



ONE HEALTH COMPENDIUM

2023 - 2025

CONNECTING HUMAN, ENVIRONMENTAL & ANIMAL HEALTH



25

1999 - 2024

Years of Impact through Science Advice



सत्यमेव जयते

Office of the Principal Scientific Adviser
to the Government of India



BeST
CLUSTER

Bengaluru Science and Technology Cluster

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Message from Co-PI

Prof. Ambarish Ghosh
Co-PI, BeST Cluster



The One Health approach, facilitated by the Bengaluru Science and Technology Cluster (BeST), offers a pragmatic framework for addressing the complex interdependencies among human, animal, and environmental health domains. By fostering alignment across governance structures, research institutions, and community stakeholders, it promotes synergistic responses to health challenges that transcend traditional sectoral boundaries.

BeST plays a pivotal role in enabling interdisciplinary collaboration among researchers, public health specialists, environmental scientists, and policymakers. This collaboration aims to address overarching concerns such as zoonotic disease emergence, antimicrobial resistance proliferation, and ecosystem integrity. Through these collaborative endeavors, more integrated and contextually relevant solutions can be formulated.

Integral to BeST's implementation of One Health is the engagement of local communities. By incorporating local populations in awareness initiatives and participatory action, the approach gains inclusivity and long-term sustainability. The Cluster has prioritized One Health as a thematic area and is committed to continuing its work on this topic in the coming years.

Message from Co-PI

Dr. Taslimarif Saiyed
Co-PI, BeST Cluster

Over the past year, We, at the Bengaluru Science and Technology (BeST) Cluster, have made notable progress in advancing the One Health agenda at the city level. Recognizing the interconnectedness of human, animal, and environmental health, BeST has fostered a collaborative ecosystem involving government agencies, research institutions, and implementation partners.

The Cluster has led multi-sectoral efforts in piloting early warning systems for vector-borne diseases, supporting digital tools for zoonotic disease monitoring, and initiating capacity-building programs for public health stakeholders. In addition, groups working on wastewater surveillance have emerged as a critical part of this integrated framework, enabling real-time environmental monitoring and early detection of potential health risks across communities.

These collective initiatives are helping shape a scalable and resilient One Health model for Bengaluru, grounded in data-driven decision-making and inclusive governance. The progress reflects BeST's commitment to translating science, innovation and technology into actionable public health solutions for urban settings.



Message from CEO

Mr. Anantharaman R
CEO, BeST Cluster



In an era where technological advancements are rapidly transforming every aspect of our lives, the role of Science and Technology (S&T) clusters has become increasingly pivotal. Our S&T cluster is dedicated to harnessing the power of innovation to enhance the well-being of our community.

This preface aims to provide an overview of our mission, the strategies we employ, and the impact we aspire to achieve.

The BeST - Bengaluru Science and Technology Cluster, an initiative of the Office of the Principal Scientific Adviser to the Government of India, is pleased to present our efforts towards meeting the goals of the National One Health Mission while addressing local health priorities in metro cities like Bengaluru. Our S&T cluster activities emphasize achieving the well-being of the community, focusing on important themes such as One Health, zoonotic diseases, antimicrobial resistance (AMR), outreach, and capacity building.

Our cluster brings together a diverse group of scientists, engineers, researchers, and community leaders, all united by a common goal: to leverage scientific and technological advancements for the betterment of society. Through collaborations, we also aim at joint fundraising from various national and international funding bodies. We believe that by fostering collaboration and encouraging interdisciplinary approaches, we can address some of the most pressing challenges faced by our community.

A key aspect of our approach is the multi-disciplinary and multi-institutional participation that we champion. By bringing together experts from various fields and institutions, we aim to provide long-term and sustainable solutions to the city's problems. To define projects and ensure their successful implementation. This collaborative effort ensures that our initiatives are well-rounded and effective.

As we continue to push the boundaries of what is possible, we remain steadfast in our commitment to ethical practices and social responsibility. Our work is guided by the principles of equity, sustainability, and respect for all individuals. By prioritizing these values, we aim to build a future where technological progress goes hand in hand with human well-being. Together, we can create a brighter, healthier, and more prosperous future for our community.

About BeST Cluster...

The Bengaluru Science and Technology Cluster (BeST) is an initiative under the Office of the Principal Scientific Adviser (O/o PSA) to the Government of India. It was established to foster innovation, collaboration, and societal impact through science and technology. We are supported by the O/o PSA on the recommendation of the Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC) to create an **Atmanirbhar Bharat** through S&T.

BeST is one of the eight Science and Technology Clusters set up, funded, and supported by the Government of India, Office of the Principal Scientific Adviser (<https://www.psa.gov.in/st-clusters>). These S&T Clusters act as a formal umbrella for all the S&T stakeholders in the region. Their goal is to build and deploy science and technology solutions for social impact in their respective regions using a consortium-based approach and shared ecosystem, connecting science providers with those who need or benefit from solutions. The cluster works on the broad thematic areas of Health & Wellbeing, Urban Life, and Futuristic Technologies & Solutions.

BeST leverages Bengaluru's vibrant ecosystem of academic institutions, industry leaders, startups, civil society organizations, and government bodies to address critical challenges in public health, sustainability, and urban development. BeST is an office located at the Indian Institute of Science (IISc) campus and supported by over 20 partner organizations. BeST began with seed funding sanctioned in September 2022. Its establishment was led by the Director of IISc, Professor Govindan Rangarajan (Principal Investigator), with Professor Ambarish Ghosh of IISc and Dr. Taslimarif Saiyed, CEO of C-CAMP, as Co-PIs. On May 14, 2024, BeST transitioned into a Section 8 Company under the name Foundation for Bengaluru Science and Technology. This nonprofit organization was co-founded by four leading institutions: IISc, the National Centre for Biological Sciences (NCBS), the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), and the International Centre for Theoretical Sciences (ICTS). Through its multidisciplinary approach, BeST aims to create scalable, technology-driven solutions that enhance quality of life and promote inclusive growth in Bengaluru and beyond.

One Health is one of the major key areas of focus, we have been actively engaged in the One Health domain, a multi-sectoral approach that considers human, animal, and environmental health, recognizing their interconnectivity and interdependence. Our on-the-ground experiences have provided us with valuable insights, and we have established a network of over 150 stakeholders who are partners in the Bengaluru One Health Consortium. Providing regional solutions in alignment with the National One Health mission objectives. We have compiled a report summarizing the work undertaken.

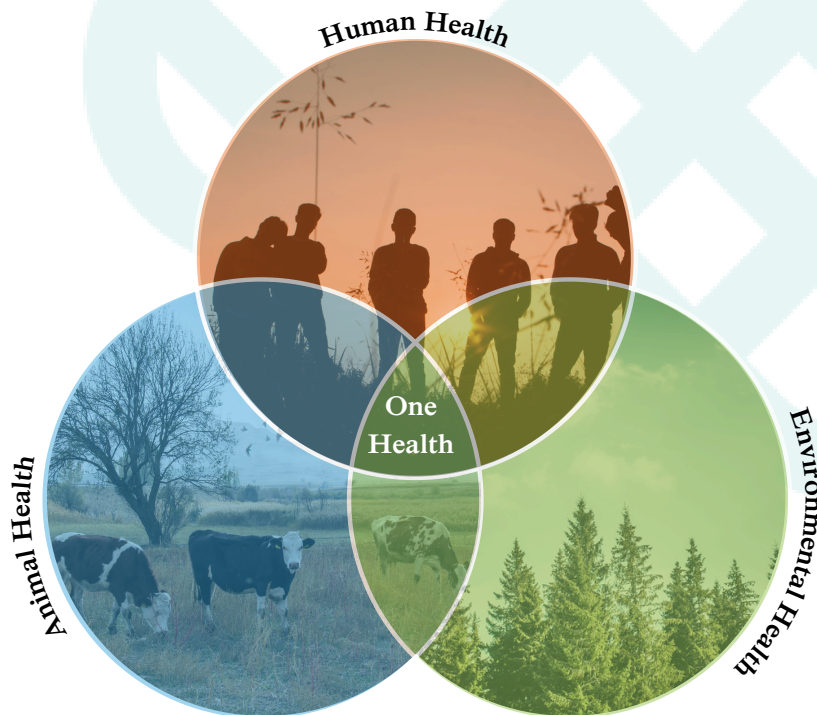


One Health

One Health is an integrative approach that recognizes the interconnectedness of human, animal, and environmental health. It seeks to address health challenges at the intersection of these domains by fostering collaboration across multiple sectors.

In a country like India, with its diverse wildlife, large livestock populations, and high human density, the risk of interspecies disease transmission is significant. Recent outbreaks such as COVID-19, Lumpy Skin Disease in cattle, and Avian Influenza highlight the urgency of adopting a comprehensive health strategy that considers not just human health but also the well-being of animals and ecosystems.

By leveraging the strengths of different disciplines, One Health aims to create agile and robust response systems for emerging health threats.



To strengthen its implementation, India has launched the **National One Health Mission**, a cross-ministerial initiative to coordinate and integrate ongoing One Health efforts. The mission focuses on **early disease detection, pandemic preparedness, and integrated disease surveillance** across human, animal, and environmental sectors.

It also emphasizes research and development in diagnostics, therapeutics, and vaccines, while fostering collaboration between government agencies, research institutions, and communities. By embracing this holistic perspective, One Health offers a sustainable and proactive framework to mitigate health risks and enhance resilience against future outbreaks.

Launch of 'One Health Bengaluru City Consortium'



The Bengaluru Science and Technology (BeST) Cluster, an initiative of the Office of the Principal Scientific Adviser to the Government of India, launched the '**One Health Bengaluru City Consortium (OHBC)**' on March 3rd, 2023. This consortium serves as a significant first step toward integrating existing One Health efforts, facilitating collaboration, and building a comprehensive framework for the city.

The launch event gathered representatives from over 25 organizations, including researchers, academicians, technologists, industry experts, practitioners, policymakers, city planners, health authorities, not-for-profit organizations, and civic officials. The collective goal is to strengthen Bengaluru's capacity to address health challenges by adopting a **multi-sectoral approach** that recognizes the interconnectedness of human, animal, and environmental health.

This initiative by the BeST Cluster marks a crucial step toward achieving a more integrated and resilient health system for Bengaluru

“For me, the success a year or two from now, from the launch of this activity is you have worked out a model where all stakeholders collaborate and develop a decent understanding of what the priorities of our policymakers should be.

Dr. Sindura Ganapathi
Visiting Fellow, One Health Mission, OPSA

During his keynote address, Dr. Ganapathi highlighted a path forward for the Wastewater-Based Epidemiology (WBE) project, which had a significant impact on the rapid response of the Bruhat Bengaluru Mahanagara Palike (BBMP) in Bengaluru. Now adopted as a pilot for the One Health Bengaluru City Project by the BeST Cluster, he suggested that the project should expand its scope beyond COVID-19 to include other region-specific diseases. The valuable insights and lessons learned from this initiative could then be used to develop scalable models for other cities. He also stressed the critical need for robust sampling and usable data to assist the state government in managing programs related to human health, animal health, wildlife, and forestry. Adding to this, Dr. K.V. Thrilok Chandra, IAS, Special Commissioner (Health), BBMP, addressed the gathering on the importance of establishing a systematic mechanism for quickly detecting and responding to emerging diseases. He emphasized the necessity for scientists and technology experts to collaborate and consolidate information to achieve this goal effectively.

BBMP has already established a ‘One Health Cell’ and allocated significant seed capital in its current budget for the initiative. It has also set up a Hi-Tech Laboratory and Metropolitan Monitoring Centre to effectively capture the key disease parameters. Dr. Chandra concluded his address with, “We don't need another World War on the health front for us to wake up again.”



Cross-sector panel from left to right, Dr. Farah Ishtiaq (TIGS), Dr. Lena Robra (Swissnex), Dr. Thrilok Chandra (Special Health Commissioner BBMP), Dr. Reeta S. Mani (NIMHANS), Mr. Vishwanath Srikantaiah (Biome Environmental Trust)

Although the One Health concept gained significant attention after the COVID-19 pandemic, its scope is far broader than just infectious diseases. It is a comprehensive approach that includes non-communicable diseases, antimicrobial resistance, environmental health, and the human-wildlife interface, with the ultimate goal of building a unified, healthy ecosystem.



Speakers at the event: From left to right, Dr. Sindura Ganapathi, Office of the Principal Scientific Adviser to the Government of India, Prof. Uma Ramakrishnan, NCBS, Dr. Shannon Olson, Echo Network, Dr. Varsha Shridhar, Molecular Solutions Care Health LLP

A cross-sector panel consisting of stakeholders from science, policy, urban planning, medicine, and academic engagement discussed the priorities, challenges, and plans for the One Health approach for Bengaluru city. The panel highlighted the importance of identifying shared goals, building mutual trust, data sharing among cross sectors, developing advanced alarm systems to aid decision making, mapping different ecosystems in and around the city to understand the interconnectedness and its impact, creating awareness, and building capacity on the ground right from the student level.

Ten years from now, the consortium envisions having an organized dashboard for data-informed policymaking, environmental surveillance made part of the public health care system, and a model framework in place for other cities to learn.

Dr. Ishtiaq and Prof. Uma Ramakrishnan have been the key drivers of the One Health concept in Bengaluru.

“One Health Bengaluru City Consortium is being driven by disease ecology and environmental surveillance as an evidence-based approach for predicting risks to human and animal health. Cross-sector communication and cooperation between this multi-stakeholder partnership is a prerequisite in responding to emerging health crises”

Dr. Farah Ishtiaq, Principal Scientist
Tata Institute for Genetics and Society (TIGS)

“Bengaluru is a huge urban center with interfaces between wildlife, livestock and commensals, and people. Additionally, rapid development and changing climate result in dependence of our health on ecology, the interactions between all these species, and their environment. We hope the One Health Bengaluru City can bring these ecological dynamics front and center for evidence-guided action for a healthier future.”

Prof. Uma Ramakrishnan, Principal Scientist
National Centre for Biological Sciences (NCBS)

One Health Cell initiative in collaboration with BBMP

Recommended by the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC), the Office of the Principal Scientific Adviser to the Government of India is coordinating the 'One Health Mission' as the 10th mission under the PM-STIAC. A significant milestone for this initiative was a meeting held on November 23, 2022, to form the One Health Cell with the Bruhat Bengaluru Mahanagara Palike (BBMP). The meeting was led by a One Health team from the National Centre for Biological Sciences (NCBS), headed by Professor Uma Ramakrishnan, and the Tata Institute for Genetics and Society (TIGS), headed by Dr. Farah Ishtiaq, and was chaired by the BBMP Special Commissioner (Health)."



“Animal, human health and environment are keenly intertwined. Human Health cannot be viewed in isolation and it is dependent on the environment it lives in, which includes animals too.

Dr. K V Trilok Chandra, IAS
BBMP Special Commissioner (Health)
Speaking with The Indian Express

BBMP establishes 'One Health Cell' to prevent outbreaks of zoonotic diseases

The work towards establishing the cell started early this year. BBMP special commissioner, health, Dr K V Trilok Chandra said that the BBMP will be working with NGOs and scientific experts in this regard.

Read Full Article Here: [BBMP establishes 'One Health Cell' to prevent outbreaks of zoonotic diseases](#)

Strategic Synergy: One Health Bengaluru Consortium Aligns with National One Health Mission

The One Health Bengaluru Consortium gathered on August 9th, 2023, to meet with Dr. Sindura Ganapathi from the Office of the Principal Scientific Advisor to the Government of India. The focus was to connect Bengaluru's One Health efforts with the National One Health Mission. Attendees included renowned experts: Dr. Farah Ishtiaq (TIGS), Prof. Uma Ramakrishnan (NCBS), Dr. Rakesh Mishra (TIGS), Dr. Taslimarif Saiyed (C-CAMP), Dr. Bhaskar (ARTPARK), Mr. Ajay Ragavan (ICA), Dr. Giridhar, Dr. Viswanath (BIOME Trust), and Prof. Shannon B. Olsson (Echo Network). The consortium's multidisciplinary approach aligns with the national objective of integrating health sectors. Discussions centered on collaboration opportunities and strategies to magnify their collective impact. Dr. Sindura Ganapathi expressed enthusiasm for this synergy, noting its potential to address intricate health challenges. The meeting strengthens the bridge between local and national One Health initiatives.

“Brand Bengaluru, Healthy Bengaluru”

During the "Brand Bengaluru-Healthy Bengaluru" event, the BeST Cluster was a key participant in discussions, advocating for a 'One Health Initiative' as a crucial strategy to combat the challenges posed by climate change and emerging diseases.

Climate change has been contributing to a notable rise in dengue cases, and with the recent Nipah virus outbreak in Kerala, it becomes increasingly clear that a comprehensive strategy is of utmost importance. The One Health Initiative advocates for preventive measures that collectively address human-related diseases, zoonotic diseases, and environmental factors.

BBMP to make heavy investment, use IT to improve healthcare services in Bengaluru

Special Commissioner (Health) Dr Thrilok Chandra said the BBMP is working with AI and Robotics Technology Park (ARTPARK) at the Indian Institute of Science (IISc) Bengaluru to establish war rooms which will focus on enhancing healthcare systems.

Read Full Article Here: [BBMP to make heavy investment, use IT to improve healthcare services in Bengaluru](#)



Read Full Article Here: [Healthy Bengaluru initiative gets 11k responses](#)

During these discussions, various suggestions were put forward, ranging from the enhancement of emergency care services to the improvement of veterinary care services. There was also a strong focus on leveraging technology to enhance the surveillance systems, all aimed at bolstering the overall healthcare system. Dr. KV Thrilok Chandra IAS, BBMP Special Commissioner (Health), notably emphasized the significance of a digital surveillance system in detecting emerging threats and advocated for a more efficient healthcare referral system to reduce costs.

Inspiration was drawn from countries such as Singapore, Canada, and the United States, which have successfully demonstrated the importance of educating citizens on handling emergencies effectively.

Furthermore, healthcare experts underscored the pivotal role of preventive healthcare in alleviating the burden of non-communicable diseases. In light of this, there is a strong consideration to invest in local healthcare centers, equipping them with diagnostic laboratories and minor operation theaters. This would enable early intervention and reduce the need for referrals to larger hospitals.

Ultimately, through continued collaboration and innovative solutions, we aim to work towards a healthier Bengaluru.



Launch of BBMP One Health Cell

BeST Cluster facilitated an event on 'Stakeholder mapping for Bruhat Bengaluru Mahanagara Palike (BBMP)'s One Health Cell sub-committees - Environmental Health, Animal Health, Clinical Health, Public Health, and Digital Health' on 20th March 2024 at the Indian Institute of Science (IISc).

This initiative marks a significant step toward an integrated, multidisciplinary approach to addressing public health challenges, disease surveillance, and emergency response by bringing together stakeholders from clinical, digital, public, environmental, and animal health domains.



Clinical Health Cell

Mission & Vision: Health equity, upgrading healthcare facilities, and fostering a disease-free human-animal ecosystem.

Short-Term Goals:

- Mapping of healthcare and diagnostic facilities, ambulances, and emergency services.
- Aggregator model for ambulance services similar to Ola/Uber.
- Establishment of community-based hospitals and dedicated emergency hospitals.
- Diagnostic referral network using a hub-and-spoke model.
- Identification of emerging/re-emerging diseases for vaccination programs.
- Intersectoral collaboration for disease burden assessment.
- Emergency response at the ward level.

Long-Term Goals:

- Integrated healthcare, old-age care, and insurance.
- Disaster management and demographic shift analysis.
- Teleclinics for remote areas and NCD prevention.

Strategies & Suggestions:

- Strengthen disease definitions, supply chain, and lab diagnostics.
- Risk communication, surveillance, and mock drills.
- Free BBMP One-Health Clinics for pets and pet owners.
- Inclusion of Health & Family Welfare Department and private sector partnerships.



Digital Health Cell

Mission & Vision: Establish a national digital health ecosystem ensuring accessibility, security, and interoperability.

Short-Term Goals:

- Implement ward-level diagnostic tools, training for frontline workers, and data sharing initiatives.
- Use mobile technology for telemedicine, appointment scheduling, and health education.
- Develop disease-tracking dashboards and efficient referral systems.
- Implement syndromic surveillance and primary healthcare restructuring.

Long-Term Goals:

- Digitally-enabled PHCs, ASHA/ANM training, and emergency handling.
- Develop digital twin models for predictive healthcare.
- Implement responsible data-sharing frameworks and integrate healthcare systems.

Suggestions:

- Differential privacy for data handling and interoperability between healthcare networks.
- Promote preventive healthcare through digital initiatives.





Public Health Cell

Mission & Vision: Establish a robust surveillance and monitoring mechanism.

Short-Term Goals:

- Training frontline workers, mentoring, and outbreak investigation.
- Develop an epidemiological cell and AMR surveillance network.
- Implement health ambulances in schools/colleges.
- Public awareness campaigns and seasonal disease surveillance.

Long-Term Goals:

- Map AMR activities, behavioral data, and lab surveillance.
- Strengthen diagnostics, community action, and outbreak response mechanisms.



Environmental Health Cell

Mission & Vision: Address climate-health links and vector-borne disease burden.

Short-Term Goals:

- Scoping paper on climate-health links.
- Improve waste segregation and STP efficiency.
- Develop ward-wise environmental health strategies.

Long-Term Goals:

- Develop forecasting and weather warning systems.
- Implement environmental health policies and ecosystem restoration.

Suggestions:

- Include Forest Department and Zoo Authorities as stakeholders.



Animal Health Cell

Mission & Vision: Maintain zoonotic reservoirs and estimate hazards.

Short-Term Goals:

- Surveillance of zoonotic diseases (Rabies, KFD, Anthrax, etc.).
- Mapping hotspots and conducting molecular diagnostic tests.
- Awareness programs on zoonotic diseases.

Long-Term Goals:

Vaccination for farmers and companion animals.

- Improve meat and milk quality standards.
- Establish modern abattoirs for hygiene control.



The discussions had participations from Tata Institute for Genetics and Society (TIGS), National Centre for Biological Sciences (NCBS), Indian Institute of Science, ARTPARK, Social Alpha, Strand Life Sciences, ICAR NIVEDI, Ashoka Trust for Research in Ecology and the Environment, Bangalore Baptist Hospital, Indian Institute for Human Settlements, Initiative for Climate Action, Manipal Hospital (Bangalore), Apollo Hospitals Karnataka, NIMHANS, Bangalore, the echo network, Indian Statistical Institute, Foundation for Neglected Disease Research, Kempegowda Institute Of Medical Sciences, M.S. Ramaiah University of Applied Sciences, BANGALORE, KNCV TB Plus, Bangalore Apartments' Federation (BAF), Biome Environmental Trust, Bwssb, Biocon Foundation - India, Bengaluru Sustainability Forum, Mission Rabies, Care Institute, Bengaluru, Azim Premji Foundation, Azim Premji University, Institute of Public Health, Bengaluru, Molecular Solutions Care Health, Sarvagna Health Care Institute, International Centre for Theoretical Sciences, Biome Environmental Solutions Pvt - India, Private Hospitals & Nursing Homes Association, Indian Academy Of Pediatrics, Lakeside Veterinary Hospital, Karnataka Cooperative Milk Producers Federation Limited(KMF), Foundation For Ecological Security (FES), St Johns Medical College - Hospital Administration and others.


BRUHAT BENGALURU MAHANAGARA PALIKE
Chief Health Office (Public Health), BBMP Head Office, N.R.Square, Bengaluru-560 002

No: CHO(PH)/PR/ /2023-24 Date: 31-03-2024

Office Order

Subject : Formation for One Health Cell.

Ref : 1. As per the discussion Special Commissioner (Health) on 17-04-2023.
 2. Minutes of Meeting held on 05-12-2022, No. 1292/2022-23.
 3. Minutes of Meeting held on 28-11-2022, No. CHO(PH)/PR/L-1135/2022-23.
 4. Minutes of the meeting on 20-03-2024 mapping the stakeholders.

Respected all,
 we are pleased to inform you that BBMP in association with BeST has mapped all the One Health Stakeholders on 20.03.2024. We are hereby forwarding this email to all the Stakeholders, the office order of Bengaluru One Health Cell.

Regards,

Dr.Syed Sirajuddin Madani
Chief Health Officer (Public Health)
 Bruhath Bengaluru Mahanagara Palike

 Save trees
 Conserve Trees
 Go Green

Clinical Health committee



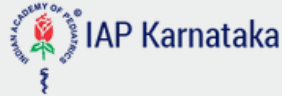
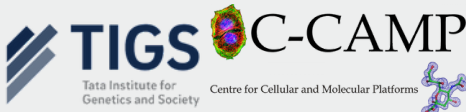
Environment Health committee



Animal Health committee



Public Health committee



Digital Health committee





One Health Bengaluru Consortium initiatives



Bat Rooster Mapping



India is considered a potential hotspot for zoonotic disease emergence. Despite this, bat species in the country remain largely understudied for bat-borne viruses, leaving critical research gaps in understanding their role in zoonotic spillovers.



Research Gaps

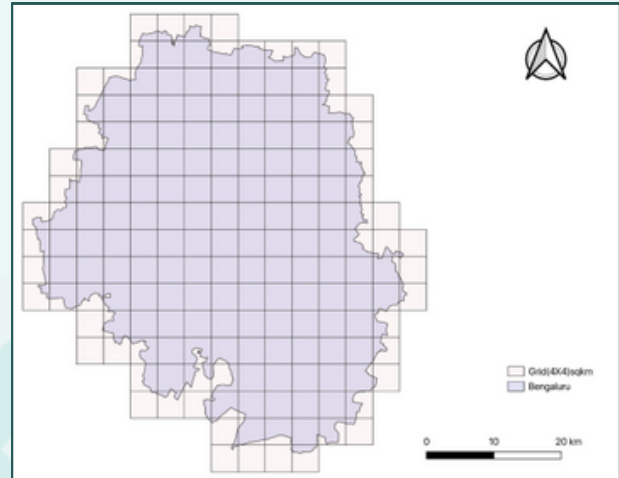
- Out of the 136 bat species found in India, only five have been sampled for bat-borne viruses.
- Lack of a systematic, grid-based mapping approach for identifying bat roost locations.



Prof. Uma Ramakrishnan
 Professor, NCBS
 One Health Theme Lead
 BeST Cluster

Grid-Based Bat Roost Mapping

- The study was conducted in and around Bengaluru using a 4x4 km grid-based approach.
- Area covered: 30 km radius from the city center.
- Total grids covered: 154 out of 180.



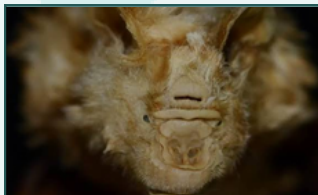
Identified Roosts



31 *Pteropus medius*



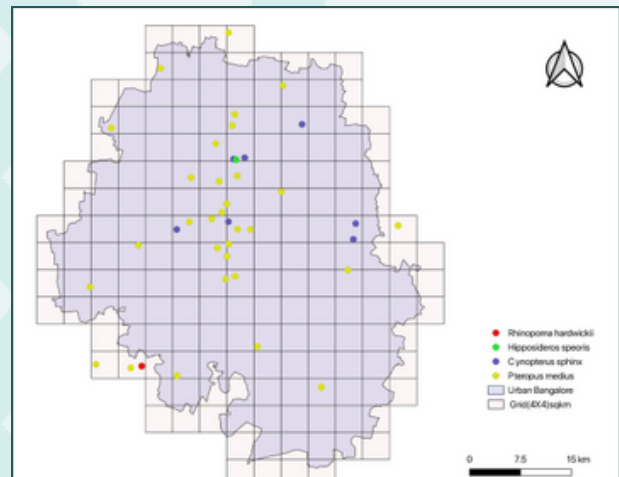
1 *Rhinopoma hardwickii*



2 *Hipposideros speoris*



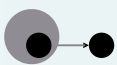
7 *Cynopterus sphinx*



Implications



Long-term Monitoring: Identification of key bat roosts enables continued surveillance and research.



Non-Invasive Sampling: The collection of environmental samples under roosts helps detect bat-borne viruses without disturbing the bats.



Ecological and Statistical Analysis: Helps in understanding habitat preferences and correlates of roost selection.

This study provides a critical first step in systematically mapping bat roosts and facilitating non-invasive virus surveillance, contributing to a better understanding of potential zoonotic risks in India.



Wastewater Surveillance of Pathogens in & around Bangalore: Beyond SARS-CoV-2

Wastewater surveillance is a valuable tool for public health monitoring, offering a comprehensive and cost-effective approach to assess disease prevalence and track pathogen variants. Analyzing human waste for biological and chemical markers, this method provides a powerful means to evaluate pathogen and drug prevalence within a community or geographical area. This approach offers a broad, population-level perspective, which is particularly valuable in densely populated cities where individual testing may be limited or impractical.

Viral load in wastewater reflects disease prevalence, capturing data from symptomatic and asymptomatic individuals. This real-time view is crucial, especially when exact infection numbers are difficult to determine.



Dr. Farah Ishtiaq
Principal Scientist, TIGS
One Health Theme Lead
BeST Cluster

Wastewater surveillance enables early outbreak detection, variant tracking, and antimicrobial resistance monitoring, providing real-time data for informed public health decisions.

Bengaluru, the third largest city in India, with approximately 11 million inhabitants, has an efficient sewage network that processes around 1142.5 million liters per day (MLD) of wastewater. In Bengaluru, this technology is essential for understanding the dynamics of infectious diseases and informing timely public health responses, allowing city officials to make informed decisions promptly. Wastewater surveillance is a critical tool for safeguarding public health in Bengaluru, providing valuable insights into the prevalence of pathogens and enabling proactive responses to emerging health threats. Early initiatives focused on COVID-19, but the scope has expanded to include other pathogens.

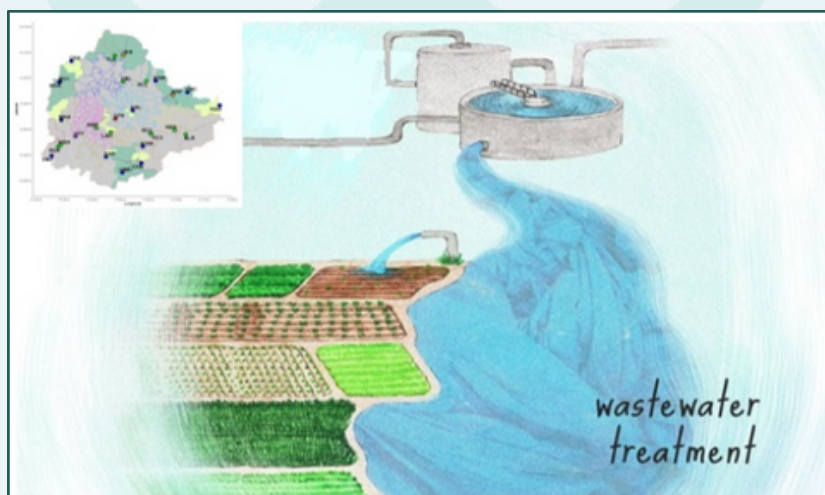
Metagenomic analysis reveals differential effects of sewage treatment on the microbiome and antibiotic resistome in Bengaluru. These findings will assist in developing policies and strategies to address water quality issues, such as the possible persistence of bacterial, viral, and protozoan pathogens associated with the use of recycled water.



Key questions considered in the study:

- How does bacterial diversity change from the inlet to the outlet in sewage treatment plants (STPs) based on season and processing methods?
- Is there spatial and temporal heterogeneity in the antibiotic resistance gene (ARG) diversity?
- Is there a shift in differential abundance across bacteria and ARGs from the inlet to the outlet of the treatment?
- What type of co-occurrence networks exist in the microbial community and ARGs between the inlet and the outlet?

These questions aim to deepen our understanding of microbial dynamics and resistance patterns in wastewater, ultimately contributing to better public health outcomes.





Model for Predicting & Preventing Dengue in Megacity Wards



Rationale of the Program

This program addressed the urgent need to predict and prevent dengue outbreaks in densely populated megacities. Dengue, a mosquito-borne viral infection, poses a significant public health threat, especially in urban areas with complex socioeconomic and environmental factors. The complex interplay of human behavior, urban living conditions, and climate makes dengue a persistent and challenging public health threat in cities. To combat this, the project aimed to create a "vulnerability index" by considering human, animal, and environmental data at the ward level. This index provides a more targeted approach for dengue prevention and outbreak management.



Objectives and Activities

- **Streamlined Data Management:** Organized and analyzed ward-level data on human, environmental, and animal health to enhance understanding of factors contributing to dengue outbreaks.
- **Assessed Ecological Drivers:** Studied the ecological factors driving mosquito populations and their correlation with dengue incidence to inform intervention strategies.
- **Integrated Citizen-Generated Data:** Combined citizen-generated data with existing health data streams to build a comprehensive ward-level vulnerability index, enabling targeted interventions.
- **Engaged the Community:** Involved community members in awareness campaigns and participatory research to identify and address the most critical challenges related to dengue prevention.
- **Developed and Validated Models:** Established data collection protocols, explored and validated disease models, and conceptualized the vulnerability index in collaboration with partners for effective dengue outbreak prediction.



Impact Created

- **Improved Outbreak Prediction:** The program enhanced the ability to predict and prevent dengue outbreaks at the ward level by integrating multiple data sources and ecological insights metro cities like Bengaluru
- **Increased Community Awareness:** Through targeted awareness campaigns and active community participation, the program empowered residents with the knowledge and tools needed to prevent dengue, thereby reducing the incidence of the disease.
- **Data-Driven Policy Recommendations:** The program generated valuable data and insights that informed local government policies and operational strategies, leading to more effective dengue management and a safer urban environment.



Launch of Dengue Program

A multi-stakeholder consortium consisting of experts from Tata Institute for Genetics and Society, India, Centre for Ecological Sciences, Indian Institute of Science (IISc), Initiative for Climate Action, the Echo network, Molecular Solutions Care Health, ARTPARK, Bruhat Bengaluru Mahanagara Palike (BBMP), Karnataka State Natural Disaster Monitoring Centre, and National Center for Vector Borne Diseases Control was formed by BeST launching a program called "Region-Specific Dengue Outbreak prediction and Prevention" on June 13th, 2024 and to drive data generation and for creating and operationalizing a "vulnerability index"

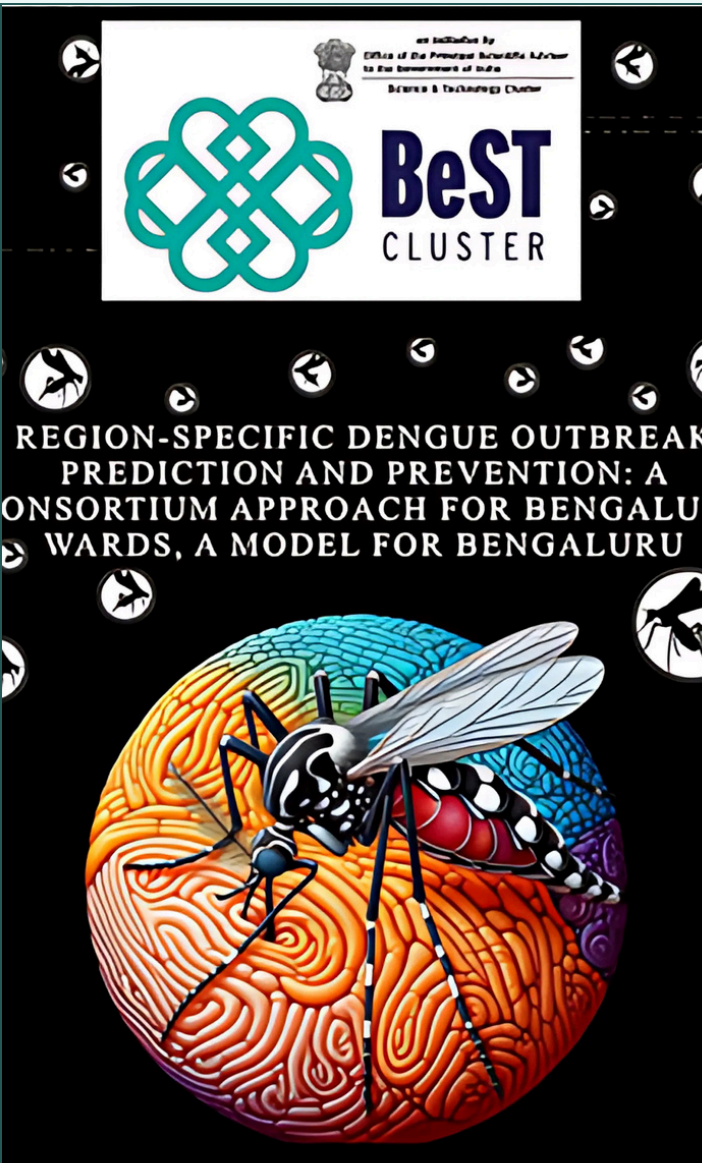
This will be carried out with the support of Bruhat Bengaluru Mahanagara Palike (BBMP), Karnataka State Natural Disaster Monitoring Centre, Directorate of National Vector Borne Disease Control Programme (NVBDCP), and the Department of Health and Family Welfare Services—Govt. of Karnataka, which has agreed to provide clinical and weather data required.

The 'vulnerability index' will account for various factors like human behavior, animal populations, and environmental conditions impacting dengue outbreaks at the ward level.

The program launched in the presence of Dr. Sindura Ganapathi, Visiting Principal Scientific Adviser Fellow, National One Health Mission, and Shri. Vikas Suralkar IAS, Special Commissioner (Health & Welfare), Bruhat Bengaluru Mahanagara Palike (BBMP), is an initiative to empower public health surveillance systems with disease information of sufficient quality, quantity, and resolution to reduce disease burden that drives action under the BBMP's One Health Cell.

While key researchers Dr. Farah Ishtiaq, principal scientist, TIGS, and Prof. Kavita Isvaran, Center for Ecological Sciences, IISc, have led pioneering research on the ecological drivers influencing the larval habitats and diversity of Aedes mosquitoes in urban environments like Bengaluru, Dr. Varsha Shridhar, PhD, Molecular Solutions Care Health, will focus on generating clinical data and community participation and awareness. Citizen-science initiatives will be driven by the echo network led by Dr. Shannon Olsson and the Initiative for Climate Action led by Mr. Ajay Raghavan. In collaboration with AI and Robotics Park (ARTPARK) at IISc, represented by Dr. Bhaskar Rajakumar, this initiative aims to develop a sustainable dengue surveillance and outbreak prediction model at ward-level resolution. This model can be scaled across other wards and serve as a blueprint for similar efforts in other cities.

Other key participants in the discussions include Dr. Yuvaraj, IISc; Harish Nalawade from ARTPARK; Digangana Mukherjee; Tina Patrao; Akshata Pradhan from the echo network; and health officers from BBMP Dr. Maheshwari Madhava, Dr. Sujatha S, Dr. Savitha S K, and Dr. Lokesh M N. Additionally, Dr. Mohammed Shariff, Deputy Director of NVBDCP for the Karnataka region, is also actively involved.



an initiative by
Office of the Principal Scientific Adviser
to the Government of India
Science & Technology Cluster

BeST
CLUSTER

**REGION-SPECIFIC DENGUE OUTBREAK
PREDICTION AND PREVENTION: A
CONSORTIUM APPROACH FOR BENGALURU
WARDS, A MODEL FOR BENGALURU**

Centre for Ecological Sciences, IISc

TIGS
The Institute for
Genetics and Society

echo
network

Deputy Director of NVBDCP for the Karnataka region

Project launch on **13-June-2024** to create and operationalize
"vulnerability Index" based on human, animal, and environment
factors impacting dengue outbreaks at the ward level.



Citizen Science & Community Engagement activities

One Health Festival & Launch of “I Am One Health”: Epicollect platform



On 5th July "I AM OneHealth" festival witnessed by many OneHealth organizations, schools, and citizens, organized by the Echo Network in association with BeST - Bengaluru Science and Technology Cluster, held at the Visvesvaraya Industrial & Technological Museum (VITM) in Bengaluru, two new initiatives aligning with the OneHealth project were launched. These new initiatives empower citizens to actively participate in creating a healthier Bengaluru.



Citizen scientist programme launched to intensify dengue awareness

BENGALURU, DHNS: The Bengaluru Science and Technology Cluster (BeST) and the Visvesvaraya Industrial and Technological Museum (VITM) hosted the 'I Am OneHealth Festival' on Friday.

On this occasion, the organisations, in collaboration with EchoNetwork, launched an exclusive citizen action programme to engage citizen scientists in a mass awareness and action campaign to combat the city's rising dengue cases.

They launched a WhatsApp number, +91 8496937347, which citizens can use to report mosquito breeding spots in the city. Citizens can share pictures of stagnant water and breeding spots along with



their locations. This number is linked to the Bruhat Bengaluru Mahanagara Palike (BBMP) reporting portal, and the officials concerned will take prompt action.

Through technological, educational, interactive, and collaborative activities, the

festival aimed to highlight innovations in Bengaluru and inspire a collective response to public health challenges like dengue, making a lasting impact on disease prevention and control.

The festival included participation from the BBMP, Ashoka Trust for Research in Ecology and the Environment (ATREE), National Centre for Biological Sciences (NCBS), ARTIPARK, Tata Institute for Genetics and Society (TIGS), Bangalore Sustainability Forum (BSF), ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), Saahas, Molecular Solutions Care Health LLP, Science Gallery Bengaluru, and Echo Network.

Here's how citizens got involved



ech network

SAY "HI"!

I Am OneHealth
My City. My Health.
Our Movement.

Do you know YOU have the power
to make a real difference in the
fight against dengue fever!

**WhatsApp +91 84969 37347
to report standing water**

www.iamone.health



Join the "SEE IT, SAY IT, DUMP IT" campaign:

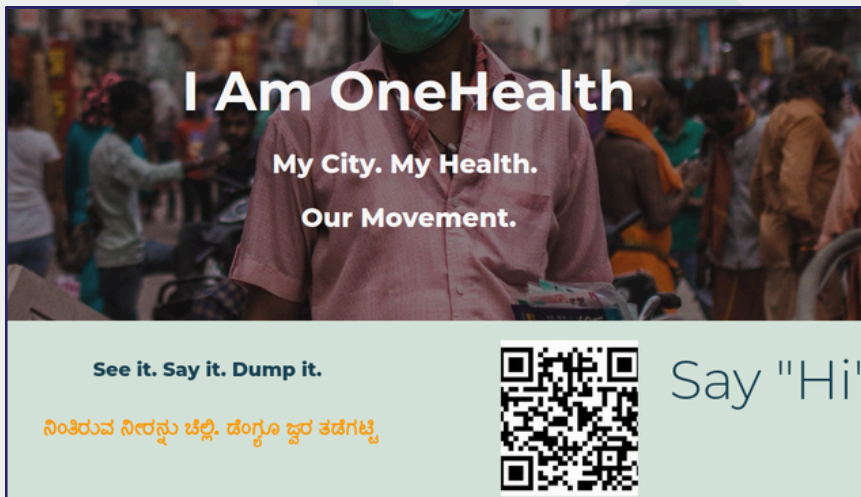
Do you have access to WhatsApp and 5 minutes to spare? If you see standing water near you, a potential mosquito breeding ground, report it immediately! Send a message to +91 8496937347 on WhatsApp. Your participation not only helps control the spread of dengue but also gives you a chance to win exciting prizes!



Become a Citizen Scientist:

This exciting program allows you to contribute valuable data alongside local experts. Through citizen science, you'll help collect information on potential mosquito breeding grounds in your environment. This data will be used to develop a 'Vulnerability Index' for the city, pinpointing high-risk areas. By participating, you'll not only be eligible for prizes but also be able to play a crucial role in slowing the spread of dengue in Bengaluru!

Join now on the Epicollect platform by registering at <https://lnkd.in/gYNUDkrY>



I Am OneHealth
My City. My Health.
Our Movement.

See it. Say it. Dump it.

ನಿಂತಿರುವ ನೀರನ್ನು ಬಿಡಿ. ಹೆಂಗೂ ಜ್ವರ ತಡೆಗಟ್ಟಿ

Say "Hi"

Together through collaboration and citizen action, we can create a healthier city for all. Let's embrace the One Health approach and fight dengue fever together!

Dengue School Awareness Program



On 24 July 2024, a group of students, escort teachers, visited the National Centre for Biological Sciences (NCBS) GKVK. The purpose of this visit was to gain awareness about Dengue and learn about various types of mosquitoes that act as vectors for the disease.

Dr Neha Mishra, health consultant, infectious disease, Manipal hospital, Bangalore took a session in which she outlined detailed information about the dengue virus, its transmission, symptoms, and preventive measures. The importance of eliminating mosquito breeding sites and maintaining cleanliness to prevent mosquito bites was emphasised.

Following this, Dr. Bhaskhar Rajkumar presented on the topic of predictive modeling. Ms. Udbavi, a reporter from Deccan Herald, discussed the role of media in empowering communities.

BBMP Special Commissioner (Health) Shri Vikas Kishore Suralkar IAS, engaged in a productive dialogue with students. He shared his mission to eradicate dengue, emphasizing the importance of empowering health leaders, organizing dengue awareness camps, and implementing source reduction activities. He also highlighted campaigns aimed at school children, underscoring the critical role each child plays in our collective community health efforts.

During the visit, students learned about different types of mosquitoes via a live demonstration.



Fun Game to create awareness related to the spreading of diseases by different workers & their effects.

Exhibits & Interactions



Aedes

Known for transmitting dengue, Zika, chikungunya, and yellow fever. They are characterised by their distinctive black and white markings.



Anopheles

Known for spreading malaria. They can be identified by their unique resting position, where their bodies form an angle with the surface.



Culex

Responsible for spreading diseases like West Nile virus and filariasis. They are usually brown and can be found in a variety of habitats.

Organisations join hands with BBMP to launch dengue campaign for schoolchildren

The BBMP has extended the submission deadline for its dengue warrior reel competition to August 10.

DHNS

Last Updated : 25 July 2024, 01:42 IST

Follow Us :



BBMP Health Department workers, students are participated in Dengue awareness programme. Credit: DHNS File Photo

Bengaluru: At least 40 students from three schools participated in a dengue awareness programme on Wednesday, organised by the BeST cluster and partners of the Rockefeller Foundation Alliance for Pathogen Surveillance Innovations-India, in collaboration with the BBMP.



Dengue Warrior Program

BeST - Bengaluru Science and Technology Cluster supported the launch of BBMP's DengueWarrior program to engage Bengaluru residents in the fight against dengue. This initiative empowered citizens to identify and eliminate mosquito breeding grounds by recording short videos showcasing stagnant water or demonstrating preventive measures at home. Participants shared their videos on social media, tagging @BBMPSplHealth, or uploaded them via a QR code. BBMP issued Dengue Warrior numbers, and the top five most-liked videos were recognized and awarded prizes. Through this collaborative effort, BBMP, with BeST's support, worked to create a Dengue-free Bengaluru by raising awareness and driving community action.



The poster is for the 'Dengue Warrior Award Programme' organized by Bruhat Bengaluru Mahanagara Palike (BBMP). It features a green and yellow color scheme. At the top center is the BBMP logo, and at the top right is the NVBDCP logo. The text in Kannada and English promotes the program, encouraging citizens to 'Be a Dengue Warrior' and 'Protect Prevent Stop Dengue'. It mentions that warriors don't stand by but take action. The program is scheduled for September 17, 2024, at 3:00 PM. A hand holding a smartphone displaying a superhero character is shown on the left, and a trophy is on the right. A mosquito with a red prohibition sign over it is also depicted. The bottom of the poster lists the supporting organizations: BeST, forum, ncbs, TIGS, The Rockefeller Foundation, APSI, and manTRI JUNCTION.

ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
Bruhat Bengaluru Mahanagara Palike
BE A DENGUE WARRIOR
PROTECT PREVENT STOP DENGUE
Warriors Don't Stand By They Take Action
ಡೆಂಗ್ಯಾ ವಾಲಿಯರ್ ಪ್ರಶಸ್ತಿ ಪುರಸ್ಕಾರ ಕಾರ್ಯಕ್ರಮ
DENGUE WARRIOR AWARD PROGRAMME
ಸಮಯ: ಮಂಗಳವಾರ 3.00ಕ್ಕೆ | ದಿನಾಂಕ:17.09.2024
ಸ್ಥಳ: ಸರ್. ಪುಟ್ಟಣ್ಣ ಚೆಟ್ಟಿ ಪುರಭವನ, ಬೆಂಗಳೂರು

BeST
forum
ncbs
TIGS
Supported by:
The Rockefeller Foundation
APSI
manTRI JUNCTION

 ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
Bruhat Bengaluru Mahanagara Palike

BE A DENGUE WARRIOR PROTECT PREVENT STOP DENGUE

 **PROTECT
PREVENT
STOP
DENGUE**

WARRIORS DON'T STAND BY THEY TAKE ACTION



Dear students, Join your hands with the BBMP health team in the fight against dengue! Conduct the source reduction activity/awareness activity @nammahomes and post the video on your social media platform and tag the   @BBMPSplHealth ID.

Top 5 clips with maximum number of likes till July 25th will be awarded!

ex: I Gayatri Studying in Class 5 of School Kendriya Vidyalaya in ward name Vasanth Nagar Bengaluru + Video Clip.



Also you can upload your video by scanning QR code

Stand Up! **Spread Awareness** **Give your Best**

  @BBMPSplHealth



Capacity Building: One Health Preparedness Efforts

Field Epidemiology in One Health - (FEP-OH) Training Program



FEP-OH is part of Sector connect program jointly launched by DHAD and NCDC. The FE-OH training program is a multi-sectoral capacity-building initiative designed to enhance preparedness and response to public health threats through an integrated One Health approach.

Conducted over three months, this program brought together professionals from human health, veterinary sciences, food safety, wildlife management, and epidemiology to strengthen collaborative disease surveillance, outbreak investigation, and risk assessment.

Structured around three intensive contact sessions and two field assignments, the program equipped participants with essential skills in epidemiological data analysis, biosafety, risk communication, and stakeholder coordination. By fostering cross-sectoral engagement and mentorship, the FEP-OH training aimed to develop a sustainable workforce capable of addressing emerging health challenges at the intersection of human, animal, and environmental health.

Special thanks to organizing partners Prof. Prabhdeep Kaur, ICPH, IISC, and Dr. Meeera Dhuria, Joint Director, NCDC-India.





ASHA Workers-Training Program

ASHA (Accredited Social Health Activist) work is crucial and plays a central role in community-level public health surveillance. The workshop aims to provide training for capacity building to the ground-health workers to make them aware of disease surveillance, harmful impacts of unregulated usage of antibiotics and AMR, data entry, and digital data reporting. These training modules are imparted through expert lectures, interactive and engaging group activities, hands-on curated activities guided by volunteers, and hands-on exhibits for experiential learning and long-term impact. With this training, the ASHA workers receive first-hand knowledge and scientific tools.



Supported by

APSI

ncbs
National Centre for Biological Sciences
A Unit of the Department of Biotechnology
Government of India

TIGS
Tata Institute of Genetics and Society

BeST
CLUSTER

ART PARK
Art & Robotics Technology Park, 100th G. Rd.

Ministry of Culture
Government of India

VITM
Vidya Institute of Technology and Management

Precision Health
Public Health Preparedness Platform

ಸಮರ್ಥ ತರಬೇತಿ
Samartha Tarabeti- Training program
Capacity-building workshops for ASHA workers, health inspectors and health officers

"Disease pathogens, mosquito-borne illnesses, entomology, climatic factors and surveillance methods"

- Expert lectures
- Interactive learning modules
- Hands-on exhibits & activities
- Certification

January 28, 2025
2:30 PM to 5 PM
-The 1st cohort training-

Dasheri, NCBS-TIFR
GKVK Campus,
Bangalore-560065

We completed the first cohort training for the ASHA workers on January 28, 2025, at the NCBS campus. Our module included interactive talks covering concepts of pathogens, diseases, vectors, AMR, novel surveillance techniques, hands-on exhibits, curated activities put together by the TIGS teams and the VITM team, and learning-reinforcement activities towards the end.

It is indeed a proud moment for us to witness its great impact.

Together, we look forward to empowering & strengthening the capacities of the ASHAs, the grassroots warriors, for effective disease surveillance & outreach.

This program is supported under the aegis of APSI India supported by Rockefeller Foundation grants.



ರಾಷ್ಟ್ರೀಯ ನಗರ ಆರೋಗ್ಯ ಅಭಿಯಾನ
ಬೆಂಗಳೂರು ನಗರ ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಸಂಸ್ಥೆ(ರಿ)
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಮುಖ್ಯ ಆರೋಗ್ಯಾಧಿಕಾರಿಗಳು(ಸಾ.ಆ)ರವರ ಕಛೇರಿ, ಅನೇಕ್-3 ಕಟ್ಟಡ, ಬಿಬಿಎಂಪಿ ಕೇಂದ್ರ ಕಛೇರಿ, ಎಸ್.ಆರ್. ಜಿಒಕೆ, ಬೆಂಗಳೂರು-02.

ಸಂಖ್ಯೆ: ಸಿ.ಪಿ.ಎಂ.ಟಿ./ಎನ್.ಯು.ಹೆಚ್.ಎಂ/ಪಿ.ಆರ್/ಪಿ-174/2024-25
ದಿನಾಂಕ: .01.2025

ರವರಿಗೆ,
Bangalore Science & Technology Cluster(BeST) ಸಂಸ್ಥೆ,
Old SID, IISC Bangalore,
Kodandarampura, Malleshwaram,
Bengaluru-12

ವಿಷಯ: ತಮ್ಮ ಸಂಸ್ಥೆಯ ವತಿಯಿಂದ ಆಯೋಜಿಸಿರುವ ಸಮರ್ಥ ತರಬೇತಿಗೆ ಆಶಾ ಕಾರ್ಯಕರ್ತೆಯರನ್ನು
ನಿಯೋಜಿಸಿರುವ ಬಗ್ಗೆ
ಉಲ್ಲೇಖ: ತಮ್ಮ ಸಂಸ್ಥೆಯ ಮನವಿ ಪತ್ರ.

ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ತಮ್ಮ ಸಂಸ್ಥೆಯು ಜ್ವರ ಮೇಲ್ವಿಚಾರಣೆ ರೋಗವಾಹಕಗಳಿಂದ ಹರಡುವ ರೋಗಗಳು, AMRಗಳ ಅನಿಯಂತ್ರಿತ ಬಳಕೆಯ ಹಾನಿಕಾರಕ ಪರಿಣಾಮಗಳು ಮತ್ತು ಡಿಜಿಟಲ್ ವರದಿ ಮಾಡುವಿಕೆ ಸೇರಿದಂತೆ ರೋಗ ಕಣ್ಗಾವಲು ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸಲು ಆಶಾ ಕಾರ್ಯಕರ್ತೆಯರಿಗೆ ಸಮರ್ಥ ತರಬೇತಿ ನೀಡುವ ಗುರಿಯನ್ನು ಕಾರ್ಯಾಗಾರ ಹೊಂದಿರುವ ಕಾರಣ, ಆಶಾ ಕಾರ್ಯಕರ್ತೆಯರಿಗೆ ಸಮರ್ಥ ತರಬೇತಿಯನ್ನು ದಿನಾಂಕ: 28.01.2025 ರಂದು ಮಧ್ಯಾಹ್ನ 2.30 ರಿಂದ ಸಂಜೆ 5.00 ಗಂಟೆಯವರೆಗೆ, National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bellary Road, Bangalore 560065ಇಲ್ಲಿ ಆಯೋಜಿಸಿರುವುದಾಗಿ ಉಲ್ಲೇಖದ ರೀತ್ಯಾ ತಿಳಿಸಿರುತ್ತೀರಿ.

ಈ ಸಂಬಂಧ ಈ ಪತ್ರದೊಂದಿಗೆ ಲಗತ್ತಿಸಿರುವ ಅನುಬಂಧದಲ್ಲಿನ ಮಹದೇವಮಠ ವಲಯದ 75 ಮತ್ತು ಪೂರ್ವ ವಲಯದ 75 ಆಶಾ ಕಾರ್ಯಕರ್ತೆಯರನ್ನು ಸದರಿ ತರಬೇತಿಗೆ ನಿಯೋಜಿಸಲಾಗಿರುತ್ತದೆ ಎಂಬುದನ್ನು ಈ ಮೂಲಕ ತಿಳಿಸಲಾಗಿದೆ.

ಮುಖ್ಯ ಆರೋಗ್ಯಾಧಿಕಾರಿಗಳು(ಸಾ.ಆ)
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ



Hands-on Molecular Lab Training for Government Lab Technicians

As an APSI outreach partner, BeST, with the support of NCBS, facilitated the Hands-on Molecular Surveillance Workshops to enhance capacity-building among health technicians, microbiologists, and municipal personnel. This initiative, conducted in collaboration with NCBS, TIGS, and other key stakeholders under RF-APSI, aims to train participants in molecular surveillance tools, qPCR techniques, and pathogen and AMR trend analysis at a community level using wastewater and clinical samples. The program consists of two three-day modules, with the first session in March and the second tentatively in April 2025, hosted at the BLISC campus. The workshops combine expert talks and hands-on experiments, covering essential aspects of molecular diagnostics, epidemiological surveillance, and facility visits to STP and BSL2/NGS labs. BeST's role includes coordinating with government bodies, securing necessary permits, onboarding nominated personnel, and overseeing post-program impact assessment. This initiative, guided by RF-APSI Outreach Lead Dr. Sufia Sadaf and APSI leadership, aims to strengthen surveillance capacity and public health preparedness.

Office of the Project Director-IDS
Ground Floor-West Wing, Arogya Soudha, Magadi Road, Bangalore-23
E-mail: amrkarnataka@gmail.com; karpelidiso@gmail.com

No: AMR/Training/17/2024-25; E-1653514 Date: 21.02.2025

OFFICIAL MEMORANDUM

Sub: Relieving nominated officials for Hands on training on "Molecular Approaches & Diagnostics for Pathogens & AMR Surveillance" at NCBS-TIFR, GKVK Campus, Bengaluru- reg

Ref: Commissioner's approval note # 9 in E file no: 1653514; Dt: 09-02-20245

"With reference to the above subject, following officials are hereby instructed to attend the 3-day hands on training workshop on "Molecular Approaches & Diagnostics for Pathogens & AMR Surveillance" from 4th March to 6th March 2025 at Rasputi, NCBS-TIFR, GKVK Campus, Bengaluru organized by the Rockefeller Foundation-Alliance for Pathogen Surveillance Innovations (RF-APSI-India).

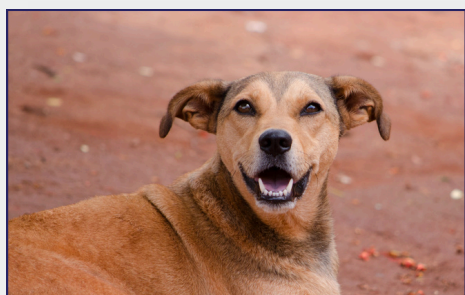
Sl. No	Division	Source	Name of the Microbiologist working in the laboratory	Place of work	Mobile No	Official Mail ID
1	Belagavi division	Dharwad	Kerethi S.K	Dharwad, Dist	8884773522	kerethisr@gmail.com
2		Vijayapura	Dr. Mahesh V. More	District Hospital Vijayapura	9448364269	drmaheshmore@gmail.com
3	Kathburi Division	Balkari	Sharanth Babu K.	DPHIL - (DAP), Balkari	9000057411	sharanthbabu@gmail.com
4		Dudhichu	Dr. Madhushan	Workshop District Hospital, MANGALURU	9448357048	madhushan2040@gmail.com
5	Mysuru Division	Mysuru	Jyothi K. S.	DPHIL, Mysuru	7022867875	drjyothik@gmail.com
6		Udupi	Sarna Hegde K.	DPHIL, Udupi	9448358740	drsnarndk@gmail.com
7		Tumakuru	Dr. Deepali. B. Telang	District Hospital Tumakuru, OOD DPHIL, 160 Tumakuru	9448271214	drdeepalib@gmail.com
8		K.C. General Hospital	Dr. Prashitha	K.C. General Hospital, Malleswaram (Bangalore)	9448612270	prashitha@gmail.com
9	Bengaluru Division	Jaynagar General Hospital	Dr. Karthika Prakash	General Hospital Jaynagar	9448631044	prakashkarthika@gmail.com
10		C.V. Raman General Hospital	Vidya D.S.	Sri C.V. Raman Hospital DPHIL	9448617502	ghbangalore@gmail.com, ghbangalore@gmail.com
11		Kolar	Smt. Lalitha Chennappa	Kolar	9448106829	chennappa15@gmail.com

Page 1 of 2



Events & Outreach Activities

Stray Dog Management



Stray dog management drive headed by Prof. Utpal Tatu, Indian Institute of Science (IISc) & Scientific Director, Equine Biotech Pvt. Ltd. associated with the One Health Bengaluru Consortium efforts of BeST, focused on addressing the prevention of birth defects and the spread of diseases amongst stray dogs. This initiative is of great significance in ensuring the health and well-being of the stray dog population and mitigating the associated risks to public health.

A team of experts and trained individuals captured 17 stray dogs using humane methods and transported them for medical intervention. The program implemented a rigorous animal birth control initiative, where the dogs underwent surgical neutering to prevent uncontrolled population growth. Each dog received a rabies vaccine / Antibiotics were also administered to prevent infections. The dogs were then kept under observation for a few days before being released back into their original territories. This effort curbed the risk of rabies transmission and contributed to the well-being of both the animals and the local residents. The program set a precedent for sustainable stray dog management and encouraged community involvement in ensuring a healthier coexistence with stray animals.



Echo Network SAGE Program



The Bengaluru Science and Technology Cluster is excited to announce an alignment between our 'One Health' project and the echo network's 'Clean Healthy Cities' project, which focuses on mosquito and vector-borne disease surveillance.

Participated on July 19th, 2024, organized by the echo network at Atria University, Bengaluru solidified our commitment to building healthier urban ecosystems. By merging human, animal, and environmental well-being, we're driving towards sustainable and thriving cities.

The meeting was incredibly enriching, deepening our appreciation for technology's role in building resilient societies. We explored innovative waste management, climate change mitigation, and advanced disease surveillance systems. It was clear that data-driven insights are crucial for efficient and impactful solutions.

In one of the echo network's pilot programs, SAGE ambassadors program, the enthusiasm and dedication of the younger generation were truly inspiring. Their passion for social causes and innovative mindset are essential for creating a better future.

Engaging with these bright minds reaffirmed the power of youth-driven change. This program highlighted the significant impact of combining technology with social responsibility. Collaboration and knowledge sharing were central to the program. The exchange of ideas among diverse participants is crucial for building resilient societies capable of adapting to various challenges.

Advancing Research Collaborations to Tackle AMR at the Livestock, Environment, & Human Interface



The BeST Cluster attended the workshop on "Advancing Research Collaborations to Tackle AMR at the Livestock, Environment, and Human Interface," organized by ICAR NIVEDI, with the support from Thermo Fisher Scientific India, as part of World AMR Awareness Week (WAAW) 2024. This event provided a valuable platform to engage with leading experts, discuss cutting-edge research, and explore collaborative opportunities to address the pressing issue of antimicrobial resistance (AMR).

Eminent speakers from prestigious institutes such as Tata Institute for Genetics and Society, India, CSIR- National Chemical Laboratory, Karnataka Veterinary Animal and Fisheries Sciences University, Department of Animal Husbandry and Dairying, Office of the Principal Scientific Adviser to the Government of India, Gujarat Biotechnology Research Centre, DST, GoG, Indian Institute of Science (IISc), National Centre for Biological Sciences (NCBS), Molecular Solutions Care Health participated in the workshop and presented their activities related to AMR. These experts, from diverse backgrounds, shared their extensive knowledge and research findings with the participants.



Where in the World is Dengue Going to Strike Next?

BeST participated in the "Where in the World is Dengue Going to Strike Next?" symposium, organized by the Department of Biotechnology, Faculty of Life and Applied Health Sciences, M. S. RAMAIAH UNIVERSITY OF APPLIED SCIENCES (MSRUAS) in association with the Indian Women Scientists' Association (IWSA)-Bengaluru branch.

Speakers—Mr. Ravi Tennety & Dr. Sreeparna Samanta from BeST-Bengaluru Science and Technology Cluster, Dr. Yuvaraj Ranganathan from the Center for Ecological Sciences, Indian Institute of Science (IISc), Dr. Varsha Shridhar, PhD from Molecular Solutions Care Health, and Dr. Aditya Parekh, PhD from the Echo Network—addressed the symposium, focusing on understanding disease ecology, the spread of infectious diseases, and the role of citizens in reducing disease burden. Large groups of students actively participated, learning about dengue, a vector-borne disease; the OneHealth approach; epidemiology; preparedness; citizen science; hyperlocal predictive modeling; and the BeST Cluster initiative's pilot project, which aims to create a dengue-free future in Bengaluru with Bruhat Bengaluru Mahanagara Palike (BBMP)'s support.



RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Department of Biotechnology

 Faculty of Life and Allied Health Sciences

 organizes a Symposium on

Where in the World is Dengue Going to Strike Next?

 A Hyperlocal Predictive Modeling Implementation Program Harnessing Multiple OneHealth Components

SYMPOSIUM OBJECTIVES

- Understand the rising burden of Dengue in India, particularly in Bangalore, and explore contributing factors
- Describe the OneHealth Approach understanding diseases and their epidemiology
- Understand the goals of the Bengaluru Science and Technology Cluster (BeST)
- Learn about the Dengue prediction and control pilot project and how you can contribute

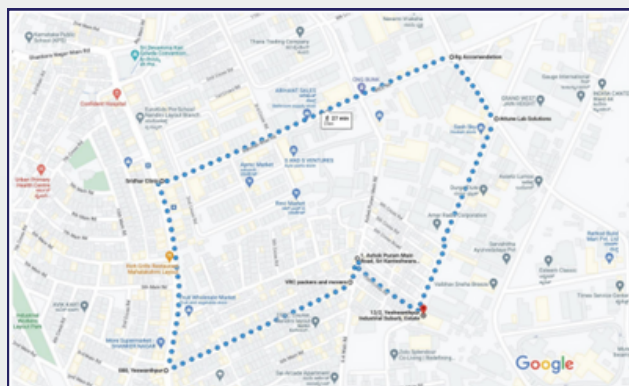
SEMINAR HALL, FLAHS BUILDING

27TH NOVEMBER 2024

2:30 PM ONWARDS



Dengue Free Ward Walk



Dr. Sreeparna providing introduction to Bangalore Science and Technology cluster

As part of a three-year initiative, BeST's One Health team conducted extensive consultations—both in-person and online—to gather key insights and stakeholder perspectives essential for developing a roadmap towards a dengue-free ward. To advance this effort, BeST facilitated a stakeholder workshop focused on:

- Identifying key information pathways for an envisioned dengue-free ward.
- Preparing implementation strategies for Ward 46, Bangalore.
- Incorporating these pathways into a large-scale communications exchange platform.

The session was led by Mr. Ajay Raghavan (Guardian, Initiative for Climate Action) and Dr. Ujjvala Krishna (Research Associate, Ashoka Trust for Research in Ecology and the Environment). Key takeaways from the workshop included discussions on rising dengue cases, WHO guidelines, and the urgency of integrating dengue-related interventions into the broader One Health initiative.

The ward walk identified key environmental and infrastructural factors contributing to Dengue spread:

1. Environmental Risks—Unattended water containers (stone crushers, coconut shells, open tanks) serve as mosquito breeding grounds. Open windows without mesh increase exposure. Abandoned buildings need sanitation surveys.
2. Community Engagement—Activating Ward Committees, strengthening Behavior Change Communication (BCC), conducting awareness programs, and distributing mosquito mesh to vulnerable groups.
3. Sanitation & Waste Management—Improved waste monitoring, regular cleaning programs, and better hygiene practices are essential.
4. Stakeholder Involvement—The walk enhanced understanding of social structures, local challenges, and stakeholder roles in disease prevention.
5. Healthcare & Surveillance—Real-time monitoring, primary healthcare strengthening, and holistic interventions beyond dengue are necessary for long-term impact.

The ward walk provided crucial insights to develop sustainable strategies for a Dengue-free ward.

Trilogue One Health



At the Trilogue One Health Event, hosted by Swissnex and IISc, the Bengaluru Science and Technology Cluster (BeST) proudly presented its Urban One Health Framework, developed in collaboration with BBMP. This initiative focuses on tackling interconnected urban health challenges through a multidisciplinary approach encompassing human health, animal health, and environmental health.

Key Highlights of BeST's One Health Approach:

- Facilitating cross-sector collaboration among healthcare, environmental, and urban planning experts.
- Developing data-driven solutions to address zoonotic diseases, waste management, and urban ecosystem resilience.
- Empowering local communities through technology integration and capacity-building initiatives.

Together with BBMP, we're ensuring that Bengaluru leads the way in sustainable, holistic urban health solutions. Let's build a healthier, more resilient city for all!

BeST's Participation in the AMR Workshop

On behalf of BeST - Bengaluru Science and Technology Cluster, Dr. Suresh Kumar Mendem and Dr. Sreeparna Samanta had the privilege of participating in the AMR (Antimicrobial resistance) workshop, jointly organized by The Trinity Challenge and One Health Trust in Bengaluru, India.

This interactive workshop provided an excellent platform for engaging discussions and brainstorming sessions focused on developing innovative solutions to combat the AMR global health threat. Experts from diverse fields came together to share ideas and strategies to address critical GlobalHealth challenges.

We are delighted to have been part of such a dynamic and impactful event! A big thank you to the organizers and all the participants for the insightful discussions and enriching experience.



For more details about The Trinity Challenge on Community Access to Effective Antibiotics, follow this link: <https://lnkd.in/ek6RxmVG>

Extending partnerships in One Health

BeST Cluster actively collaborated with governmental bodies such as BBMP, Health and welfare, Animal Husbandary departments of the Government of Karnataka (GoK), as well as academic and research institutions including IISc, NCBS-TIFR, TIGS and ICAR-NIVEDI. This partnership focuses on shared interests in areas such as One Health, zoonotic diseases, and vector-borne diseases.



MOU with BBMP

from left to right: Dr. Maheswari, BBMP, Mr. Kesav, BeST Cluster, Mr. Ravi Tennety, Head BeST Cluster, Dr. Sreeparna Samanta, BeST Cluster, Shri. Vikas K Suralkar, IAS, Spl. Commissioner, BBMP, Mr. Chadra Shekar Reddy, BeST Cluster, Mr. K. C. Chinamya, BeST Cluster



Mou with NCBS

From left to right: Mr. Ravi Tennety, Head, BeST Cluster, and Prof. L S Shashidhara Director, NCBS-TIFR



MOU with ICAR-NIVEDI

From left to right: Dr. Suresh, Dr. Sreeparna Samanta, Mr. Anantharaman R, CEO, BeST Cluster, Dr. B R Gulati, Director -ICAR-NIVEDI, Dr. Z N Dubal, Dr. Shivasharnappa N, and Dr. M Chanda from ICAR-NIVEDI, Scientist Team.



MOU with TIGS:

From left to right: Dr. Suresh, Dr. Shivaranjani, Dr. Rakesh Mishra, Mr. Anantharaman R, Dr. Farha, Dr. Pankaj, Dr. Mansi and Dr. Sreeparna Samanta.

Press Mentions

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IISc-based consortium launches ward-level pilot project for dengue outbreak prediction, prevention

BBMP Special Commissioner (Health) Vikas Suralkar has asked all the partners to set up meetings with the department for their support and integrate their solutions onto the BBMP's Sahaaya application.

Udbhavi Balakrishna | DHNS

Last Updated : 15 June 2024, 02:08 IST

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BBMP will supply historical dengue outbreak data, while the Karnataka State Natural Disaster Monitoring Centre will provide real-time weather data. Image for representation. Credit: iStock Photo

Bengaluru: The Indian Institute of Science's (IISc) Bengaluru Science and Technology (BeST) cluster on Thursday launched the 'Region-specific Dengue Outbreak Prevention and Prediction' project to develop a ward-level vulnerability index to predict and prevent dengue outbreaks in Bengaluru.

Find Article: <https://www.deccanherald.com/india/karnataka/bengaluru/iisc-based-consortium-launches-ward-level-pilot-project-for-dengue-outbreak-prediction-prevention-3067761>

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Bengaluru: Citizen scientist programme launched to intensify dengue awareness

Through technological, educational, interactive, and collaborative activities, the festival aimed to highlight innovations in Bengaluru and inspire a collective response to public health challenges like dengue, making a lasting impact on disease prevention and control.

DHNS

Last Updated : 06 July 2024, 05:36 IST

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Bengaluru: A municipal worker fumigates a park in a bid to kill mosquitoes off amidst reports of highest dengue cases in Bengaluru. Credit: PTI Photo

Bengaluru: The Bengaluru Science and Technology Cluster (BeST) and the Visvesvaraya Industrial and Technological Museum (VITM) hosted the 'I Am OneHealth Festival' on Friday.

Find Article: <https://www.deccanherald.com/india/karnataka/bengaluru/citizen-scientist-programme-launched-to-intensify-dengue-awareness-3094800>

IndiaBioscience

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One Health Bengaluru: A united approach to tackle health and environmental concerns

Debraj Manna & Mohit Nikalje

Posted on Jun 28, 2024 in SCIENCE, POLICY, RESEARCH and ENTREPRENEURSHIP

One Health Bengaluru Initiative, led by the Bengaluru Science and Technology Cluster (BeST), aims to minimise the spread of infectious diseases and benefit the environment by collaborating across several organisations. This multi-sectoral approach will help policymakers make informed decisions to control the spread of diseases and tackle environmental challenges. This article explores how the One Health approach paves the way for a healthier future.



BeST Cluster thanks [IndiaBioscience](#) for featuring the cluster activities on One Health in the recent article.

Find Article: "[One Health Bengaluru: A united approach to tackle health and environmental concerns](#)"

Press Mentions.....

State completes 1st 'One Health' field epidemiology programme

Trains 35 officers for enhanced disease surveillance

BENGALURU, DHNS

The National Centre for Disease Control (NCDC) and the Department of Animal Husbandry and Dairying conducted Karnataka's first SectorConnect Field Epidemiology Programme in One Health to strengthen multi-sectoral collaboration for zoonotic disease surveillance and prevention.

Supported by the Ministry of Health and Family Welfare (MoHFW), along with the

health, animal husbandry, and veterinary services departments, the programme aimed to integrate human, animal, and environmental health sectors to streamline disease reporting and enhance preparedness.

Three-month training
The three-month training programme concluded on Friday with its third and final contact session.

It brought together 35 officers, including epidemiolo-

gists, veterinary officers, food safety officers, and airport health officers, from Bengaluru Urban district and the Bruhat Bengaluru Mahanagara Palike (BBMP).

Modelled on the One Health Joint Action Plan by the WHO, World Organisation for Animal Health (WOAH), Food and Agriculture Organisation (FAO), and United Nations Environment Programme (UNEP), the initiative focused on a collaborative approach to health crises.

Training sessions were facilitated by the Isaac Centre

A 15-point technical framework was introduced to assess multi-agency collaboration, addressing gaps in coordination, risk assessment, emergency funding, communication, and human resources.

Stats in state

Dr Padma MR, Deputy Director of Karnataka's State Surveillance Unit, highlighted that the state reports 320-350 outbreaks

"This programme helps us develop actionable strategies for tackling diseases such as rabies, leptospirosis, KFD, and snakebite envenoming," she said.



ಆರೋಗ್ಯ ಜಾಗೃತಿ ಉತ್ಸವ: ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಡೆಂಗಿ, ಶುಚಿತ್ವದ ಅರಿವು

 Springer

Published : 5 NOV 2014, 21:08 EDT | Last Updated : 5 NOV 2014, 21:08 EDT

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ಬೆಂಗಳೂರು: 'ಮನೆಯೊಳಗೆ, ಹೊರಗೆ ಸ್ವಾತಂತ್ರ್ಯವಾಗಬೇಕೆಂದರೆ, ಕೈಗಳನ್ನು ಸೋಲಿಸಿರುವ ಮೊಳೆಯು ಮುಕ್ತವಾಗಬೇಕೆಂದರೆ, ಹೃದಯವನ್ನು ಎತ್ತಿರುವುದರಿಂದ ಬಿಡುವುದೇ, ನಿಮ್ಮ ಆರೋಗ್ಯ ಪಡೆಯುವುದು, ಹಾಗಾದರೆ ಆರೋಗ್ಯವೂ ಉತ್ತಮವಾಗುತ್ತದೆ..'

ಕಗದದ ಪರವು ಪಾಲಕರ ವಿವಿಧಾಂಗಗಳಿಗೆ ಪ್ರತ್ಯಕ್ಷಿಕೆಗಳು, ಚಿತ್ರ-ವಿಡಿಯೋಗಳ ಮೂಲಕ ಅರೋಗ್ಯದ ಬಗ್ಗೆ ಈ ರೀತಿ ಅರಿವು ಮೂಡಿಸಬಹುದು.

ದಲಿಗಿರುವ ಸ್ವಲ್ಪ ಭಾಗವು ಕೆಲವು ವರ್ಷಗಳಿಂದ ಬೆಳೆಗಾರರು ಬಳಸುತ್ತಿರುವ ಕೃತಕವಾಗಿ ಮಾಡಿದ ಸಂಸ್ಕರಣೆಯಿಂದಾಗಿ ಬೆಳೆಗಾರರು ಅದರ ಬಳಕೆಯನ್ನು ಕುಗ್ಗಿಸಿದ್ದಾರೆ. ಇದು ಸಂಸ್ಕರಣೆಯಿಂದಾಗಿ ಬೆಳೆಗಾರರು ಅದರ ಬಳಕೆಯನ್ನು ಕುಗ್ಗಿಸಿದ್ದಾರೆ. ಇದು ಸಂಸ್ಕರಣೆಯಿಂದಾಗಿ ಬೆಳೆಗಾರರು ಅದರ ಬಳಕೆಯನ್ನು ಕುಗ್ಗಿಸಿದ್ದಾರೆ.

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ಸೋಪ್ ಲಾಭಕ್ಕೆ ಹೋಗುವುದು, ಯಾವ ಸ್ಥಳಗಳಲ್ಲಿ ಸಂಪಾದಿಸಲಾಗುತ್ತದೆ ಹೆಚ್ಚುತ್ತಿರುವುದು, ಹೊರಾಂಗಣ ಹಾಗೂ ಒಳಾಂಗಣದಲ್ಲಿ ಯಾವ ರೀತಿಯ ರಾಸಾಯನಿಕಗಳನ್ನು ಸಿಂಪಡಿಸಲಾಗಿದೆ, ಮುಸ್ಲಿಮರಿಗೆ ವಿಧಾನ ಹೇಗೆ ಅನುಸರಿಸಲಾಗಿದೆ ಎಂಬುದನ್ನು ಪ್ರಾಪ್ತಿಕರ್ತೃಗಳ ಮೂಲಕ ತೋರಿಸಲಾಯಿತು.

ಪಂಚ ವಿವಾಹ ಪೇಗಿ ಪೋಷಾಪಾಪೇಗಿ, ಅದರ ಕ್ರಮಗಳಿಗಾಗಿ ಎಂಬ ವಿವರಣೆಯು 'ಬ್ಯಾಚ್' ಫಾರ್ ಮುರಿಯುವುದಕ್ಕಾಗಿ ಎಂಬ ಚಿತ್ರ ವಿವರಣೆ ಮಕ್ಕಳ ಗಮನಕೆಳೆಯಿತು.

ಕೆಳಗಿನಲ್ಲಿ ಹೇಗೆ ಸ್ವಾಭಾವಿಕವಾಗಿದೆ. ನೀರಿನಿಂದ ಮಾತ್ರ ತೋರುತ್ತಿರುವಂತೆ ಸಾಕಾಗುವುದು, ಕೊಳವೆ
ಕಾಲೇಜುಗಳಿಂದಲೂ ಎಂಬುದನ್ನು ಪ್ರಾಕೃತಿಕ ಮೂಲಕ ತೋರಿಸಬಹುದು. ನೀರಿಗೆ ಮೇಲಿನ ಪುಟವನ್ನು ಹಾಕಿ ಅದರ
ಸೋಪನ ದ್ರವವು ಹಾಕಿದಾಗ ಪುಟ ದ್ರವವಿನಿಂದ ರೂಪುಗೊಳ್ಳುತ್ತದೆ. ಈ ಪ್ರಾಕೃತಿಕ ಮೂಲಕ ವಿವರಣೆಗಳಿಗೆ ಹೆಚ್ಚು
ಅರಿವು ಮೂಡಿಸಬಹುದು.

ದತ್ತ, ಸಾರ್ವಜನಿಕ ಪ್ರದೇಶ ಅಥವಾ ಒಳಗಡೆ ಹಾಕಿದ ಪ್ರದೇಶಗಳಲ್ಲಿ ಪ್ರಾಪ್ತವನ್ನು ಎಸೆಯಬಹುದು. ಈಗಿನಲ್ಲಿ ಎಲ್ಲೆಂದರಲ್ಲಿ ಎಸೆಯುವ ಪ್ರಾಣಿಗಳ ಅಪಾಯವನ್ನು ತಿಳಿದು ಬರುತ್ತದೆ. ಹುಡುಗನಿಗೆ ಬರುತ್ತದೆ, ಅದೇಗಲಿ ಕಡಗಿಯುತ್ತದೆ. ಹೀಗಾಗಿ, ಪ್ರಾಪ್ತವನ್ನು ಸೂಕ್ತ ರೀತಿಯಲ್ಲಿ ವಿತರಿಸುವ ಮಾರ್ಗವೇ ಎಂಬ ಅರಿವು ಮೂಡಿಸಬಹುದು.

ವಿದ್ಯಾರ್ಥಿಗಳು ಅಕ್ಕಿಯಿಂದ ಎಲ್ಲ ಮಾಹಿತಿಯನ್ನು ಪಡೆದುಕೊಂಡು, ನಂತರ ಪಕ್ಕದ ಸಿಟಿವ ಪ್ರಕ್ಷೇಪಣರ ಕಾಗದದಲ್ಲಿ ತಮ್ಮ ಅಭಿಪ್ರಾಯವನ್ನು ವ್ಯಕ್ತಪಡಿಸಿದರು.

ರೇಡಿಸ್ ಜಾಗೃತಿ

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"ನಾನು ಒಬ್ಬ ಆರೋಗ್ಯ" ಉತ್ಸವವು ಬೆಂಗಳೂರಿನ ಆರೋಗ್ಯದ ಹೊರಗಿನವು ಪರಿಹರಿಸಲು ನನ್ನ ನಗರ - ನನ್ನ ಆರೋಗ್ಯ - ನಮ್ಮ ಚಳುವಳಿ ಕಾರ್ಯಕ್ರಮ

Author - varthajala
📅 July 04, 2024 ⌚ 1 minute read

ಬೆಂಗಳೂರು, ಜುಲೈ 04 (ಕರ್ನಾಟಕ ವಾರ್ತೆ): ಬೆಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಮತ್ತೊಂದು ಕಂಪ್ಯೂಟಿಂಗ್ ಕ್ಷೇತ್ರ (BeST), ಮತ್ತು ವಿಶ್ವೇಶ್ವರಯ್ಯ ಇಂಡಸ್ಟ್ರಿಯಲ್ ಅಂಡ್ ಟೆಕ್ನಾಲಜಿಕಲ್ ಮ್ಯೂಸಿಯಂ (VITM) ಸಹಯೋಗದೊಂದಿಗೆ ಎಕ್ಸಿಎ ನೆಟ್‌ವರ್ಕ್ ಐ ಆರ್‌ಎಫ್ ಒಎಸ್‌ಟಿಎಲ್ ಉಪಕ್ರಮವನ್ನು ಆಯೋಜಿಸುತ್ತಿದೆ.

ಈ ವಿಶಿಷ್ಟ ಸಂದರ್ಭದ ಕಾರ್ಯಕ್ರಮದ ಉದ್ಘಾಟನೆಯನ್ನು ಜುಲೈ 05ರ ಬೆಳಿಗ್ಗೆ 11.30 ಗಂಟೆಗೆ ವಿಶ್ವೇಶ್ವರಯ್ಯ ಇಂಡಸ್ಟ್ರಿಯಲ್ ಅಂಡ್ ಟೆಕ್ನಾಲಜಿಕಲ್ ಮ್ಯೂಸಿಯಂ ಆವರಣದಲ್ಲಿ ಹಮ್ಮಿಕೊಳ್ಳಲಾಗಿದೆ.

೫ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಬೆಂಗಳೂರಿನ 12 ಕ್ಷೇತ್ರ ಪ್ರಮುಖ ಸಂಸ್ಥೆಗಳ ತತ್ವಜ್ಞ ವಾದಿಗಳಿದ್ದರು. ಬೆಂಗಳೂರು ಮತ್ತು ಇತರ ಆರೋಗ್ಯ ಸಂಬಂಧಿತ ಸಮಸ್ಯೆಗಳನ್ನು ಕುರಿತು ತಿಳಿಸಿದ್ದಾರೆ. ತಾಂತ್ರಿಕ, ಕ್ಷೇತ್ರೀಕೃತ, ನವೀಕರಣ ಮತ್ತು ಸಹಕಾರದ ಚಟುವಟಿಕೆಗಳ ಮೂಲಕ, ಉತ್ಪನ್ನವು ನಮ್ಮ ಹವೆಯ ನಗರದಲ್ಲಿಯೇ ಅಭ್ಯವೇಶನ ಮತ್ತು ಆಯ್ಕೆಗೊಳಿಸುವುದು ತೋರಿಸುವುದು. ಬೆಂಗಳೂರಿನಂತಹ ಆರೋಗ್ಯ ಸಮಸ್ಯೆಗಳಿಗೆ ಸಾಮಾನ್ಯಕ ಪ್ರತಿಕ್ರಿಯೆಯನ್ನು ಈ ಕಾರ್ಯಕ್ರಮವು ಪ್ರೋತ್ಸಾಹಿಸುತ್ತದೆ. ಬೆಂಗಳೂರು ರೋಗ ತಡೆಗಟ್ಟುವಿಕೆ ಮತ್ತು ನಿಯಂತ್ರಣದ ಕುರಿತು ಜಾಗೃತ ಪರಿಪಾಕಗಳ ಖ್ಯಾತಿ ತಿಳಿಸಿದ್ದಾರೆ. ಬೆಂಗಳೂರು ಪ್ರದೇಶಗಳಲ್ಲಿ ನಗರದ ನಿರಂತರ ಬೆಳೆಕೆಯ ವಿವಿಧ ಕೋರಾಡಲು ಸಾಮಾನ್ಯಕ ಜಾಗೃತ ಮತ್ತು ಕ್ರಿಯಾ ಅಭಿಯಾನದಲ್ಲಿ ನಾಗರಿಕ ವಿಜ್ಞಾನಿಕವನ್ನು ತೋರಿಸಿಕೊಳ್ಳಲು ನಿರ್ಮಿಸಲಾದ ವಿಶೇಷ ನಾಗರಿಕ ಕ್ರಿಯಾ ಕಾರ್ಯಕ್ರಮದ ಅನುಪರೇಲಕತ್ವವು ಸಾಮಾನ್ಯವೆಂದು ಸಾಕ್ಷಿಯಾಗಲಿದೆ.

ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರಪಾಲಿಕೆ, ಅಶೋಕ ಟ್ರಸ್ಟ್ ಫಾರ್ ರಿಸರ್ಚ್ ಇನ್ ಇಕಾಲಜಿ ಅಂಡ್ ದಿ ಎನ್ವಿರಾನ್ಮೆಂಟ್, ನ್ಯಾಷನಲ್ ಸೆಂಟರ್ ಫಾರ್ ಬಯೋಲಾಜಿಕಲ್ ಸೈನ್ಸ್, ARTPARK, ಟಾಟಾ ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ಫಾರ್ ಜೆನೆಟಿಕ್ಸ್ ಅಂಡ್ ಸೊಸೈಟಿ, ಬೆಂಗಳೂರು ಸಸ್ಟೇನಿಬಲ್ ಫಿಲಿಂಸ್, ನ್ಯಾಷನಲ್ ಇನ್ಸ್ಟಿಟ್ಯೂಟ್ ಆಫ್ ಮೆಟರ್ನಿ ಎಡುಕೇಷಿಯಲಜಿ ಮತ್ತು ಡಿಜಿಟಲ್ ಇನ್ಫ್ರಾಮ್ಯೂಟಿ, ಸಾಹಸಿ ಎನ್ಜಿಒ, ಮೂಲಕೈಲೂರ್ ಸೊಲೂಷನ್ಸ್ ಕೆಆರ್ ಹೆಲ್ಪ್ ಡೆವಲಪಿಂಗ್, ಸೈನ್ಸ್ ಗ್ಯಾಲರಿ ಬೆಂಗಳೂರು, ಎಕ್ಸಿಜೆಕ್ಯೂಟಿವ್ ಮುಂತಾದ ಸಂಸ್ಥೆಗಳು ಭಾಗವಹಿಸಿರುವಿವೆ.

ಉತ್ತಮವು ಮೇಲಿನ ಪ್ರತಿಯೊಂದು ಸಂಸ್ಥೆಯ ತತ್ವರು ಆಟಗಳು, ಕಠಿಣಗಳು, ಸಂವಾದಾತ್ಮಕ ಸಂಭಾಷಣೆಗಳು ಮತ್ತು ಹೆಚ್ಚಿನವುಗಳ ಮೂಲಕ ಪ್ರಚ್ಛೇದದೊಂದಿಗೆ ಸಂವಹನ ನಡೆಸುತ್ತಾರೆ. ಕೆಲವರು ಪೌರೋಹಿತ ಮತ್ತು ವಿಶ್ವೇಶ್ವರರನ್ನು ಇಂದ್ರಸ್ಥಿಯು ಮತ್ತು ಟೆಕ್ನಾಲಜಿಕಲ್ ಮ್ಯೂಸಿಯಂ ಸಹ ಸೃಷ್ಟಿಯ ಕಾಲೇಜಿಂದ ವಿನ್ಯಾಸಗಳನ್ನು ಕರೆತರುತ್ತದೆ ಮತ್ತು ತತ್ವದೊಂದಿಗೆ ಸಂವಹನ ನಡೆಸುತ್ತದೆ ಮತ್ತು ನಗರದಲ್ಲಿ ಡೆಂಗ್ಯು ಮತ್ತು ಇತರ ರೋಗಗಳ ಹರಡುವಿಕೆಯನ್ನು ತಡೆಯುವ ಮಾರ್ಗಗಳನ್ನು ಕಲಿಸುತ್ತದೆ ಎಂದು ಪ್ರಕಟಣೆಯಲ್ಲಿ ತಿಳಿಸಿದೆ.

Find Article: https://www.shikshanaratna.com/2024/07/blog-post_23.html?m=1

Find Article: <https://www.prajavani.net/district/bengaluru-city/dengue-cleanliness-awareness-among-students-2873670>

Testimonials



Prof. L S Shashidhara
Director, NCBS
Bengaluru

Thematic areas like One Health are as much about managing people and fostering collaboration as they are about addressing scientific challenges. BeST is doing phenomenal work in this space by bringing together diverse stakeholders from multiple sectors. Their initiative to create a One Health Cell in collaboration with BBMP is a remarkable step toward coordinated action, especially in pandemic preparedness.

Through capacity-building programs such as student workshops and training for government officials, facilitated with the support of various partners, BeST is setting a stellar example of how to bridge gaps and build resilience. Their Dengue program, which integrates technological innovation, citizen science, and rigorous engagement with local communities, stands as a benchmark in applying the One Health approach to tackle complex public health challenges.

I hope BeST continues to lead the way with more such impactful programs, inspiring others to adopt and expand the One Health framework for a healthier, more sustainable future.

“

I would like to appreciate BeST for their support to the Sector Connect Field Epidemiology Programme in One Health (FEPOH). Their proactive approach in bringing together stakeholders from Public health, Animal husbandry, Forest department, and other related domains were helpful for the success of the training, and by this the true essence of the One Health Approach was achieved. The ability of BeST to unite various sectors and experts under a common mission not only helped to strengthen surveillance and outbreak response but also for long-term sustainability of health initiatives. This commitment to fostering intersectoral collaboration is truly commendable, and I look forward to continued collaboration in the future.



Dr. Padma M R
Deputy Director, IDSP, Karnataka



Shri Vikas Suralkar, IAS
Special Commissioner,
Health & Welfare, BBMP

As the Special Commissioner (Health and Welfare) of BBMP, I am delighted to share the significant impact that BeST (Bengaluru Science and Technology) has had on our public health initiatives. BeST has been instrumental in supporting our Dengue Warrior Program, ASHA Worker Training Program, Field Epidemiologists Training Program for our officers from Animal Husbandry, One Health cells formation, and hands-on training on molecular approaches for Health Officers. These programs have been pivotal in enhancing skills in our city's health officials and response capabilities.

The Dengue Warrior Program has empowered our community with the knowledge and tools needed to combat dengue effectively, leading to marked improvements in finding breeding spots, early detection, management, and source reduction in our city. The ASHA Worker Training Program has strengthened our grassroots health workforce, resulting in substantial improvements in community health outcomes. The Field Epidemiologists Training Program, conducted by BeST along with NCDC and IISC for our officers from Animal Husbandry, has been crucial in bridging the gap between human and animal health, enabling better management of zoonotic diseases. Additionally, the Hands-on Training on Molecular Approaches for Health Officers has enhanced the capabilities of our health officers and technicians, ensuring they are well-prepared to handle a wide range of health issues. The formation of One Health cells with the BeST Cluster addresses public health challenges in a comprehensive and integrated approach, focusing on improving health across the Bangalore metro city. With the growing complexity of One Health initiatives, there is an urgent need to improve coordination and facilitate real-time information sharing among stakeholders.

These programs perfectly align with the One Health mandate, which emphasizes the interconnectedness of human, animal, and environmental health. By fostering collaboration across different sectors, BeST has helped us create a more resilient and responsive health system. We are grateful for their unwavering support and look forward to continuing our partnership to safeguard the health of our community.



Dr. Syed Sirajuddin Madani
Chief Health Officer (Public Health)

Bruhath Bengaluru Mahanagara Palike

I sincerely appreciate BeST's invaluable support for the Sector Connect Field Epidemiology Programme in One Health (FEPOH). BeST's proactive efforts in bringing together stakeholders from public health, animal husbandry, the forest department, and other related sectors were instrumental in the success of the training. Through this initiative, the true essence of the One Health approach was effectively realized. BeST has also played a pivotal role in facilitating the formation of the BBMP One Health Cell, serving as a key enabler by aligning the efforts of multiple departments under a unified framework. By fostering dialogue and collaboration among diverse stakeholders, BeST has laid the groundwork for a cohesive and integrated One Health strategy at the municipal level. In collaboration with prestigious institutes like NCBS and TIGS, BeST has made commendable efforts in arranging and facilitating capacity-building programs for municipal hospital lab technicians and ASHA workers. Identifying gaps in collaboration with the municipal body and addressing them through targeted training reflects BeST's commitment to strengthening public health systems. We look forward to more such long-term, sustainable programs with BeST that foster intersectoral collaboration and contribute to building resilient health initiatives.

“

My experience working with BeST Cluster is very good and fruitful. BeST cluster is a bridge in the "One Health" initiative to bring all the sectors together and integrate human, animal, and environmental health sectors to combat diseases and prepare for pandemics, enhancing surveillance and strengthening capabilities across these sectors.

BeST Cluster has taken up a very novel initiative to organize the SECTORCONNECT program to impart training and capacity building to human, animal, and other sectors in disease epidemiology and outbreak investigation through a one-health approach. As a mentor in Sectorconnect-FETP, I have gained good knowledge and skills in understanding One Health concepts.

The Impact on my research work was profound, as I was working in only animal health aspects, but now, after partnering with the BeST cluster, I could connect my research concepts with humans, the environment, wildlife, and many other sectors.

My suggestion to BeST Cluster is that more multisectoral capacity-building programs and projects may be initiated with funding support.



Dr. Shivasharanappa N
Senior Scientist (Veterinary Pathology)
ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), Bengaluru.



Dr Manjunath S Palegar,
Director,
Animal husbandry and
Veterinary Services,,
Pashupalana Bhavan, Hebbal,
Bengaluru.

ಡಾ. ಮಂಜುನಾಥ ಎಸ್. ಪಾಟೀಗಾರ್ ಎಂ.ವಿ.ಸಿ

ನಿರ್ದೇಶಕರು
ಪಶುಪಾಲನಾ ಮತ್ತು ಪಶುವೈದ್ಯಕೀಯ
ಸೇವಾ ಇಲಾಖೆ



ಕರ್ನಾಟಕ ಸರ್ಕಾರ

Dr. Manjunath S. Palegar M.V. Sc

Director

Department of Animal Husbandry &
Veterinary Services

Date: 26-03-2025

As the Director of Karnataka State Animal Husbandry, I am pleased to highlight the significant impact that BeST (Bengaluru Science and Technology) has had on our public health efforts. BeST has played a key role in supporting the Field Epidemiologists Training Program, in collaboration with NCDC and IISc, for officers from Animal Husbandry and other departments. This initiative has been essential in bridging the gap between human, environmental, and animal health, allowing our officers to gain a deeper understanding and better management of emerging infectious diseases. By promoting collaboration across various sectors, it encourages networking to address health issues comprehensively. It has also strengthened our city's health infrastructure and response capabilities, ensuring our health officers are well-equipped to tackle a variety of health challenges, particularly infectious diseases.

We are thankful for their steadfast support and look forward to continuing our partnership to protect the health of our community.

(Dr. Manjunath S. Palegar)

ಕಛೇರಿ : 1 ನೇ ಮಹಡಿ, 'ಪಶುಪಾಲನಾ ಭವನ', ಎ.ಪಿ.ಐ ಕಛೇರಿ ಎದುರು, ಬೆಳ್ಳಾರಿ ರಸ್ತೆ, ಹೆಬ್ಬಾಳ, ಬೆಂಗಳೂರು - 560024

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Co-PIs:

Prof. Ambarish Ghosh, Chairman- CeNSE, IISc, and Director-BeST, Bengaluru, Karnataka, India.

Dr. Taslimarif Saiyed, Director & CEO, C-CAMP, and Director-BeST, Bengaluru, Karnataka, India.

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