

# NEWSLETTER

SEPTEMBER 2023

BeST Cluster participation in

## # BRAND BENGALURU # HEALTHY BENGALURU

BeST Cluster was actively engaged in the discussions at "Brand Bengaluru - Healthy Bengaluru," addressing the critical need for the 'One Health Initiative' to confront the challenges brought about by climate change and emerging diseases.

In light of the fact that climate change has been contributing to a notable rise in dengue cases and 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. Collaborating closely with BBMP (Bruhat Bengaluru Mahanagara Palike) and the AI and Robotics Technology Park (ARTPARK) at the Indian Institute of Science (IISc), the core of the discussion revolved around the establishment of specialized operation centers equipped with state-of-the-art surveillance systems. This approach places a strong emphasis on early intervention and the formulation of a holistic healthcare strategy.

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. K. V. Thrilok Chandra, BBMP Special Commissioner (for 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 emergency situations effectively. Healthcare experts underscored the pivotal role of preventive healthcare in alleviating the burden of non-communicable diseases. Consequently, there is a consideration to invest in local healthcare centers, equipping them with diagnostic laboratories and minor operation theaters to enable early intervention and reduce the need for referrals to larger hospitals.

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

### News articles:

[Healthy Bengaluru initiative gets 11k responses - The New Indian Express](#)

[BBMP to make heavy investment, use IT to improve healthcare services in Bengaluru | Bangalore News - The Indian Express](#)

# PATHWAYS TO A DENGUE-FREE WARD

Workshop arranged by Echo Network & Initiative for climate action.

On September 15th, the Public Engagement and Partnerships Pillar within the One Health Bengaluru City (OHBC) consortium, a component of the Bengaluru Science and Technology Cluster (BeST Cluster), organized an expert workshop titled "PATHWAYS TO A DENGUE-FREE WARD." This event marked the culmination of three years of dedicated efforts aimed at understanding the essential elements, stakeholders, and informational prerequisites necessary to create a blueprint for a dengue-free locality based on the principles of One Health. The One Health approach acknowledges the interconnectedness of human health and the well-being of animals, ecosystems, and environments. To advance this cause, the Cluster gathered stakeholders with expertise in human, animal, and environmental health, encompassing both local and global perspectives. The workshop had the participation of 15 experts from academic research institutions, non-profit organizations, startups, and funding bodies. This workshop is expected to foster collaborations within the One Health domain, both within Bengaluru and beyond. The workshop began with an introduction provided by the Initiative for Climate Action (ICA) and the echo network teams, setting the context for the experts. Following this, there was an exploration of Ward 50, with firsthand accounts of the primary challenges and opportunities related to human, animal, and environmental health in the ward. Experts exchanged insights into ongoing initiatives and how these efforts interconnected among various organizations.

These information pathways will serve as the foundation for a communication exchange model to prevent, monitor, and respond to future dengue outbreaks. Once developed, this model will be implemented digitally and physically within the ward and, eventually, as part of Bengaluru's One Health strategy, extending its influence across the entire city. BeST Cluster's participation in this initiative reflects its commitment to advancing the cause of One Health and promoting a holistic approach to healthcare and well-being.



## FACULTY SPEAKS

**Focused theme - Precision/ Protected Agriculture**

## **Semiochemical based pest management in protected cultivation.**

Protected agriculture, also known as controlled environment agriculture, is a farming technique that involves growing crops within greenhouses or controlled environments to optimize and protect plants from various environmental factors. The primary goal of protected agriculture is to create an environment where factors like temperature, humidity, light, and pests can be managed to maximize crop yield and quality. Though the physical exclusion of insects is a success in protected agriculture, the accidental entry into the greenhouse provides them with a congenial environment to multiply inside. Hence, pest management in protected agriculture requires monitoring of pest incidence to take appropriate management measures by adopting strategies that are safe for consumers. Employing semiochemicals (attractants and repellents) to exploit the behavior of the pest is a technology that is compatible with other biological control methods that are gaining acceptance globally. To develop the ethology-based pest management, the BeST Cluster has created a platform to forge a collaboration between the academic partners (ICAR-NBAIR, JNCASR, and IISc) and the industrial partner (ATGC Biotech Limited, Hyderabad). The team employs electrophysiological and behavioral assays to identify the compounds that attract/repel the pest and develop a matrix for controlled release of the compounds over a spatiotemporal scale so that farmers can get products to monitor and mass trap the insect pests in protected cultivation. The droplet behavior of the repellents is studied to develop a suitable formulation that could be used in protected agriculture. These clean and green pest management technologies developed will facilitate scale down the pest incidence in protected agriculture and enable in harvest of produce that are safe for consumption.



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## Unveiling India's one of the most ambitious Projects by BeST Cluster's partner



# Insights on WARD 46

By Mr. Ajay Ragavan and Mr. Jai Warriar

The Initiative for Climate Action is running one of India's most ambitious projects – WARD 46 - that has brought together all system actors to demonstrate the efficiency of designed, collective, coordinated action and through it build a new imagination of how Indian cities can become thriving models of resilience. The experiment has begun with one ward in Bangalore, Marappana Palya, covering about 50,000 users, and demonstrates localised and just climate resilience, using principles of regenerative culture, human centered design, circularity, collective action, gender equity, technology for good, and open data sharing. By addressing all systems that represent the complexity of the city scaled down to a ward, we are creating modular systems and tools that can be applied in different wards in Bangalore, cities across India and the world.

We embarked on the journey of ward-level resilience in Bangalore with a profound belief in the power of proactive community action. Recognising the pressing need for a comprehensive approach to bolster the city's resilience, we chose health as one of our primary program themes. Health is the foundation upon which resilient communities are built. Bangalore, like many urban centres, faces increasing challenges due to climate change, including the rising frequency and intensity of heatwaves. These extreme heat events pose significant health risks to vulnerable populations. Additionally, the city has been grappling with the increasing threat of dengue outbreaks, a vector-borne disease with a profound impact on public health. By initiating projects focused on mapping vulnerability to heatwaves and dengue, we aim to not only raise awareness but also empower communities, and agencies working for their welfare, with actionable insights and strategies to safeguard their well-being. Our immediate focus in mapping vulnerabilities encompasses two key aspects. Firstly, we are delving deep into understanding how living conditions and various professions intersect with health vulnerabilities in the context of heatwaves and dengue. This involves studying housing conditions, access to cooling infrastructure, and the varying kinds of employment in the ward, to identify those most at risk. Secondly, we are carefully mapping the existing actors and agencies that form a crucial part of the health response system in Bangalore. This includes government entities, non-profit organisations, and health system actors. By forging partnerships and synergising efforts with these stakeholders, we aim to create a cohesive and robust network that can respond effectively to health crises and contribute to the overall resilience of our wards.

### BEST CLUSTER MENTIONS

The World Intellectual Property Organization, WIPO, has unveiled its ranking for the "S&T Cluster" in the Global Innovation Index (GII), and India has achieved an impressive presence with four of its S&T clusters securing positions within the top 100. The report emphasizes that India, and notably the cities of Bengaluru and Chennai, are becoming focal points for inventors and scientific authors, signaling a burgeoning innovation ecosystem. Furthermore, the report underscores the remarkable growth of science and technology clusters in emerging economies like India.

For access to the full report, please visit: [Link to Report](#)





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SCIENCE & TECHNOLOGY CLUSTER



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