The exercise helps staff and stakeholders understand their roles during emergencies, improves response time, and ensures adherence to safety protocols. Regular drills also assist in identifying gaps in evacuation procedures, equipment readiness, and communication systems.

Conclusion: Periodic fire mock drills strengthen institutional readiness, enhance safety awareness, and ensure an effective and coordinated response during real fire emergencies.

COMMUNICATION

COMMUNICATION PLAN FLOW CHART

LSGD >>>> INSTITUTION >>>>>>



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 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 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)

	Jan-Mar	Apr-Jun	Jul-Sept	Oct-Dec
Climate events	Cool	Hot	Rainy, Flood	Cold
Disease events	ILI	HRI, Hep A	Avian, Deng	
Training for HCWs				
Training for Public				
Budgeting				
Monitoring & E				

- 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. OTHER IMPORTANT PHONE NUMBERS OF GRAMA PANCHAYAT/MUNICIPALITY/CORPORATION AREA

Sl. No.	Name	Contact number
1.	Indian Army	04712352373
2.	Electrical Division ,Manjeri	0483-2766174
3.	District Educational Officer, Tirur.	0494-2732302
4.	Indian Air Force/	04712551361
5.	CRPF(DIG Control Room)	04712756638
6.	Rapid Action Force	04832783397
7.	Excise department	0483 - 2735431
8.	Forest department	04931-220392

2. IMPORTANT OFFICES OF GRAMA PANCHAYAT/MUNICIPALITY/ CORPORATION

Sl.No	Name of the office	Contact person	Contact number
1.	Village Office	Village Officer	085476 10009
2.	Agriculture Office	Agriculture Officer	0483 273 1329
3.	Animal Husbandry Office	Animal Husbandry Doctor	04832734815
4.	Police Station	Police Officer	04832734966
5.	BSNL Office	Officer	0483 273 1910
6.	Block Office	Officer	04832712084
7.	KSEB Office	Officer	0483-2734913
8.	Fisheries Office	Officer	0494-2666428
9.	Fire and Rescue	Officer	0483 273 4800

ANNEXURE 2: 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)	42604	Statistics dpt DMO
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 (Value / Description)	Data /	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 (Value / Description)	Data /	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)	Yes		
8	Bio-medical waste disposal mechanism (Yes/No)			
9	No. of public toilets			
10	Handwashing stations in public places (Yes/No)			

G. ZOO NOTIC 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)		
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H. CLIMATE & DISASTER RISKS (PANDEMIC AMPLIFIERS)

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