



IDUKKI



Centre for One Health - Kerala  
Thycaud, Thiruvananthapuram- 14

January 2026



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Health and Family Welfare Department  
Government of Kerala

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# **ONE HEALTH@IDUKKI**

**Health and Family Welfare Department  
Government of Kerala**

**KERALA.HEALTH**





## **Smt. Veena George**

Minister for Health &  
Family Welfare  
and Woman & Child Welfare  
Development  
Government of Kerala

### **Message**

Kerala's public health achievement is built on a strong foundation of prevention, equity, scientific learning and intersectoral collaboration. Now it is increasingly evident that the health of humans are deeply interconnected with the animal health and the environment. The *One Health* approach provides a comprehensive framework to address these shared challenges. One Health activities at the district level translates these principles into locally relevant, mutually inclusive, and actionable strategies. The preparation of this *District One Health* document is a commendable initiative. This document showcases the coordinated surveillance, early warning systems, joint risk assessment, information sharing and integrated response mechanisms involving the health, animal husbandry, environment, agriculture, local self-government and allied departments in the district.

I congratulate the dedicated efforts of all the departments, professionals, academic institutions and partners who have contributed to the successful implementation of One Health activities in the district. Appreciation is due for those who worked to develop this document which will serve as a practical guide for administrators, planners and field-level functionaries.

Together, let us strengthen the One Health approach to protect the health of our people, animals and environment, and to build a safer, more resilient Kerala.

A handwritten signature in blue ink that reads "Veena George".

**Veena George**





## Foreword

During COVID pandemic the challenge was accepted and ONE HEALTH program was launched in the four districts of Pamba river basin under Rebuild Kerala Initiative assisted by the World Bank. There were series of actions taken at the State and district level to develop the structures and processes to take up the actions.

The District One Health Document represents a significant step towards our collective commitment to safeguarding the health of people, animals, and the environment. The One Health approach recognizes that these are deeply interconnected, and that sustainable solutions to today's health challenges can only be achieved through collaboration across sectors.

This document showcases our district's journey towards the preparedness, response, and innovations against emerging health threats. It emphasizes the importance of integrated surveillance, coordinated action, and community engagement in addressing zoonotic diseases, environmental hazards, and public health concerns. By strengthening the partnerships among health professionals, veterinarians, environmental experts, and local communities, we aim to build a robust system that protects and promotes well-being for all.

This document further reiterates that the health of humans, animals, and the environment is inseparable, and our future depends on it. We appreciate all stakeholders and contributors who made One Health in the district a reality to safeguard the health of the people, animals and environment.

We acknowledge the dedication of the stakeholders whose contribution, expertise and commitment have ensured that this document is both practical and visionary, offering a roadmap for healthier lives and a safer environment.

The state has already taken a decision to scale up the ONE HEALTH program in all the districts of the State. This document will be handy for the district to go through series of activities and build the capacities in the district. It will act as a tool to achieve the same level of capacity in shorter time period. Through such collective actions the outbreak, epidemic or pandemic, forecasting as well as control and mitigation will be scientific and effective. I look forward to whole hearted cooperation and coordinated efforts of all the functionaries of all the Departments to safeguard human and animal health as well as environment.

### **Dr Rajan Khobragade IAS**

Additional Chief Secretary  
Health & Family Welfare and  
AYUSH Department  
Govt of Kerala.



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## **CHAPTER 1**

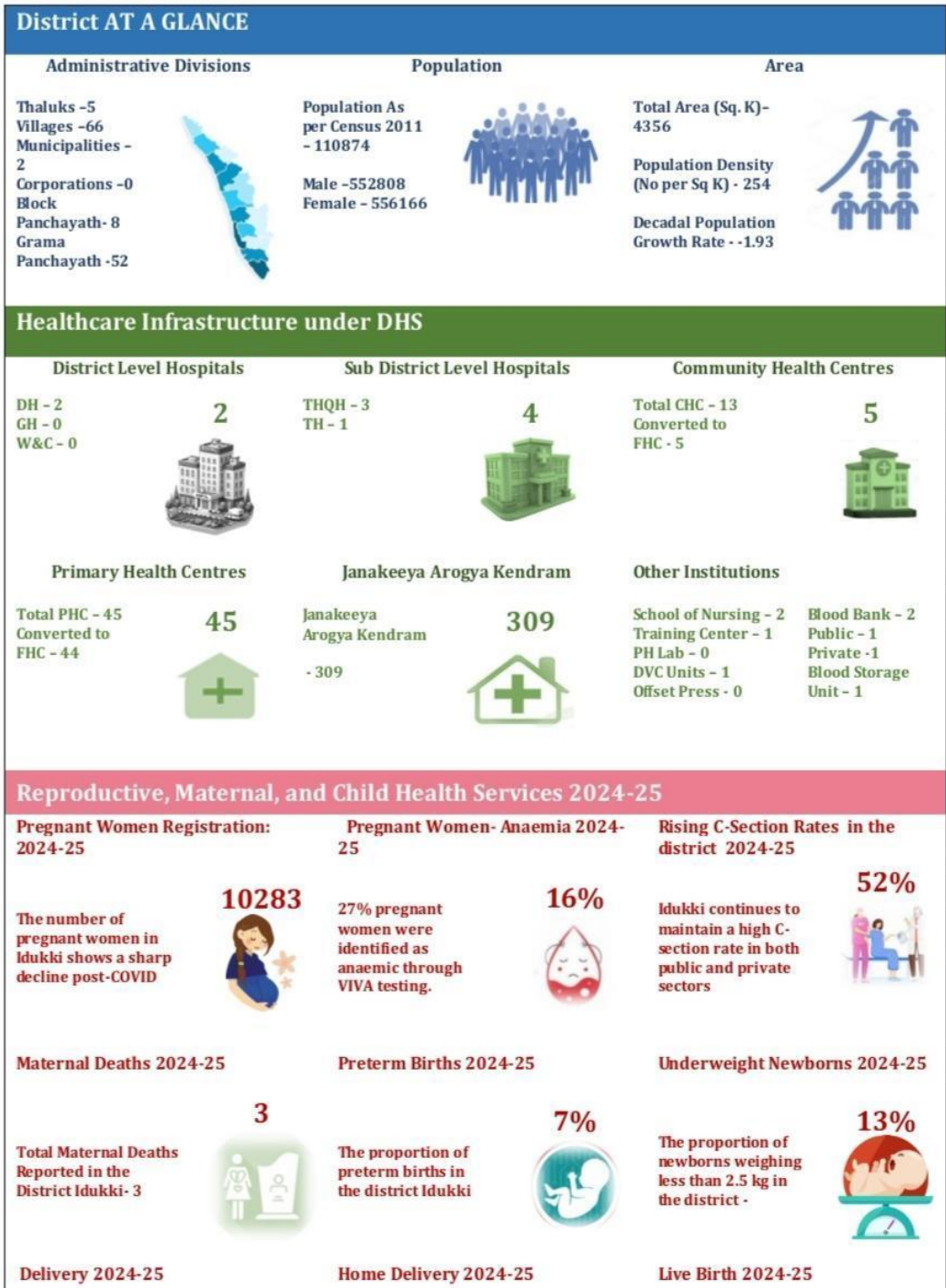
### **BACKGROUND**

The One Health approach, with its multidisciplinary focus, underscores the importance of integrating human, animal, and environmental health systems for a sustainable future. Idukki, the largest district in Kerala located in Central Kerala is a treasure trove of natural beauty including hill stations, waterfalls, dams etc. The name Idukki is derived from the Malayalam word 'Idukk' which means gorge (the gorge between Kuravan and Kurathi hills). The district spans an area of 4479 square kilometres. Rugged mountains and forests cover about 97 percent of the total area of the district. As of the 2011 census, it had a population of 11,07,453. The district has a population density of 254 inhabitants per square kilometre, the least in the state. Geographically, the district is located between 9°15'N and 10°2'N latitude and 76°37'E and 77°25'E longitude, stretching 115 kilometres in north-south direction and 67 kilometres in east-west direction. Its administrative structure comprises two municipalities, 8 revenue blocks, and 52 Grama Panchayats.









Figure 1.1: Map of Idukki

## DISTRICT HEALTH DASHBOARD



<p><b>Institutional Deliver in the district - 7452</b></p> <p><b>Public - 2480</b></p> <p><b>Private - 4972</b></p>		<p><b>Home Delivery Reported in the district - 37</b></p> <p><b>No of Migrant Home Delivery - 15</b></p>		<p><b>Total Live Birth Reported - 7526</b></p> <p><b>Male - 3858</b></p> <p><b>Female - 3668</b></p> <p><b>Sex Ratio at Birth - 951</b></p>	
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CHILD IMMUNIZATION 2024-25					
<p><b>% Birth Dose</b></p> <p>Hep B0 - 99</p> <p>OPV 0 - 99</p> <p>BCG - 99</p>		<p><b>6 Weeks Vaccines Coverage (%)</b></p> <p>OPV1 - 99</p> <p>Penta 1 - 99</p> <p>Rota 1 - 99</p> <p>PCV1 - 99</p> <p>IPV 1 - 99</p>		<p><b>10 Weeks Vaccines Coverage (%)</b></p> <p>OPV2 - 99</p> <p>Penta 2 - 99</p> <p>Rota 2 - 99</p>	
<p><b>% 14 Week Vaccines</b></p> <p>OPV3 - 99</p> <p>Penta 3-99</p> <p>Rota 3 -99</p> <p>IPV 2 - 99</p> <p>PCV2- 98</p>		<p><b>% Children Fully Immunized</b></p> <p>MR1 - 99</p> <p>FULLY IMMUNIZED - 98 (children aged between 9 and &lt;12 months)</p>		<p><b>MR 2 Coverage (%)</b></p> <p>MR2 - 98</p>	

Communicable diseases reported in the District 2024					
<p><b>Cases Reported</b></p> <p>Dengue- 655</p> <p>Malaria- 200</p> <p>Chikungunya- 0</p> <p>West Nile-0</p> <p>Zika- 0</p> <p>JE- 0</p>	<p><b>3</b></p> <p>Dengue Death</p> 	<p><b>Cases Reported</b></p> <p>Kala Azar-0</p> <p>Scrub Typhus -18</p> <p>Leptospirosis-55</p>	<p><b>4</b></p> <p>Leptospirosis Death</p> 	<p><b>Cases Reported</b></p> <p>Cholera - 0</p> <p>Typhoid- 5</p> <p>Acute Diarrheal Disease -9148</p>	<p><b>0</b></p> <p>ADD Death</p> 

Communicable diseases reported in the District 2024					
<p><b>Chicken Pox Cases- 531</b></p> <p><b>MPox Cases-0</b></p>	<p><b>0</b></p> <p>Chicken Pox Death</p> 	<p><b>Rabies Cases Reported- 1</b></p> <p><b>Shigella cases-0</b></p> <p><b>Amoebic Meningo Encephalitis - 0</b></p>	<p><b>1</b></p> <p>Rabies Death</p> 	<p><b>Cases Reported</b></p> <p>Hepatitis A -105</p> <p>Hepatitis B-22</p> <p>Hepatitis C-5</p> <p>Hepatitis E - 0</p>	<p><b>3</b></p> <p>Hepatitis A Death</p> 

According to the reports of the Integrated Tribal Development Programme (ITDP), nine major tribal groups are found here. The largest tribes are the Mala Arayan, Muthuvan, Mannan, Urali, Ulladan, Paliyan and Mala Pulayan. Mala Vedan and Mala Pandaram are also found in Idukki, but their population is much smaller than that of the other groups. Edamalakkudy, the first tribal panchayath in Kerala is located in the Devikulam taluk of Idukki district, comprising Muthuvan tribal community. These tribal communities with their unique customs and practices live in the remote villages known as unnathis (hamlets) with limited access to basic health necessities. The various factors attributed to poor tribal health outcomes are habitat, difficult terrain, ecologically variable niches, illiteracy, poverty, isolation, superstition and deforestation. A multidisciplinary approach is required to address the health of tribal population including the right to their traditional medicines and maintain their health practices.

The district's geographical diversity forms a high-altitude plateau with rugged mountainous terrain, several river valleys and deep gorges with a vast forest cover, limited drinking water sources present significant public health and environmental challenges. Agriculture is the most important segment of economy and is still the largest source of employment in the district. Cardamom, Tea, Rubber and Coffee account for more than 50% of the total cropped area and Pepper occupy about 25%. Animal husbandry activities are the major subsidiary occupations of the farming community. Extensive pasture, grazing lands and the favourable climate make the district suitable for rearing. Livestock wealth has great significance in the agricultural economy of the district. Increased use of chemical fertilizers and pesticides in agriculture, rampant use of pesticides in plantations, inappropriate use of antibiotics in Animal Husbandry and Poultry and emergence of zoonotic diseases pose serious public health threats. The agricultural pesticides, insecticides, fertilizers and fungicides are very toxic and are released into the soil, rivers, lakes, and seas. These cause health issues in aquatic organisms and humans. These substances are taken up by the organisms through the food they consume and accumulated in the food chain through a process called '*biomagnification*'.

Antimicrobial Resistance (AMR) is a serious global public health threat in this century. Major drivers of AMR include inappropriate use of antimicrobials in healthcare as well as in

animal husbandry, especially those used for non-therapeutic purpose like growth promotion and in agriculture and fisheries. Collaborative and comprehensive action needs to be taken to reduce the prevalence and spread of antimicrobial resistance. The KARSAP has been developed involving multiple sectors and it addresses a wide range of activities required to tackle AMR problem effectively. Combating AMR requires an integrated overarching "One Health" approach with commitment and complementary efforts from all related sectors including health professionals which include doctors, nurses, microbiologists, pharmacologists, researchers, veterinarians, farmers, those involved in fisheries and all other related stakeholders. Educational campaigns and awareness of AMR should also be addressed to all levels of society.

Idukki district has the maximum forest cover of 3930 square kilometres, spread across the Kottayam, Kothamangalam, Mankulam, Idukki, Munnar, Eravikulam and Thekkady ranges, further contributes to its ecological richness. Due to its particular geography, the district is highly vulnerable to floods and drought and is considered as a *climate change* hotspot. The district has recently witnessed major landslides and is attributed to the change in rainfall pattern and deforestation coupled with large scale construction. There has been an increasing human-wild animal conflict in the district due to the changed cropping patterns, modification of the forest environment, and human incursions into traditional migration paths of wild animals result in crop-raiding and aggressive behaviour.

Idukki has been blessed with numerous natural wonders. The high valleys and hill ranges of this landlocked region are fed by three major rivers Periyar, Thalayar and Thodupuzhayar and their tributaries. The gigantic arch dam attracts numerous visitors seeking its mesmerising view. Blessed with a wide range of trekking trail, each of them offers a spectacular view of the valley below and ranges above of Idukki. The main tourist attractions in the district are Idukki Arch Dam, Eravikulam National Park, Anamudi Peak, Mattupetty, Pallivasal, Chinnakkanal and Anayirangal, Munnar top station, tea museum. The place is also renowned for its exotic flora and fauna and one can come across many rare species while visiting Idukki. Due to this there is a high influx of tourists into the district both domestic and international, especially in the December- January months. Even though tourism has improved the local economy it has some negative impacts as well

which include increased spread of infectious diseases- mainly water borne and airborne, stress on local health care system due to increased demand and environmental pollution and degradation.

In recent years, Idukki has experienced a growing disease burden, emphasizing the need for resilient health systems. In 2024, the district reported over 2329 cases of Dengue fever, 200 cases of Malaria and 22 Scrub Typhus cases necessitating enhanced vector control measures. There has been a surge in the malaria cases attributed to the influx of migrant workers in the plantations. Migrants often bring disease prevalent in their home states potentially leading to outbreaks in Kerala (eg: Malaria). Lack of proper documents, language barriers, poor health literacy and lack of awareness about available health services results in delayed treatment, self-medication and increased vulnerability to communicable diseases. Dedicated migrant screening camps and awareness campaigns are being carried out but that won't suffice. A coordinated approach from Health, Labor and Home departments is required where a proper registration, screening at entry point, frequent health checkup and robust tracking system for the migrants shall be devised.

One Health initiative in Idukki seeks to address these complex issues through intersectoral co-ordination and collaboration and innovative interventions. The district's action plan aims to achieve the year wise target of DLI-6 with emphasizes vector borne, water borne and zoonotic disease control, health of migrant population, antimicrobial resistance (AMR) management and pandemic preparedness. Targeted capacity building, community-based surveillance, and interdepartmental coordination are integral to building a sustainable and resilient health ecosystem. By engaging Local Self-Government Institutions (LSGIs), community volunteers, and other stakeholders, the initiative ensures grassroots participation in achieving One Health goals. This One Health approach reflects the district's commitment to safeguarding its population and environment while setting a benchmark for effective governance and public health interventions.

### **Guideline for officials responsible and supporting officials**

One Health programme is one of the priority programmes of Government of Kerala, planned and implemented at multiple levels in collaboration with various departments.

Department of Health and Family Welfare is the nodal department responsible for overall coordination of operationalization of One Health Programme in the state. The overall governance responsibility of one health programme at district level is vested with One Health Committees chaired by the concerned district collectors. Overall programme management coordination is entrusted with District health authorities and planning and implementation shall be in collaboration with various associated departments.

Each district has One Health Nodal Officer representing health department is entrusted with the responsibility of overall coordination and day to day management of one health programmes in the district. In addition, each collaborating department also has an in-house nodal officer at district level. Since Health Department Nodal Officer is the chief coordinating person for one health programme planning and implementation, the other department's nodal officers also have to provide need-based support in one health programme operationalization. A timely support plan shall be developed in the presence of District Collector in the One Health Committee and circulated to all the associating departments. This support includes domain specific technical support and also management support to field level activities.

The One Health Nodal Officer will be reporting to DMO and closely work with DSO. The DMO and or DSO office shall provide necessary support to implementation of one health programme in the district - this includes administrative, infrastructure and technical support. One Health Nodal officer plans each programme in consultation with DMO and DSO and properly communicate with other department's nodal officers and seek their collaboration in planning and implementation.

The nodal officer shall make use of the district/PRI (LSG) level mentors in a resourceful manner based on the need for the operationalization of one health programme both at district and PRI (LSG) levels. The key stakeholders of the one health programme are Local Self Government Department (LSGD) and its Institutions. The One Health Nodal Officer has to closely associate with PRI (LSG) in planning and implementation of one health programmes at district and PRI (LSG) levels. A detailed coordination plan shall be developed in consultation with the PRI (LSG) and incorporate into the operational plan of district one health programme.

## CHAPTER 2

### INTRODUCTION TO ONE HEALTH INITIATIVE

#### **“One Health” — for Idukki**

The One Health Programme recognises that human health, animal health and environmental health are deeply interconnected — many diseases (especially zoonoses, vector-borne diseases, water/foodborne illnesses, emerging infections, antimicrobial resistance) arise at the interface of humans, animals and environment.

In Idukki — because of the significant human–animal interactions (livestock, domestic animals, wildlife), forested zones and ecological vulnerability — the risk of zoonoses, vector-borne and environmental diseases is elevated. The district therefore adopted a “One Health” model to strengthen preparedness, surveillance and integrated response. The One Health initiative in Idukki is meant to build resilience of human, animal, and environmental health — particularly important given Idukki’s ecology and risk factors.

#### **Planning & Institutional Structure for One Health in Idukki**

When the state launched the programme, the planning included a multi-tier institutional design, and Idukki was selected for early roll-out. Key elements of planning and structure:

- **State-level leadership & nodal agency:** The Department of Health & Family Welfare (H&FW) is the nodal department. COH-K serves as the hub for overall coordination, planning, technical guidance, policy development, knowledge management, capacity building, monitoring & evaluation.
- **District-level implementation through District Programme Support Units (DPSUs):** For Idukki, a DPSU is set up to manage local-level planning, execution, coordination across departments (human health, animal health, environment, local governments, sanitation, etc.), community mobilisation, surveillance, reporting and response.



Figure 2.1: District One Health Committee



Figure 2.2: Meeting with DMO, DSO and Mentors



Figure 2.3: Training of Master Trainers for One Health at District

- **Local Self-Government (LSG) / Grass-roots level committees:** At the gram-panchayat / municipality / ward level, there are One Health Committees appointed/structured to bring together elected local body representatives, frontline health workers, veterinary / animal husbandry staff, sanitation / environment / water-sanitation / waste management, and community representatives. These units are responsible for community-based surveillance,

reporting unusual events (human illness clusters, animal sickness/deaths, environmental hazards), acting on alerts, community awareness, and early response coordination.

- **Multi-sectoral collaboration:** The programme design emphasizes coordination across human health, veterinary/animal health, environment, sanitation, water supply, waste management, local governance, and allied sectors — with formal mechanisms to coordinate, share data, mobilise resources and respond jointly.
- **Functional components / functional areas:** Under COH-K the programme is organised into functional themes like Surveillance Management (human-animal-environment surveillance), Capacity Building, Knowledge Management & Learning, Programme Management, Lab Strengthening, Community-based Surveillance (CBS), IT-based monitoring, IEC / BCC (behaviour change communication), research & documentation, emergency response and compliance.

### **Launch & Early Activities of One Health in Idukki**

Because Idukki was among the first four “Pamba-basin” districts selected for One Health rollout, the initial launch and early activities included:

- The formal launch of the One Health Programme in Kerala by state leadership on **17 May 2022**. Under this launch, Idukki — along with three other districts — was included as pilot district for early deployment.
- Setting up of district-level One Health coordination platform (District Programme Support Unit - DPSU) for Idukki to handle local implementation, coordination, surveillance, capacity building, data management.
- Initiation of community-based surveillance planning: local self-governments (panchayats/municipalities) were asked to select community volunteers / mentors to implement CBS. By mid-2023, training for about 250,000 volunteers (across four pilot districts) was in progress — including selection from Idukki.
- Preparatory coordination between departments — health, animal husbandry, environment, local self-governments — to operationalize inter-sector

collaboration, define reporting protocols, create early-warning and response plans.

- By 2023–2024, routine joint disease outbreak investigations and inspections under One Health were being carried out in Idukki.



Figure 2.4: Training for Community Mentors

## **CHAPTER 3**

### **GOVERNANCE AND PROGRAMME MANAGEMENT SYSTEMS**

The One Health governance is deliberately multi-tiered: state, district, and local (LSG) levels — to ensure both top-down policy/oversight and bottom-up community involvement.

#### **State-Level**

The State Programme Management Unit (SPMU), located at Centre for One Health - Kerala (COH-K), which operates under the direct oversight of the Director of Health Services (DHS) - responsible for overall guidance, coordination, strategic direction, resource allocation, policy, monitoring & evaluation.

There are dedicated functional units under COH-K / SPMU: e.g., Surveillance Management Unit (SMU), Capacity Building Unit (CBU), Knowledge Management & Learning, Programme Management, etc. These units manage domain-specific tasks (surveillance, lab/network strengthening, training, data & IT-MIS, IEC, emergency response, etc.).

#### **State-Level One Health Committee** — comprising

- Chairperson - Honourable Minister for Health
- Vice Chairperson - Principal Secretary (Health & Family Welfare)
- Convenor - Director of Health Services
- Members from Heads of relevant departments (Health, Local Self-Government, Animal Husbandry, Agriculture, Forests, Fisheries, Food Safety, etc.), civil-society representatives, etc. This Committee provides strategic leadership, inter-departmental coordination, resource allocation, policy directives, and oversight of state-wide implementation.
- Monitoring & evaluation, data/knowledge management, research, documentation, collaboration (national/international), resource mobilization — all orchestrated via COH-K.

## **District Level**

District Programme Support Unit (DPSU) — the district-level technical & coordination hub for One Health.

### **District-Level One Health Committee**

Chairperson - District Collector

Convenor - District NKKP 2 Nodal Officer Members - District Medical Officer, District Animal Husbandry Officer, District Fisheries Officer, District Forest Officer, District Food safety Officer, District Surveillance Officer, Panchayat/joint-panchayat representatives (Joint Director, Panchayats), and a civil-society representative.

### **Functions of District Level**

- Operational coordination across sectors (human health, animal health, environment/forest, food safety, water/sanitation, local governments) for surveillance, outbreak investigation, lab-sample flow, field response.
- Translation of state-level policies/SOPs/guidelines into district-specific actionable plans.
- Supervision and support to local (LSG) level committees and community-based surveillance.
- Data collection, reporting to state MIS; monitoring indicators; logistics; resource mobilisation; lab-network coordination for sample testing, follow-up.
- Rapid response oversight: coordinating multi-department teams for outbreak investigation & control (under the integrated testing system or outbreak SOPs).

### **Local Self-Government (LSG) Level**

At the base are **LSG-Level One Health Committees** (for each panchayat/ municipality/ ward block), constituting the grassroots.

- Chair: President/Chairman/Mayor of the LSG  
(Panchayat/Municipality/Corporation)

- Convener: Medical Officer (from local PHC/FHC/CHC/TH)
- Members: Secretary of Panchayat/Municipality, Chairperson of Health/Sanitation Standing Committee (or equivalent), frontline functionaries from line departments under that LSG (health, sanitation, water supply, veterinary/outreach, waste management, environment, etc.)

### **Functions at LSG Level**

- Community-based surveillance (CBS): monitoring of unusual human health events (clusters of illness), animal health events (sickness or deaths in livestock/domestic/wild animals), environmental hazards — through volunteers/mentors at ward/hamlet levels.
- First-level detection and reporting to DPSU: volunteers/mentors report events to LSG Committee → LSG Committee conveys to DPSU via District Nodal Officer / District Mentors for follow-up.
- Local risk-communication, IEC/awareness campaigns: public education about vector control, safe animal handling, sanitation, water/food hygiene, zoonosis prevention, waste management.
- Coordination of local-level interventions: joint health-animal-environment actions, vaccination drives (animal/human if applicable), vector control, environmental sanitation, waste management — implemented via LSG machinery.
- Liaison with the district level for outbreak response; support sample collection, reporting, community mobilization, logistical support, community compliance.

Idukki is among the pilot districts for One Health, the governance + management architecture is expected to provide the following advantages / functions:

- **Integration across sectors:** In a district with complex human-animal-environment interactions (wildlife, forest zones, agriculture, livestock, human settlements), the multi-sector One Health Committee at district level brings together health, animal husbandry, forest, agriculture, food safety, water-sanitation, local government etc. This helps ensure that disease risks at all

interfaces are addressed in a coordinated way.

- **Rapid detection & response capacity:** With community-based surveillance at LSG/ward level + a District-level support system + functional labs + standard protocols, suspected outbreaks (zoonotic, vector-borne, water/food borne) can be detected early, investigated, and responded to before they escalate.
- **Local ownership & community engagement:** LSG-level committees and community volunteers enable grassroots involvement — facilitating early reporting, health education, environmental sanitation, animal health surveillance — giving communities active roles rather than passive recipients.
- **Sustainable institutional framework:** Rather than a temporary project, the hierarchical committees + dedicated programme management units aim to institutionalise One Health — embedding the approach into regular public health, animal husbandry, environment, local governance systems in the district.
- **Evidence-based policy and planning:** Through centralized data collection, lab-networking, research documentation, and periodic review by technical committees, Idukki's health-animal-environment interventions can be informed by data — which helps in anticipating emerging threats and planning mitigations.
- **Capacity building and skill development:** Training of field workers, local officials, volunteers and lab-personnel improves local capacity — essential in a district like Idukki with remote/mountainous/forest-edge habitations where health access and early detection are often difficult.

## **CHAPTER 4**

### **INTERSECTORAL COLLABORATION IN ONE HEALTH**

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, plants, and the environment. Intersectoral collaboration is essential because 60% of emerging infectious diseases are zoonotic, and environmental factors increasingly influence disease emergence, food safety, and antimicrobial resistance (AMR). Need for intersectoral collaboration includes rapid detection and response to zoonotic diseases, strengthening surveillance and laboratory networks, ensuring safe food systems and water quality, managing environmental pollutants and waste, addressing AMR through multisectoral stewardship, climate change-related health threats (vector expansion, wildlife contact).

#### **Key Partner Departments**

- i. Department of Health
- ii. Local Self Government Department (LSGD)
- iii. Department of Animal Husbandry / Veterinary Services
- iv. Fisheries Department
- v. Forest & Wildlife Department
- vi. Kerala Water Authority
- vii. Drug Control Department
- viii. Food Safety Department
- ix. AYUSH Department
- x. Agriculture Department
- xi. Pollution Control Board
- xii. Dairy Development Department
- xiii. Irrigation Department

**Table 4.1: Details of Key partner departments**

Department	Office / Officer	Phone Numbers	Email / Address
District Administration	District Collector, Idukki	04862-233101/ 233103, 94470-32252	dcidk@ker.nic.in
Health Department	District Medical Officer, Idukki	04862-233030	dmohik@gmail.com
Animal Husbandry	District Animal Husbandry Office, Thodupuzha	04862-222894	cruidki.ahd@kerala.gov.in
Forest & Wildlife	DFO, Idukki	04869-232010	idukki@forest.kerala.gov.in
Local Self Government	Deputy Director of Panchayat, Idukki	04862-222846, 94960-45010	ddpidukki@gmail.com
Police Department	District Police Chief (SP), Idukki	94979-96981	spidk.pol@kerala.gov.in
Disaster Management / EOC	District Emergency Operation Center	04862-233111, 93834-63036	dcidk@ker.nic.in
Agriculture Department	Principal Agricultural Officer, Idukki	93834-70820	paoidukki@gmail.com
Pollution Control	KSPCB District	0486-2221590	kspsbidukki@yahoo.c

Department	Office / Officer	Phone Numbers	Email / Address
Board			om
Drug Control Department	Office of the Drug Inspector, Kattappana	04868252191	diidk.drugs@kerala.gov.in
Irrigation Department	EE, Minor Irrigation dept.	04868272996	miidukki@gmail.com
Food safety Department	Food safety office, Collectorate	7593873302	fsoidukki@gmail.com
Dairy development Department	Office of Deputy director	9496795643	ddidk.dairy@kerala.gov.in
Water Authority	KWA, Thodupuzha	04862222812	sephcidk@gmail.com

## Coordination mechanisms and functionality

### 1. District One Health Committee

Chairperson: District Collector / District Magistrate

Convener: District Medical Officer (Health)

Members: Heads of partner departments

Functions:

- Overall policy direction and leadership
- Approval of district One Health action plans
- Inter-sectoral issue resolution
- Review of outbreaks, AMR trends, and environmental risks
- Functionality:

- Quarterly meetings or emergency meetings during outbreaks
- Decisions recorded and circulated as minutes
- Action points assigned with timelines



Figure 4.1: District One Health Committee, 6/11/2025 At Collector's Chamber

## **2. Technical Working Groups (TWGs)**

Formed based on thematic priorities:

- Zoonotic Diseases & Outbreak Response
- AMR Surveillance
- Environmental & Water Safety
- Human-Animal Conflict & Vector Control

Lead Departments: Based on theme (Health / Animal Husbandry / Forest)

Functionality:

- Joint risk assessments
- Development of SOPs and advisories
- Data interpretation and technical recommendations

### **3. Joint Surveillance and Information Sharing Mechanism**

Components:

- IDSP (Human health surveillance)
- Animal disease surveillance reports
- Wildlife morbidity & mortality reports
- Environmental monitoring data (water, waste, pollution)

Functionality:

- Routine sharing of alerts and unusual events
- Immediate notification during suspected zoonotic outbreaks
- Use of WhatsApp groups, official emails, and review meetings

### **4. Joint Outbreak Investigation Teams (JOIT)**

Composition:

- Medical Officer / Epidemiologist
- Veterinary Officer
- Health Inspector / Field Staff
- LSGD representatives
- Forest / Environment officials (as needed)

Functionality:

- Field investigation of outbreaks (e.g., rabies, leptospirosis, JE, avian influenza, hepatitis A)
- Sample collection and referral
- Environmental sanitation and source control
- Joint reporting and recommendations

## **5. Local Self Government-Led Convergence**

Mechanism:

- LSG Standing Committees act as convergence platforms
- Integration of One Health priorities into annual plans

Functionality:

- Resource pooling (health, sanitation, waste management)
- Community engagement and IEC activities
- Support for surveillance and control measures

## **6. Disaster & Emergency Coordination**

Mechanism:

- Integration of One Health into DDMA plans
- Linkage with Emergency Operations Centre

Functionality:

- Flood- and landslide-related disease prevention
- Camp sanitation and animal shelter management
- Rapid multi-department response during disasters

## **7. Capacity Building and Joint Training**

Mechanism:

- District-level orientation programmes
- LSG-level mentor and supervisor trainings

Functionality:

- Common understanding of One Health concepts
- Clarification of departmental roles
- Strengthening field-level coordination

The One Health coordination mechanism in Idukki District demonstrates a functional, evolving inter-sectoral framework. With structured committees, joint surveillance, outbreak response systems, and strong LSG involvement, the district is well-positioned to address complex health challenges at the human–animal–environment interface. Strengthening formalisation, data integration, and capacity building will further enhance the effectiveness and sustainability of the One Health Programme in Idukki.

### **Intra-Departmental Coordination**

Intra-departmental coordination under the One Health framework in Idukki refers to systematic collaboration among different units, institutions, and field functionaries within a single department (Health, Animal Husbandry, Forest, LSG, etc.) to ensure early detection, timely response, and effective control of zoonotic diseases and public health threats.

#### **1. Health Department – Internal Coordination Mechanism**

##### Key Units Involved

District Medical Office (DMO)

District Surveillance Unit (IDSP)

- District Hospital & Taluk Hospitals
- Community Health Centres (CHCs)
- Primary Health Centres (PHCs)
- Public Health Labs
- ASHA / JPHN network
- Rapid Response Teams (RRTs)

##### Coordination Process

###### 1. Disease Detection & Reporting

- ASHAs and field health staff identify unusual illness clusters.
- PHCs report through IDSP (S, P, L forms) to DSU.
- DSU consolidates data and informs DMO.

## 2. Internal Review & Decision

- DMO convenes internal review with:
  - DSU
  - Hospital Superintendents
  - Lab officers
- Risk assessment conducted for zoonotic linkage.

## 3. Response Activation

- RRTs deployed from nearby institutions.
- Hospitals activate isolation beds and triage protocols.
- Labs prioritise sample testing.

## 4. Vertical & Horizontal Flow

- Taluk → District → State surveillance chain.
- Regular video conferences and WhatsApp alert groups.

## **2. Animal Husbandry Department – Internal Coordination**

### Key Units

- District Animal Husbandry Office
- Veterinary Dispensaries & Hospitals
- Mobile Veterinary Units
- Disease Investigation Officers
- Dairy Development wing

### Coordination Process

- Animal Disease Surveillance
  - Vets report unusual animal morbidity/mortality.
  - Reports flow to District AH Officer.

- Sample Collection & Diagnosis
  - Field vets collect samples.
  - District/state veterinary labs engaged.
- Containment Measures
  - Ring vaccination / movement restriction.
  - Biosecurity advisories to farmers.
- Internal Communication
  - Telephonic alerts, official registers.
  - Coordination with dairy cooperatives.

### **3. Forest Department – Internal Coordination**

#### Key Units

- Divisional Forest Office (DFO)
- Range Offices
- Beat Forest Officers
- Wildlife Veterinary Units
- Flying Squad

#### Coordination Process

- Beat officers report wildlife mortality or abnormal behaviour.
- Range officers verify and inform DFO.
- Wildlife vets conduct post-mortem and sampling.
- Movement restrictions and area control enforced.
- Alerts sent to territorial and wildlife wings internally.

#### **4. Local Self Government Department – Internal Coordination**

##### Key Units

- District Panchayat
- Block Panchayats
- Gram Panchayats
- Health Standing Committees
- Haritha Karma Sena / Sanitation Workers

##### Coordination Process

- Panchayat secretaries coordinate with:
  - Health Inspectors
  - Ward members
- Internal mobilisation for:
  - Sanitation drives
  - Source reduction
  - Community awareness
- Fund convergence through Plan and Non-Plan resources.

#### **5. Disaster Management & Emergency Services – Internal Coordination**

##### Key Units

- District Emergency Operation Centre (EOC)
- Taluk Control Rooms
- Fire & Rescue
- 108 Ambulance Network

##### Coordination Process

- EOC acts as **single internal communication hub.**

- Incident information shared across shifts.
- Resource mapping and ambulance deployment coordinated internally.

## **6. Mechanisms Ensuring Effective Intra-Departmental Coordination**

### A. Standard Operating Procedures (SOPs)

- Department-specific SOPs aligned to One Health.
- Clear reporting timelines and escalation matrix.

### B. Nodal Officers

Each department designates:

District One Health Nodal Officer

Taluk-level nodal officers

### C. Digital & Informal Platforms

Official WhatsApp groups (district & taluk).

- IDSP portal and state dashboards.
- Daily situation reports

## **CHAPTER 5**

### **PRESENT STATUS OF ONE HEALTH PROGRAMME IN IDUKKI**

Idukki is one of the four pilot districts for One Health under the initial rollout — along with Pathanamthitta district, Kottayam district and Alappuzha district under the World Bank-aided Rebuild Kerala Initiative and Nava Kerala Karma Padhathi-2. The World Bank conducted a visit to Idukki in 2022 specifically to observe and discuss the launch and implementation of the One Health Programme. The World Bank, as the supporting agency for the RKI, needed to assess the program's governance structure, implementation readiness, and the level of inter-sectoral coordination being established in the field.

Integrated testing and multi-departmental outbreak investigations in Idukki have already been carried out under the One Health framework, e.g. the 2024 investigations that included diseases like Scrub typhus. SOPs covering a broad range of diseases (zoonotic, vector-borne, water/food borne, etc.) have been framed, giving a structured, standardized approach to response.

#### **Programmes so far**

- The One Health Programme was officially launched statewide on 17 May 2022; Idukki is among the first four “Pamba-basin” districts selected for implementation.
- District Orientation for by KILA: The Kerala Institute of Local Administration (KILA) conducted a 3 days One Health District Orientation Programme specifically for the elected representatives, Officials of the Health, other Line departments and NGOs of the Idukki district from 22/08/2022 to 24/08/2022.
- District-Level One Health Committee: In Idukki district, a District-Level One Health Committee has been established to enhance coordinated action across human health, animal husbandry, agriculture, food safety, environmental sectors, and other line departments, chaired by the District Collector. Key members include the District Medical Officer, Deputy Director of Panchayats, District Agriculture Officer, District Animal Husbandry Officer, District Fisheries Officer, District Forest Officer, District Food Safety Officer, District Programme Manager, and District Surveillance

Officer, with the District NKKP2 Nodal Officer serving as convener and a Civil Society Representative ensuring community engagement.

- This multi-disciplinary platform facilitates integrated surveillance, rapid response mechanisms, and collaborative planning for emerging infectious and zoonotic diseases, aligning with Kerala's One Health guidelines under G.O (Rt) No. 399/2022/H&FWD. Since the launch, the District One Health Committee meeting has been held consistently once every three months to address various interdepartmental issues and collaboratively plan the future strategies of the health and relevant line departments.
- Selection of District Mentors: A total of 12 district mentors were selected, primarily retired Health Inspectors (HI), Public Health Nurses (PHN), and similar cadres given their extensive experience and familiarity with the health system.
- Training of Community Mentors and Volunteers: District Mentors were strategically selected and assigned specific administrative blocks to oversee the initial groundwork. Their crucial role was to collaborate directly with the Elected Representatives of each ward to identify suitable Community Mentors and Volunteers - 56 individuals for each ward (49 community volunteers and 7 community mentors) - from the local populace. Following their identification, a rigorous training program was conducted for the Community Mentors and Volunteers during 2023-24. This entire process culminated in the registration of 6,279 Community Mentors and 42,217 Community Volunteers into the Centre for One Health-Kerala (COH-K) portal, officially establishing the foundational network for community-based disease surveillance (CBS) and inter-sectoral coordination within the district.



Figure 5.1: One Health Orientation Training for Mentors and Supervisors,13/11/2025

- The programme’s roadmap milestones show that by mid-2023 the district-level OH coordination platforms (District Programme Support Units — DPSUs) were set up and staffed in the district.

**Table 5.1 Programmes conducted in Idukki District under One Health Programme (2023–2025)**

Sl. No	Date	Programme / Meeting	Venue	Key Participants	Key Outcomes / Remarks
1	10/10/2023	One Health District Mentors Meeting	District Level	District One Health Mentors, Health & Line Departments	Orientation of mentors, role clarification, interdepartmental coordination
2	21/11/2023	District One Health Committee Meeting	District Level	District One Health Committee Members	Review of One Health framework and district

					preparedness
3	01/12/2023	One Health Training of Trainers (ToT)	District Level	Health, Animal Husbandry, Forest, LSG Representatives	Capacity building on One Health principles and surveillance
4	26/11/2024	District Mentors Review Meeting	District Level	District Mentors, Line Departments	Review of field activities and planning for CBS strengthening
5	20/01/2025	One Health Programme Workshop on CBS Toolkit	DMO Hall, Idukki	Health Officials, Line Departments, Mentors	Hands-on training on CBS toolkit and reporting mechanisms
6	24/01/2025	One Health Action Plan Preparation Meeting (2025-26)	DMO Hall, Idukki	Health & Line Departments	Drafting of sector-wise One Health action plans
7	06/02/2025	Meeting with District Collector on CBS Action Plan	Collectorate Hall, Idukki	District Collector, Health & Line Departments	Approval and guidance for CBS action plan implementation

8	06/03/2025	One Health Review Mission – World Bank Team	District Level	Dr. Deepika, Dr. Dinesh, Sri. Satheesh Chandran, District Officials	External review of One Health implementation and CBS progress
9	06/05/2025	District One Health Committee Meeting	DMO Hall, Idukki	District One Health Committee	Programme review and mid-year course correction
10	10/06/2025	District One Health Committee Meeting	Collector's Chamber, Idukki	District Collector & Committee Members	Strengthening intersectoral coordination
11	06/11/2025	District One Health Committee Meeting – One Health Day & Fortnight Planning	Collector's Chamber, Idukki	District One Health Committee	Planning of One Health Day and Fortnight observation activities
12	13/11/2025	One Day Orientation Training One Health	DMO HALL IDUKKI	DISTRICT MENTORS AND SUPERVISORS	One Health implementation and CBS sensitisation

		Mentors and Supervisors			
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- By 2023–24, routine joint disease outbreak investigations and inspections under One Health have been carried out in Idukki.
- In 2024, a new integrated testing system under One Health was rolled out for epidemic prevention involving human health, animal health, environment & allied departments. Idukki was included among the districts where field-level investigations were already conducted (for example, for diseases such as scrub typhus).





Figure 5.2: Joint Out Break Investigation - Scrub Typhus On 30/09/2024 With World Bank Representatives @ Pachakkanam



Figure 5.3: Joint Out Break investigation at Mariyapuram on 29/11/2024(Hepatitis A)



Figure 5.4: Joint Out Break investigation at Kumaramangalam on 12/11/2025(Hepatitis A)

- As of 2025, there is ongoing scale up: the plan is for about 150 local self-governments (LSGs) across the Pamba-basin districts to implement community-based surveillance under One Health. This target is “ongoing” as per the state’s published schedule.
- Launch & Institutional Setup (May 2022 – mid 2023): Establishing COH-K, DPSU at district level, recruiting staff, selecting/training community volunteers, setting up governance/coordination platforms.
- Pilot Surveillance & Early Response (mid 2023 – 2024): Community-based surveillance begins; routine outbreak investigations and inspections under One Health begin in pilot districts including Idukki.
- Lab-Strengthening & Integrated Testing Roll-out (2024): Launch of integrated testing system statewide; Idukki included in first wave of field-level investigations for diseases (zoonotic, vector-borne, environmental).
- Scale-up & Consolidation (2024–2025, ongoing): Expanding CBS coverage across more LSGs in Idukki; continuing capacity building (hiring experts, institutional strengthening), embedding One Health into regular public health governance.
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**Structures, Governance & Key Features in Idukki under One Health**

**Table 5.2: Structures, Governance & Key Features in Idukki**

<b>Component / Feature</b>	<b>What exists or is being built under One Health in Idukki / Pamba-basin</b>
State-level coordination & nodal agency	COH-K (Centre for One Health – Kerala) under the Department of Health & Family Welfare (H&FW) coordinates state-wide.
District Programme Support Unit (DPSU)	For Idukki, a DPSU has been established to manage local implementation under One Health.
Community-based Surveillance (CBS)	Volunteer network: community mentors/ volunteers drawn from LSGs / Kudumbashree / local communities, trained to detect and report unusual events (animal deaths, vector surge, suspected zoonoses, etc.).
Intersectoral collaboration / multi-departmental coordination	One Health implementation involves human health, animal husbandry / veterinary services, environment, water & sanitation, local self-government bodies, plus other relevant sectors under common guidelines.
Lab & surveillance strengthening, integrated testing system	<p>As part of the 2024 rollout, an “integrated testing system” was launched — to support outbreak investigations in Idukki (e.g. scrub typhus, water-, vector-borne or zoonotic).</p> <p>The programme’s objectives explicitly include lab strengthening and establishing integrated lab + community</p>

	surveillance systems for epidemic management.
Capacity building /training	Training of local volunteers, staff from LSGs and allied departments; workshops to finalise SOPs; orientation for joint outbreak investigation.
Standard Operating Procedures (SOPs) for outbreak investigation& response	As of April 2024, state-level SOPs have been developed under One Health for multiple disease categories — water/food borne, vector borne, zoonoses including forest-related diseases. These SOPs are now to be implemented in districts including Idukki.

Given Idukki’s geography — forested areas, wildlife zones, human-animal-environment interface, remote villages — a robust, multisector, community-based and lab-backed surveillance & response system is extremely important. The One Health structure addresses this by building decentralised capacity, bridging gaps across departments, and fostering community involvement.

*Expanding community-based surveillance:* aiming to cover all LSGs in IDUKKI (52 Grama Panchayats, 8 Block Panchayats, 2 Municipalities and 1 District Panchayath) by 2025 under the programme.

Continued rollout of the integrated testing system (lab + surveillance + outbreak investigation) across the district — building readiness to detect and manage zoonotic, vector-borne, water/food-borne and other complex outbreaks. Strengthening lab infrastructure and surveillance-response systems: the official objectives include “Lab Strengthening” and “Digital Surveillance”.

*Capacity building and training:* periodic training of volunteers, local government staff, allied

departments continues. Integration with broader state health/ development missions (for example, the programme is embedded under the second phase of Aardram Mission) — ensuring that One Health is part of the regular public health & local governance framework, not a parallel silo.

The One Health Programme in Idukki has moved well beyond conceptual stage: institutional structures (state-level COH-K, district DPSU), human resources (trained volunteers, staff), standard procedures (SOPs), and actual field-level activities (surveillance, outbreak investigations, integrated testing) are already in operations.

## CHAPTER 6

### LSG-LEVEL ONE HEALTH INITIATIVES

Local Self-Government (LSG) institutions in Idukki district have emerged as the primary operational units for implementing the One Health Programme at the grassroots level. Despite challenges such as difficult terrain, forest-dominated geography, dispersed settlements, plantation-based livelihoods, tribal populations, and frequent climate-related risks, LSGs have demonstrated strong ownership and commitment in translating the One Health concept into coordinated local action. Their active involvement has been central to strengthening early detection, inter-sectoral collaboration and community participation.



Figure 6.1: Structure of LSGD Idukki

#### Coordination Mechanism

Institutionalisation of One Health at the local level in Idukki has been achieved through the establishment of LSG One Health Committees in local bodies. These committees comprise representatives from key line departments including Health, Animal Husbandry, Local Self-Government, Agriculture, Water Authority and other allied sectors, ensuring the availability of a functional multi-sectoral platform at the grassroots.

The LSG One Health Committees meet periodically to:

Review Community-Based Surveillance (CBS) findings, Assess programme implementation status, Identify high-risk areas and emerging threats, Plan joint preventive and response actions

The coordination mechanism is designed to be rapid and responsive. In the event of an outbreak, unusual health event, or early warning signal, immediate inter-sectoral meetings are convened to coordinate joint field action, response measures, and community communication. Continuous efforts are undertaken by LSGs to sustain public awareness on One Health principles, embedding inter-departmental collaboration and community ownership into routine governance processes.

### **Key Processes**

Implementation of the One Health Programme in Idukki followed a structured and phased approach, focusing on leadership orientation, capacity building, establishment of surveillance systems, and formal institutional adoption.

### **Capacity Building and Institutional Orientation**

The programme began with sensitisation and orientation of district- and block-level officials, elected representatives, and departmental functionaries on the One Health approach. Training and review meetings helped establish a shared understanding of roles, responsibilities, coordination pathways, and operational workflows across sectors.

### **Community-Based Surveillance (CBS)**

Community-Based Surveillance was established as the core operational component of the One Health Programme in Idukki. District mentors and block-level teams were identified and trained to support LSGs in selecting and training Community Mentors and Community Volunteers across wards. These volunteers form a decentralised surveillance network capable of identifying early warning signals at the human–animal–environment interface.

Standard Operating Procedures (SOPs) were developed for:

Event identification, Reporting, Field verification, Escalation and response

Digital and manual reporting mechanisms were introduced and reinforced through hands-on training and continuous technical support.

### **Formal Adoption by LSGs**

A major milestone was the formal adoption of the One Health system by LSGs through official resolutions and administrative decisions. This ensured institutional legitimacy for CBS activities, enabled integration of One Health actions into routine LSG functioning, and strengthened accountability at the local level.

### **Programmes Conducted under LSG-Level One Health Initiatives**

LSGs in Idukki actively facilitated and implemented a wide range of One Health programmes in coordination with line departments and community stakeholders. Key programmes conducted include:

#### **Community-Based Surveillance Activities**

Training of district mentors, block teams, Community Mentors, and Community Volunteers

Routine identification and reporting of:

Fever clusters, Animal illness and sudden deaths, Vector proliferation, Animal bites, Environmental risk factors, Regular review of CBS data at LSG and district levels

#### **Joint Field Investigations and Response Activities**

Inter-sectoral field verification of CBS alerts, Joint outbreak investigations involving health, animal husbandry, sanitation, and allied departments, Facilitation of environmental assessments, sample collection support, and containment measures, post-investigation review meetings to analyse findings and plan follow-up actions

#### **Community Awareness and Behaviour Change Programmes**

Ward-level and community-level awareness programmes on:

Zoonotic diseases, Vector-borne diseases, Rational use of antibiotics, Animal bite prevention, Environmental sanitation and waste management, Active involvement of Community Volunteers in IEC dissemination, Special focus on plantation settlements, tribal hamlets, forest fringe areas, and high-risk zones

### **Inter-Sectoral Review and Monitoring Activities**

Regular LSG-level review meetings integrating One Health discussions, Use of existing institutional platforms to review surveillance and programme outputs, Continuous mentoring and feedback to Community Volunteers and frontline workers

### **Present Status**

At present, LSG-level One Health initiatives are fully operational across Idukki district. The system is supported by trained one health mentors, block-level teams, Community Mentors, and Community Volunteers, with functional coordination mechanisms in place at the LSG level.

CBS-generated information and programme outputs are systematically reviewed through LSG and district-level platforms, ensuring alignment with public health surveillance systems and response mechanisms. Continuous monitoring, periodic reviews, and supportive supervision have strengthened data quality, responsiveness, and sustainability of the One Health framework.

Overall, LSG-led One Health initiatives in Idukki have significantly enhanced early warning capacity, inter-sectoral coordination, and community participation, establishing a strong and sustainable foundation for One Health action at the grassroots level.

## **CHAPTER 7**

### **COMMUNITY BASED SURVEILLANCE (CBS)**

CBS refers to a grass-roots-level surveillance mechanism introduced under One Health: in addition to formal public-health & veterinary surveillance, CBS enlists community volunteers (lay persons from local self-governments, local communities, etc.) to act as “eyes and ears” on the ground — to detect and report unusual events: human illness clusters, animal sickness or deaths, environmental hazards, vector-breeding, or any other early-warning signals at the human–animal–environment interface.

#### **Scenario in Idukki**

Training of Community Mentors and Volunteers: District Mentors were strategically selected and assigned specific administrative blocks to oversee the initial groundwork. Their crucial role was to collaborate directly with the Elected Representatives of each ward to identify suitable Community Mentors and Volunteers - **56** individuals for each ward (**49** community volunteers and **7** community mentors) - from the local populace. Following their identification, a rigorous training program was conducted for the Community Mentors and Volunteers during 2023-24.

This entire process culminated in the registration of **6,279** Community Mentors and **42,217** Community Volunteers into the Centre for One Health-Kerala (COH-K) portal, officially establishing the foundational network for community-based disease surveillance (CBS) and inter-sectoral coordination within the district.

- Local self-governments (LSGs) were instructed to select volunteers (members from local community / Kudumbashree / other community bodies) for training.
- Training and capacity-building is to be provided via designated agencies under COH-K (for stakeholders across human health, animal health, environment sectors) — ensuring that volunteers, mentors, local health staff are equipped with knowledge, protocols, reporting mechanisms.

## **Planning**

Community-Based Surveillance (CBS) in Idukki district was conceptualised as a core component of the One Health Programme to enable early detection of health events arising from the close interaction between humans, animals, and the environment in a high-range setting. Planning focused on leveraging existing community platforms, Local Self Government Institutions (LSGIs), and frontline functionaries to establish a decentralised, terrain-appropriate, and participatory surveillance mechanism.

Given Idukki's hilly terrain, forest fringe settlements, tribal hamlets, plantation labour lines, heavy monsoon rainfall, and wildlife interface, the planning process emphasised identification of locally relevant signals such as fever clusters, sudden livestock deaths, animal bites, rodent surges, vector breeding after monsoon, and contamination of spring-based water sources. Clear and simple reporting pathways were defined to ensure timely flow of information from the ward and LSG level to the District One Health Cell, with seamless integration into existing surveillance systems, including the Integrated Disease Surveillance Programme (IDSP) and IHIP.

Special attention was given to high-risk and hard-to-reach areas, including forest-adjacent panchayats, landslide- and flood-prone zones, tribal settlements, and tourism-intensive locations. The planning process prioritised simplicity, scalability, and sustainability, ensuring that CBS could be embedded within routine functions of ASHA, JPHN, Anganwadi workers, veterinary staff, sanitation personnel, and forest field staff, without creating parallel systems.

Overall, the CBS planning framework for Idukki was designed to strengthen early warning, inter-sectoral coordination, and community ownership, forming a practical foundation for timely One Health action at the local level.

## **Consultations**

- CBS is not standalone: under One Health, CBS links with lab strengthening, integrated surveillance & testing system, outbreak SOPs, inter-sectoral coordination, and community-based interventions.

- For example, when a volunteer reports an alert (say, unusual animal deaths or febrile illnesses), the report flows through the official chain, and — if needed — triggers outbreak investigation, sample collection/testing (human/ animal/ environment), vector control, environmental hygiene, or other interventions, as per SOPs.

### **Setting Up Processes and Present Status**

- In Idukki district, Community-Based Surveillance (CBS) processes were established through a phased capacity-building approach, involving structured training of district-level mentors, block-level implementation teams, Community Mentors, and Community Volunteers. Training modules were contextualised to address high-range, forest-fringe, plantation, and tribal settings, with emphasis on recognising priority One Health signals relevant to the district.
- Standard Operating Procedures (SOPs) were developed and disseminated covering event identification, community-level reporting, field verification, escalation, and response, ensuring clarity of roles across health, animal husbandry, sanitation, and allied departments. To facilitate timely and streamlined reporting, digital platforms were introduced for volunteer registration and event reporting, complemented by hands-on training, on-site demonstrations, and continuous technical support at block and district levels.
- At present, CBS is operational across Idukki district, with trained community-level functionaries actively engaged in routine surveillance and early warning activities. Community-generated reports are systematically reviewed and integrated into institutional decision-making platforms, including Janakeeya Arogya Samithi (JAS) meetings, IDSP and IHIP review mechanisms, and One Health Committee deliberations at both LSGI and district levels.
- Ongoing monitoring, periodic review meetings, and structured feedback mechanisms have been instituted to ensure data quality, timely verification, and prompt response, thereby strengthening the district's capacity for early detection and coordinated action on One Health threats.

### **Functions of Community Based Surveillance (CBS)**

Here are the expected functions of CBS under One Health — particularly relevant for areas like Idukki.

- Early detection of unusual health events — in humans (clusters of febrile illness, sudden unexplained illnesses), animals (livestock sickness or deaths, unusual wild animal deaths), and environmental hazards (water contamination, vector breeding sites, pollution, waste issues) — at the community/ward/hamlet level.
- Prompt reporting / notification of such events to the LSG-level One Health Committee / district-level mentors / DPSU — creating a real-time or near-real-time alert system that supplements formal surveillance.
- Triggering of response mechanisms — when a report is raised, CBS can trigger formal investigation, outbreak response, sample collection/testing (human/ animal/ environment), vector control, environmental sanitation, and risk communication — per the SOPs under One Health.
- Community-level risk communication & preventive action — volunteers can help disseminate information, raise awareness about zoonoses, safe animal handling, waste and sanitation, vector control, water/food safety; they can mobilise community action (clean-up drives, safe disposal of animal carcasses, vaccination awareness, etc.). This makes community part of prevention, not only reaction.
- Interface between community and formal health/veterinary/environment systems — acting as a bridge, so that signals from remote/forest/rural areas (especially relevant for a district like Idukki) are not missed, and conventional surveillance is augmented by community-level vigilance.
- Support to integrated surveillance and “One Health” outcomes — by feeding data for human health, animal health and environmental monitoring into a unified One Health MIS (managed by COH-K), facilitating data-driven decision making, early warning, trend monitoring, and intersectoral planning.
- International experience with CBS (e.g. global guidelines) emphasises that CBS

must have clear alert triggers, manageable workload, close integration with formal surveillance systems, data-management, volunteer support and feedback loops — otherwise too many false positives may overwhelm systems or demotivate volunteers. That remains relevant for implementing CBS in Idukki as well.

## **CHAPTER 8**

### **INNOVATIVE PROGRAMMES INITIATED UNDER**

#### **ONE HEALTH IN THE DISTRICT**

The innovative nature and significance of the One Health programmes in Idukki district lie in their ability to address health risks emerging from the complex human, animal and environment interface that characterises the district, marked by dense forests, wildlife presence, agriculture, domestic animals, and forest-fringe habitations. These initiatives move beyond a conventional human-health-centric approach by recognising zoonotic, vector-borne, and environment-linked diseases as outcomes of interconnected ecological systems. The programmes promote decentralised, community-driven surveillance by engaging trained volunteers and local institutions, thereby positioning communities as the first line of defence, an approach particularly critical in Idukki's geographically challenging and resource-intensive terrain. The establishment of integrated testing mechanisms, joint outbreak investigations, standard operating procedures, and multi-departmental coordination has strengthened the district's capacity for rapid, coordinated, and effective outbreak response. Furthermore, the emphasis on prevention, risk communication, environmental sanitation, animal health, waste management, and water safety represent a strategic shift from reactive treatment to proactive disease prevention and early detection. By institutionalising these efforts through strengthened laboratories, surveillance systems, trained human resources, and inter-sectoral governance structures, the One Health framework in Idukki ensures sustainability and resilience, embedding preparedness for future public health threats rather than relying on isolated, short-term interventions.

#### **Integrated Testing & Outbreak Investigation System**

The One Health approach serves as an integrated and unifying framework to sustainably balance and optimise the health of humans, animals, and ecosystems.

- In October 2024, a state-level Integrated Testing and Outbreak Investigation System was operationalised under the One Health framework to strengthen epidemic preparedness and response.

- Under this mechanism, multi-departmental field-level outbreak investigations were conducted in Idukki district, including investigations of Scrub Typhus and other priority diseases.
- The system facilitates coordinated action across human health, animal health, and environmental sectors enabling joint investigations, optimal utilisation of laboratory resources, and timely implementation of control measures.

**Summary of Joint Outbreak Investigations conducted in coordination with LSGD**

**Table 8.1: Details of Outbreak and JOBI done in Idukki**

SI No	Health facility	Panchayath	Health condition name	Departments involved
1	CHC Devikulam	Devikulam	Mumps	Health, LSGD, Education
2	CHC Vandiperiyar	Vandiperiyar	Mumps	Health, LSGD, Education
3	CHC Vandiperiyar	Vandiperiyar	Dengue	Health, LSGD
4	CHC Vandiperiyar	Vandiperiyar	Dengue	Health, LSGD
5	CHC Vandiperiyar	Vandiperiyar	Acute Gastroenteritis	Health, LSGD, Food Safety
6	PHC Thattakuza	Udumbannoor	Hepatitis A	Health, LSGD, Water authority.

7	FHC Arakulam	Arakulam	Dengue	Health, LSGD
8	CHC Karunapuram	Karunapuram	Mumps	Health, LSGD, Education
9	CHC Karunapuram	Karunapuram	Mumps	Health, LSGD, Education
10	CHC Karunapuram	Karunapuram	Acute Gastroenteritis	Health, LSGD, Food Safety
11	CHC Vandanmedu	Vandanmedu	Dengue	Health, LSGD
12	PHC K.P.Colony	Nedumkandam	Mumps	Health, LSGD, Education
13	FHC Vannappuram	Vannappuram	Dengue	Health, LSGD
14	FHC Vazhathope	Vazhathope	Acute Gastroenteritis	Health, LSGD, Food Safety
15	PHC Pampadupara	Pampadumpara	Mumps	Health, LSGD, Education
16	FHC Mariyapuram	Mariyapuram	Hepatitis A	Health, LSGD, Food Safety, Water Authority.

17	FHC Kumaramangalam	Kumaramangalam	Hepatitis A	Health, LSGD, Food Safety, Water Authority.
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### 1. Institutional Capacity Building & Standard Operating Procedures (SOPs)

- OH-Kerala has developed formal SOPs for outbreak investigation and control to handle a broad range of diseases: water-borne illnesses, food-borne infections, vector-borne diseases (dengue, chikungunya, Zika), zoonoses (e.g., Kyasanur Forest Disease, Nipah virus infection, avian influenza), leptospirosis, and more.
- Strengthening of existing lab-networks, human & animal disease surveillance, and Prevention of Epidemics and Infectious Diseases (PEID) cells are part of the institutional strengthening under One Health.
- This institutional and system-level preparation aims to make responses to outbreaks more organized, timely, and effective.

### 2. Inter-sectoral & Multi-departmental Collaboration Mechanism

- One Health in Kerala explicitly institutionalises “inter-sector/departmental collaboration” - bringing together human health, animal health, environment, water & sanitation, and local self-government bodies under a common platform.
- This ensures a holistic view: zoonotic disease risk + environmental changes + animal health + sanitation/ water/ waste management - which is crucial in ecologically sensitive zones like Idukki (forests, agriculture, animal husbandry, mixed ecosystems).
- Local-level committees (likely in gram panchayats / wards) are empowered to act, creating a decentralized response structure, rather than centralised only.

### 3. Public Awareness, IEC, and Community Engagement Programmes

- The programme includes Information, Education and Communication (IEC) as core strategy - spreading awareness among communities about zoonoses, vector control, sanitation, safe animal handling, and preventive measures.

- Through trained volunteers and community participation, One Health aims to empower local people - giving them ownership of early detection, reporting, and basic preventive actions.

This helps especially in rural/remote/forest-border areas like many in Idukki - where conventional health-system outreach might be limited or delayed.

## **Department specific innovative programmes in Idukki District**

### **Health Department**

In Idukki district, the Health Department implemented multiple innovative programmes under the One Health framework with a focus on prevention, early detection, and coordinated response. A comprehensive Leptospirosis Control Programme was operationalised through strengthened surveillance, sentinel site monitoring, regular data analysis, and ensured availability of diagnostics at peripheral health institutions. Preparedness measures included outbreak response protocols, mock drills, and pre-positioning of medical supplies in high-risk areas.

Community awareness campaigns targeted vulnerable populations such as farmers and sanitation workers, complemented by school-based IEC activities. Environmental measures including waste management, rodent control, and sanitation improvements were integrated with the *Malinyamuktha Navakeralam Campaign*. Clinical care was strengthened through capacity building of medical officers, establishment of dedicated ICU facilities in major hospitals, and provision of super-specialty support for complicated cases.

The Dengue Prevention Programme focused on enhanced surveillance, hotspot mapping, early warning systems, source reduction through community participation, integrated vector management, and strengthened laboratory capacity. Rapid response teams were activated, and mock drills were conducted to ensure preparedness. Inter-departmental coordination with LSGD and community stakeholders formed a core component of dengue control activities.

The Migrant Health Screening Initiative (VISA – Versatile Integrated Screening for Athidhis) was implemented to ensure early detection of communicable diseases among migrant workers. The programme included disease screening, issuance of health cards,

multilingual awareness campaigns, development of a migrant health database, regular follow-ups, and coordination with local employers to improve access to health services and social integration.

Idukki district also operationalised Antimicrobial Resistance (AMR) containment strategies through the SMAART Kerala campaign. Antibiotic Stewardship Programmes were implemented in healthcare institutions with prescription audits, AWaRe classification monitoring, and integration of AMR indicators into quality assurance mechanisms. Efforts were extended to community settings through the concept of Antibiotic Literate Panchayaths, along with research, IEC activities, and inter-sectoral convergence.

Innovative disease control initiatives also included dog-mediated rabies prevention under the RAABIES / Race Against Rabies framework. The district ensured availability of anti-rabies vaccines up to PHC level, uninterrupted supply of RIGs at higher institutions, capacity building of healthcare professionals, pre-exposure prophylaxis for high-risk occupational groups, and extensive community awareness campaigns.

Under the **ANANTHA** Snakebite Management Programme, the district strengthened community awareness, promoted use of the SARPA mobile application, ensured first-line management at PHC/FHC level, established referral linkages, and ensured availability of anti-snake venom, ICU, dialysis, and super-specialty care in taluk and district hospitals.

### **Animal Husbandry Department**

The Animal Husbandry Department in Idukki played a critical role in One Health implementation through elimination of dog-mediated rabies, focusing on mass dog vaccination, stray dog sterilisation, licensing, and public awareness. In addition, AMR containment in animals was promoted through farmer education on rational antibiotic use and adherence to withdrawal periods for milk and meat, thereby reducing the risk of antimicrobial resistance transmission to humans.

### **Fisheries Department**

The Fisheries Department undertook initiatives to prevent antimicrobial misuse in aquaculture by conducting awareness programmes for fish and seed farmers. Regular

inspections of fish markets and outlets were carried out to ensure the availability of safe and quality fish for consumers, contributing to food safety and public health.

### **Drug Control Department**

The Drug Control Department implemented sustained public awareness campaigns on AMR through community-level classes, IEC materials, and digital outreach. The SPAARK (Student Programme Against Antimicrobial Resistance Kerala) initiative was actively implemented through joint campaigns in educational institutions and professional associations. Rational use of antimicrobials in food-producing animals was promoted through targeted awareness sessions for farmers, and the PROUD programme was implemented to strengthen regulatory oversight in the district.

### **Dairy Development Department**

In Idukki district, the Dairy Development Department focused on ensuring milk safety and quality through seasonal milk quality testing, mastitis control, and aflatoxin prevention measures. Clean milk production was promoted through improvements in cattle shed hygiene, provision of equipment, and biosecurity interventions. Dairy farm waste management initiatives included construction of dung pits, urine pits, biogas units, and promotion of cow dung processing units. Safe disposal of carcasses, hazardous waste management, plastic waste reduction, and hygiene improvement at dairy cooperatives were systematically addressed.

### **Water Authority**

The Water Authority implemented One Health-aligned interventions by expanding household tap connections under the Jal Jeevan Mission and AMRUT projects. Regular water quality testing, protection of drinking water sources, prevention of misuse and leakage, and capacity building of institutions and communities were undertaken through meetings, trainings, and procurement of field-testing equipment.

### **Food Safety Department**

The Food Safety Department organised awareness programmes on food hygiene, safe handling, storage, supply practices, and proper labelling. These initiatives aimed at reducing food-borne illnesses and strengthening food safety compliance across the district.

### **Forest Department**

The Forest Department contributed to One Health efforts in Idukki by conducting awareness programmes on snakebite and animal bite management, particularly among forest fringe and tribal populations. Education on zoonotic disease transmission from wild animals to humans and livestock was provided, and the capacity of Rapid Response Teams was strengthened to manage wildlife-related public health events.

## CHAPTER 9

## FINANCIAL ALLOCATION &amp; UTILIZATION SUMMARY (YEAR-WISE)

The financial allocation and utilisation pattern under the One Health Programme in Idukki district reflect a phased and systematic strengthening of programme components in alignment with evolving public health priorities.

**Table 9.1: Year wise details of financial allocation and Utilization**

Year	Allocation (₹ Lakhs)	Utilization (₹ Lakhs)	Utilization %	Key Notes
2022-23	13,00,000/-	10,14,140/-	78%	Foundational One Health activities
2023-24	1,28,32,950/-	1,00,73,345/-	78.49%	CBS rollout & diagnostics strengthening
2024-25	54,09,800/-	50,39,395/-	93.15%	Training, surveillance, rapid response
2025-26	58,36,500/-	--	--% (till Dec)	Pandemic preparedness components

During the initial phase, allocations were primarily utilised for foundational One Health activities, establishing essential coordination mechanisms and baseline systems. Subsequent years reflected a strategic expansion towards Community-Based Surveillance (CBS) rollout and strengthening of diagnostic capacities, with consistent utilisation levels. A marked improvement in utilisation efficiency is observed in the later phase, with a high proportion of funds directed towards capacity building, surveillance activities, and rapid response mechanisms. The current allocation prioritises pandemic preparedness components, reflecting a shift towards system resilience and preparedness.

## **CHAPTER 10**

### **FUTURE PLANS**

The One Health Programme in Idukki district will focus on strengthening integrated prevention, detection, and management of zoonotic and emerging public health risks through coordinated, cross-sectoral action. Emphasis will be placed on establishing a functional and sustainable Community-Based Surveillance (CBS) system across all 52 Local Self-Governments by enhancing the capacity of Community Mentors and Volunteers, operationalising standardised reporting mechanisms, and ensuring systematic data processing and reporting to district-level systems as per the CBS toolkit. Regular monitoring and annual evaluation of CBS performance will be undertaken, along with Periodic Hazard and Risk Mapping exercises involving all relevant departments. Block-level, domain-specific Technical Resource Groups will be constituted and utilised biannually to provide technical guidance. The plan also envisages routine joint outbreak investigations, strengthening of block and district public health laboratories, development of LSG-based pandemic preparedness plans, and formulation of innovative, collaborative initiatives to address Antimicrobial Resistance, positioning Idukki as a model One Health district with practices suitable for replication in other districts.

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